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**FCC Rulemaking + REST API: Fostering Social Media
Interoperability**

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Three of the most widely used social media platforms are currently controlled by one company: Meta.¹ Seventy-seven percent of internet users actively use a platform owned by Meta.² Facebook has over 2.9 billion monthly active users, WhatsApp has 2 billion, and Instagram has roughly 1.5 billion.³ Right now, if a person wants to connect with others on social media, they essentially must have a Meta account because most of their friends, followers, and connections reside on its platform.

Now imagine an internet where someone can connect with all their friends and family on social media, while also having platform choice beyond the Meta ecosystem. For example, what if instead of Facebook and Instagram, there were social media platforms based on shared interests or values. Those wanting a more religious space could join a platform targeted at Christians, Jews, or Muslims.⁴ Others could join platforms that offer greater data privacy protection for their members. In short, social media users would have options tailored to their priorities and values.

The dearth of social media platforms is only part of the issue, and perhaps a symptom of the larger problem: Meta's platform is closed. Even if a slew of exciting new social media platforms opened tomorrow, people likely would not join because their friends and connections are currently on Meta's platform, and there is no way of communicating outside the Meta network. Joining a social media platform based on an affinity group would mean going to a social space and foregoing access to the wealth of contacts and connections that make Meta's platform so invaluable.

Right now, joining another social media network while maintaining access to Facebook connections may seem like a far-off possibility, but it is not. A competitive social media market is technologically possible through interoperability. Interoperability is the ability to communicate across different platforms, systems, or protocols. Email exemplifies this concept: a Gmail user can send an email to a person with an Outlook account, who can send an email to someone with a ProtonMail account. Social networks can achieve the same interoperable capabilities, and this paper explains how.

In the following sections, we provide both a regulatory and technical framework to achieve interoperability across social media platforms that reach a defined critical mass of users. First, we discuss the anticompetitive consequences of closed, as opposed to interoperable, social media platforms. Then we discuss the need for interoperability rulemaking and argue that the

¹ *Most Popular Social Networks Worldwide as of January 2022, Ranked by Number of Monthly Active Users*, STATISTA (Mar. 8, 2022) (hereinafter *Most Popular Social Networks*), <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users> (showing that the only non-Meta social media platform in the top four is YouTube, owned by Alphabet); see also *Social Media Fact Sheet*, PEW RES. CTR. (Apr. 7, 2021), <https://www.pewresearch.org/internet/fact-sheet/social-media> (reporting that sixty-nine percent of Americans use Meta's Facebook, forty percent use Instagram, and twenty-three percent use WhatsApp).

² *Cumulative Number of Monthly Meta (formerly Facebook Inc.) Product Users as of 1st Quarter 2022*, STATISTA (Apr. 28, 2022), <https://www.statista.com/statistics/947869/facebook-product-mau>.

³ *Most Popular Social Networks*, *supra* note 1.

⁴ We credit Michael Kades and Fiona M. Scott Morton for this vision of social media. MICHAEL KADES & FIONA M. SCOTT MORTON, Wash. Ctr. Equitable Growth, INTEROPERABILITY AS A COMPETITION REMEDY FOR DIGITAL NETWORKS (Feb. 2021).

Federal Communications Commission has both the jurisdictional authority and the technical expertise to institute such a rule. We then put forth a regulatory framework and a technical prototype for what a mandated interoperability solution using a proposed API would look like. Finally, we discuss the penalties for dominant firms that do not abide by interoperability orders.

I. Anticompetitive Consequences of Closed Social Media Platforms

The lack of social media competition is in large part due to Meta's network effects, which lock users in. A network effect occurs when a platform's value to users increases as increasing numbers of people engage with the platform.⁵ Consequently, the more users who participate in a social media platform like Facebook, the more that others find value. Network effects are facilitated and enhanced when a platform is closed, meaning users can only interact with other users within the confines of the platform.⁶

In the context of a closed social media platform, network effects add value to users through connections and content.⁷ Users often find a social network more valuable if they can engage with all their friends and family without having to switch platforms.⁸ A business looking to advertise on social media⁹ values a platform with more users because they offer access to the greatest number of realized and potential customers.¹⁰ Additionally, network effects have been tremendously valuable to influencers and public figures seeking to reach broad audiences and impact peer consumption and decision-making.¹¹

The network effects of closed social media platforms also enhance a platform's value by providing users with more content.¹² Users want a platform with sufficient content such that they are not seeing the same photos, posts, and videos each time they login. Thus, each user's content shared on Facebook enhances the value of the platform for other users. Indeed, a network effect can be incredibly powerful in fostering a platform's growth. As a closed platform, Facebook's network effect facilitated its amassing of more monthly active users than any other social media platform.¹³

⁵ *Id.* at 2, 7–8.

⁶ See generally *id.* at 10–11.

⁷ Sangeet Paul Choudary, *Reverse Network Effects: Why Today's Social Networks Can Fail as They Grow Larger*, WIRED (Mar. 2014), <https://www.wired.com/insights/2014/03/reverse-network-effects-todays-social-networks-can-fail-grow-larger>.

⁸ MICHAEL KADES & FIONA M. SCOTT MORTON, *supra* note 4, at 7–8, 10–11.

⁹ For an understanding of the importance of social media to advertising, see *Social Media Forecast to Overtake TV in Ad Spend This Year*, MARKETING CHARTS (Jan. 10, 2022), <https://www.marketingcharts.com/advertising-trends/spending-and-spenders-119385>. Social media is forecasted to grow more than any other platform in the coming years. *Id.*

¹⁰ *What Is the Value of Facebook Advertising?*, MARKETINGHEROES, <https://www.mheroes.com/what-is-the-value-of-facebook-advertising>.

¹¹ Itay P. Fainmesser & Andrea Galeotti, *Pricing Network Effects: Competition*, 12 AM. ECON. J.: MICROECONOMICS 1, 1–2 (2020).

¹² Choudary, *supra* note 7.

¹³ Dina Srinivasan, *The Antitrust Case Against Facebook: A Monopolist's Journey Towards Pervasive Surveillance in Spite of Consumers' Preference for Privacy*, 16 BERKELEY BUS. L.J. 39, 54 (2019).

The network effects of closed social media platforms can harm competition by locking users into a platform and becoming a barrier to entry for other competitors.¹⁴ This in turn harms consumers who have no other choice but to be on the dominant platform: “For Facebook, the network effects of over a billion users on a closed communications protocol further locked-in the market in its favor. With countless friends and family connected to a given consumer, the cost of foregoing Facebook for the consumer grew in proportion with Facebook’s growth.”¹⁵ Today, if a user’s entire family is sharing photos or posts only on Facebook, and they want to engage with those photos, the user has no other choice but to also join Facebook, or else not participate. Network effects create barriers to entry¹⁶ that are “‘significant’ enough to confer monopoly power,”¹⁷ a dynamic that is currently at issue in the Federal Trade Commission’s litigation against Meta.¹⁸

Let’s return to imagining an internet with social media options beyond Meta, an internet where people on the hypothetical privacy-focused platform have the ability to engage with people on Facebook and the Christian social media platform, without having to be a member on either of those other platforms. If this dynamic sounds familiar, it should: many digital platforms already operate to allow users from one platform to engage with users on another platform. In addition to email, telecommunications is likewise interoperable: Verizon customers are fully able to call and text AT&T customers who in turn can call or text T-Mobile customers.

As with instant messaging in the early aughts,¹⁹ interoperability presents itself as a solution to Meta’s plausible monopoly across social media platforms. Indeed, interoperability provides an alternative when network effects like Meta’s create barriers to entry and inhibits competition, and there is precedent for agencies ordering closed networks to become interoperable.²⁰ Furthermore, not only will interoperability serve as a remedy, as some have proposed for Meta,²¹ interoperability rules for firms of a certain size will proactively foster competition because new entrants will not be inhibited by the incumbent’s network effect. The next section proceeds by discussing the FCC’s jurisdiction to create these rules.

II. The FCC’s Jurisdictional Rule-making Authority

Given the FCC’s knowledge and experience implementing interoperability schemes and orders, we recommend the FCC regulate social media platform interoperability. The Federal

¹⁴ *Id.*; Herbert Hovenkamp, *Antitrust Interoperability Remedies*, COLO. L. REV. F. (forthcoming 2022); KADES & SCOTT MORTON, *supra* note 4, at 1.

¹⁵ Srinivasan, *supra* note 13, at 69–70.

¹⁶ KADES & SCOTT MORTON, *supra* note 4, at 6–8.

¹⁷ *United States v. Microsoft Corp.*, 253 F.3d 34, 83 (2001).

¹⁸ Sub. Amend. Compl. at 1, *Fed. Trade Comm’n v. Facebook, Inc.*, No. 1:20-cv-03590 (D.D.C. Sept. 8, 2021)

¹⁹ *See infra* Section IV.A.

²⁰ *In re Time Warner*, 16 FCC Rcd. 6547, 6679–80 (Jan. 22, 2001).

²¹ *See generally* KADES & SCOTT MORTON, *supra* note 4; Hovenkamp, *supra* note 14.

Communications Commission has jurisdiction to make our proposed rule and has exercised this power before.²²

In the early 2000s, the Federal Communications Commission (FCC) used its rulemaking power to require AOL, as a condition of its merger with Time Warner, to make its Instant Messaging service interoperable with other firms' messaging services.²³ At the time, in 2001, AOL had no significant competition.²⁴ The FCC found that "the market in text-based instant messaging is characterized by strong 'network effects,' *i.e.*, a service's value increases substantially with the addition of new users with whom other users can communicate, and that AOL . . . is the dominant IM provider in America."²⁵ The FCC went on to observe that "AOL's market dominance in text-based messaging, coupled with the network effects and its resistance to interoperability, establishes a very high barrier to entry for competitors that contravenes the public interest in open and interoperable communications systems, the development of the Internet, consumer choice, competition and innovation."²⁶ To remedy the issues arising from AOL's closed IM system, the agency ordered interoperability to "give each provider's users access to a large universe of other users," "make each service more valuable to users" because of competition for users and user options, and "lead[] to effective competition and benefit[] consumers."²⁷

The basis of the FCC's rule making with respect to AOL, and which is relevant to this article's proposal for social network interoperability, is the FCC's mandate to "[s]upport[] the nation's economy by ensuring an appropriate competitive framework for the unfolding of the communications revolution" and "[r]evis[e] media regulations so that new technologies flourish alongside diversity and localism."²⁸ Under the Communications Act, the FCC must carry out policies that are in the public interest²⁹ and "encourage the provision of new technologies and services to the public."³⁰

²² See generally Communications Act of 1934, Title II, 47 U.S.C. ch. 5 (2012).

²³ *In re Time Warner*, 16 FCC Rcd. 6547, 6679–80 (Jan. 22, 2001).

²⁴ *Id.* at 6603.

²⁵ *Id.* at 6603.

²⁶ *Id.*

²⁷ *Id.* ¶ 154.

²⁸ *What We Do*, FED. COMM. COMMISSION, <https://www.fcc.gov/about-fcc/what-we-do> (last visited May 7, 2022).

²⁹ 47 U.S.C. § 230(b).

³⁰ 47 U.S.C. § 157.

The FCC derives its jurisdiction over social media platforms from Title I of the Communications Act of 1934.³¹ The Act regulates “communication by wire or radio,”³² including transmissions of “writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivering of communications) incidental to such transmission.”³³

Title I regulates information services,³⁴ which “means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing.”³⁵ Indeed, the D.C. Circuit has observed, “[G]enerating, acquiring, storing, or making available information via telecommunications is what users do on social media websites like Facebook.”³⁶ It is important to note that our proposed rule does not seek to impact what is published as social media content, but rather it will impact social media interconnectivity.³⁷

The Supreme Court has clarified that information service providers are different than telecommunications common carriers, which are subject to mandatory jurisdiction under Title II.³⁸ Under Section 153 of the act, “information service” refers to “the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing.”³⁹ According to the Court, social media platforms, including Facebook, are considered an “information

³¹ Communications Act of 1934, 47 U.S.C. § 151 (2018); Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996). Social media likely is not considered a common carrier under Title II. 41 U.S.C. § 201. However, the Supreme Court recently observed:

In many ways, digital platforms that hold themselves out to the public resemble traditional common carriers. Though digital instead of physical, they are at bottom communications networks, and they “carry” information from one user to another. A traditional telephone company laid physical wires to create a network connecting people. Digital platforms lay information infrastructure that can be controlled in much the same way. And unlike newspapers, digital platforms hold themselves out as organizations that focus on distributing the speech of the broader public. Federal law dictates that companies cannot “be treated as the publisher or speaker” of information that they merely distribute.

Biden v. Knight First Amend. Inst. At Columbia Univ., 141 S. Ct. 1220, 1224 (2021). The analogy to common carriers is even clearer for digital platforms that have dominant market share.

³² 47 U.S.C. § 153(a).

³³ *Id.* § 153(40), (59).

³⁴ *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 996 (2005).

³⁵ 47 U.S.C. § 153(24). This section also defines “[a]dvanced communications services” as “electronic messaging service” and “interoperable video conferencing service.”

³⁶ *United States Telecom Ass'n v. Fed. Commc'ns Comm'n*, 855 F.3d 381, 395 (D.C. Cir. 2017).

³⁷ Additionally, the Administrative Procedures Act (“APA”) confers rulemaking authority to the FTC. 5 U.S.C. § 553. Under the APA, regulatory agencies like the FCC have broad discretion in rulemaking. *Id.*; *SEC v. Chenery Corp.*, 332 U.S. 194 (1947).

³⁸ *See Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Serv.*, 545 U.S. 967, 975 (2005). From 2015 through 2018, ISPs were regulated under Title II, which gave the FCC affirmative rulemaking authority. *See generally* *Restoring Internet Freedom*, 47 C.F.R. § 7852 (2017); *AT&T Corp. v. Iowa Utilities Bd.*, 525 U.S. 366 (1999); *City of Arlington v. FCC*, 569 U.S. 290 (2013). The Supreme Court recently discussed the similarities between social media platforms and common carriers in *Biden v. Knight First Amend. Inst. at Colum. Univ.*, 141 S.Ct. 1220 (2015).

³⁹ 47 U.S.C. § 153(24).

service,” and thus would fall into Title I jurisdiction.⁴⁰ However, should the internet or social media platforms be redefined by Congress as common carriers, situating our proposal with the FTC would allow the agency to continue regulating social media platforms.⁴¹

Further supporting the FCC’s rulemaking ability, the agency has previously issued rules of interoperability. Although Title II does not confer the authority over ISPs, it provides precedent: under its Title II authority, the FCC made telecommunications interoperable.⁴² More parallel to social media and interoperability in digital spaces, in *In re Time Warner Inc.*, the FCC used the rulemaking authority it derives from its Title I ancillary jurisdiction to impose interoperability standards.⁴³ Although the FCC imposed interoperability as a condition of the AOL/Time Warner merger, the FCC has the jurisdiction to impose rules that address existing and future competition issues.⁴⁴ Thus, taken together, the FCC has precedent under both Titles I and II to set rules of interoperability.

Three sections within Title I are particularly relevant to conferring FCC authority over social media platforms: Section 151 states that the FCC can take actions “[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio . . . rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges by securing a more effective execution of this policy by centralizing authority”⁴⁵; Section 152(a) states that the FCC’s jurisdiction “shall apply to all interstate and foreign communication by wire or radio . . . [and] all persons engaged within the United States in such communication”⁴⁶; and Section 154(i) gives the FCC the authority to “perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions.”⁴⁷

The Supreme Court has confirmed the FCC’s broad jurisdiction under Title I of the Communications Act, although it has not explicitly ruled on point.⁴⁸ In *United States v. Southwestern Cable Co.*, the Court in dicta stated, “We cannot construe the Act so restrictively. Nothing in the language of s 152(a), in the surrounding language, or in the Act’s history or purposes limits the Commission’s authority to those activities and forms of communication that are specifically described by the Act’s other provisions.”⁴⁹ More recently, in *National Cable & Telecommunications Association v. Brand X Internet Services*, the Court observed that the FCC has the ability “to impose regulatory duties” under its ancillary jurisdiction: “Information-service

⁴⁰ U.S. Telecom Ass’n v. FCC, 855 F.3d 381, 395 (D.C. Cir. 2017).

⁴¹ The FTC also has jurisdiction over social media platforms. For a discussion of the FTC’s jurisdiction in the context of interoperability as a remedy for social media companies, see generally KADES & SCOTT MORTON, *supra* note 4.

⁴² See also *Network Reliability and Interoperability Council III*, FED. COMM’N COMM’N, <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-7>.

⁴³ *In re Time Warner*, 16 FCC Rcd. 6547, 6611 (Jan. 22, 2001).

⁴⁴ Matthew A. Goldberg, *Message in a Bottleneck: The Need for FCC-Mandated Interoperability Among Instant Messaging Providers*, 9 MARQ. INTELL. PROP. L. REV. 133, 140–44 (2005).

⁴⁵ 47 U.S.C. § 151.

⁴⁶ *Id.* §§ 152(a), 153(40), (59).

⁴⁷ *Id.* § 154(i).

⁴⁸ *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 996 (2005).

⁴⁹ *United States v. Sw. Cable Co.*, 392 U.S. 157, 172 (1968).

providers, by contrast, are not subject to mandatory common-carrier regulation under Title II, though the Commission has jurisdiction to impose additional regulatory obligations under its Title I ancillary jurisdiction to regulate interstate and foreign communications, see §§ 151–61.”⁵⁰ Thus, the Court recognizes the FCC’s broad ancillary jurisdiction under Title I.⁵¹

Although the FCC has jurisdiction to impose rules under 154(i) and 152(a), there is ambiguity whether, in addition to showing that the agency has “jurisdiction directly under the provisions of Title I,” it must do so “by acting in a manner ‘reasonably ancillary to the effective performance of the Commission’s various responsibilities.’”⁵² The Supreme Court has not yet spoken directly to the issue, but the D.C. Circuit provides guidance with its Title I ancillary jurisdiction rule: “(1) the Commission’s general jurisdictional grant under Title I of the Communications Act covers the regulated subject and (2) the regulations are reasonably ancillary to the Commission’s effective performance of its statutorily mandated responsibilities.”⁵³

There are a number of provisions in the Act that provide the FCC with additional jurisdictional authority.⁵⁴ Sections 313 and 314 are particularly relevant: although the FCC may not decide antitrust issues, Congress conferred to the agency the ability to issue rules to enforce

⁵⁰ Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs., 545 U.S. 967, 996 (2005). The Court also stated in dicta that “the Commission remains free to impose special regulatory duties on facilities-based ISPs under its Title I ancillary jurisdiction.” *Id.*

⁵¹ See e.g., United States v. Sw. Cable Co., 392 U.S. 157, 178 (1968) (applying ancillary jurisdiction in the context of television broadcasting: “The authority which we recognize today under s 152(a) is restricted to that reasonably ancillary to the effective performance of the Commission’s various responsibilities for the regulation of television broadcasting. The Commission may, for these purposes, issue ‘such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law,’ as ‘public convenience, interest, or necessity requires.’ 47 U.S.C. s 303(r).”).

⁵² Andrew Gioia, *FCC Jurisdiction Over ISPS in Protocol-Specific Bandwidth Throttling*, 15 MICH. TELECOMMS. & TECH. L. REV. 517, 534 (2009).

⁵³ Mozilla Corp. v. Fed. Comm’n’s Comm’n, 940 F.3d 1, 76 (D.C. Cir. 2019) (citing American Library Ass’n v. FCC, 406 F.3d 689, 691–692 (D.C. Cir. 2005)). When determining whether an agency holds rulemaking authority, courts apply the *Chevron* test:

When a court reviews an agency’s construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.⁹ If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute,¹⁰ as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency’s answer is based on a permissible construction of the statute.

Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 842–43, (1984).

⁵⁴ Although, Section 230(b)(1)–(2) has been offered in the past as grounds for interoperability, the D.C. Circuit in *Comcast* clarified that Section 230’s policy statement cannot be grounds for FCC jurisdiction. (insert *Comcast* Citation here). See also 47 U.S.C § 230(b)(1)–(2) (“It is the policy of the United States— (1) to promote the continued development of the Internet and other interactive computer services and other interactive media; (2) to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation . . .”).

the antitrust laws.⁵⁵ Section 313 applies the Sherman Act to radio communications and states that “[a]ll laws of the United States relating to unlawful restraints and monopolies and to combinations, contracts, or agreements in restraint of trade are declared to be applicable to the manufacture and sale of and to trade in radio apparatus and devices entering into or affecting interstate or foreign commerce and to interstate or foreign radio communications.”⁵⁶ Section 314 extends FCC rulemaking to the merger context.⁵⁷ Taken together, the FCC not only can, but is charged with creating rules to mitigate antitrust issues arising within their jurisdiction. This is certainly the case with social media companies that acquire market dominance through closed platforms and network effects.

Thus, the FCC has rule making authority under Title I of the Communications Act and can use this authority to create a rule of interoperability for social media firms.

III. Proposed Rule: Mandatory Interoperability for Firms that Hold a Specific Market Share

A. Regulatory Framework

Our proposed rule follows recent antitrust interoperability developments in other countries. Both the European Union’s Digital Market Act (“DMA”) and Section 19a of the German Competition Act have tackled mandated interoperability in proposed or adopted legislation. Under the proposed DMA rule, gatekeepers are social media companies “with a market capitalisation of at least 75 billion euro,” at least 45 million monthly end users, and 100,000 annual business users.⁵⁸ Under Section 18 of the German Competition Act (“GMA”), a firm that maintains forty percent market share in “one or several markets” is considered dominant.⁵⁹ Additionally, Senators Klobuchar and Grassley introduced the bipartisan American Innovation and Choice Online Act (“AICOA”), which includes a dominant or “covered platform” definition.⁶⁰ We propose the United States takes a similar approach to align with steps being taken by the proposed DMA and adopted GMA.

Under our proposed rule, firms of a certain size are required to be interoperable, and all other firms may voluntarily be interoperable with other firms. Subsection 1 provides a

⁵⁵ *United States v. Radio Corp. of America*, 358 U.S. 334, 352 (1959); *United States v. FCC*, 652 F.2d 72, 114–16 (D.C. Cir. 1980) (“reaffirming FCC’s general charter to weigh antitrust matters in making its public interest balance”).

⁵⁶ 47 U.S.C. § 313(a).

⁵⁷ *Id.* § 314.

⁵⁸ Press Release, *Deal on Digital Markets Act: EU Rules to Ensure Fair Competition and More Choice for Users*, EUROPEAN PARLIAMENT (Mar. 24, 2022), <https://www.europarl.europa.eu/news/en/press-room/20220315IPR25504/deal-on-digital-markets-act-ensuring-fair-competition-and-more-choice-for-users>.

⁵⁹ Gesetz gegen Wettbewerbsbeschränkungen [GWB] [Act Against Restraints of Competition], June 26, 2013, BGBl I at 1750, 3245, §18(4), as amended by Article 4 of the Act of 9 July 2021, BGBl I at 2506, https://www.gesetze-im-internet.de/englisch_gwb/englisch_gwb.pdf.

⁶⁰ The American Innovation and Choice Online Act, H.R. 3816, 117TH CONG. § 2(a)(5) (2021), <https://www.congress.gov/bill/117th-congress/senate-bill/2992/text>

framework for determining whether a firm is “dominant” and therefore subject to involuntary interoperability, while Subsection 2 addresses voluntary interoperability.

1. Mandatory Application Based on Firm Size

Under our proposed rule, only firms of a certain size, that generate over a specific amount of earnings or market capital, or that are classified as “critical trading partners” qualify as “dominant” and therefore would be ordered to be interoperable.

Sample Dominant Platform Definition (Adopted from AICOA)

A platform is “dominant” and thus covered by this rule if it is a company and is either a Dominant Platform “at any point during the 12 months prior to a designation,”⁶¹ or a complaint arising under 15 U.S.C. §§ 1, 2, 5, or 13 has been filed against it and the platform (1) reaches or surpasses a specific number of monthly active users (“MAUs”); (2) “is owned or controlled by a person” that owns a specific market capitalization⁶²; or (3) is a “Critical Trading Partner.”⁶³

(1) Defining a Dominant Platform by number of United States-based MAUs

- A privately or publicly held company’s platform is dominant if it has
 - “50,000,000 United States-based monthly active users”⁶⁴; or,
 - “100,000 United States-based monthly active users on the online platform”⁶⁵; or,
 - “has at least 1,000,000,000 worldwide monthly active users”⁶⁶

(2) Defining a Dominant Platform by Net Sales or Market Capitalization

- A platform is dominant if within “2 years preceding a designation,” a publicly traded company is
 - “owned or controlled by a person with United States net annual sales of greater than \$550,000,000,000”⁶⁷; or
 - “during any 180-day period . . . [has] an average market capitalization greater than \$550,000,000,000”⁶⁸
- A non-public company is dominant if it is
 - “owned or controlled by a person . . . with earnings . . . greater than \$30,000,000,000.”⁶⁹

⁶¹ *Id.* § 2(a)(5)(B)(ii).

⁶² *Id.* § 2(a)(5).

⁶³ *Id.* § 2(a)(5)(B)(ii).

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.* § 2(b)(5)(C)(ii).

(3) Defining a “Critical Trading Partner”

- A platform or person is dominant if it is a “critical trading partner”⁷⁰ with “the ability to restrict or materially impede the access of”⁷¹
 - “a business user to the users or customers of the business user; or”⁷²
 - “a business user to a tool or service that the business user needs to effectively serve the users or customers of the business user.”⁷³

Monthly active users (“MAUs”) are a commonly reported metric used by social media companies; for public companies like Facebook, they are reported in their SEC filings. The “[MAU] is a key performance indicator (KPI) used by social networking and other companies to count the number of unique users who visit a site within the past month. Websites generally recognize monthly active users via an identification number, email address, or username.”⁷⁴

A critical trading partner becomes dominant when its closed platform meets the criteria set forth above. Thus, a platform that may not have earnings or sales but is a critical business tool would be dominant and thus need to become interoperable.

If we apply this standard to Meta’s Facebook, as an example, Facebook would be a dominant platform under definitions (1), (2), and (3). Applying criteria (1) Meta is a publicly traded company, and its MAUs for the past 12 months have been 2.91 billion.⁷⁵ Thus, it is a dominant platform. Applying criteria (2), Meta is a publicly traded company with an average market capitalization of \$630 billion for the past 180 days.⁷⁶ Finally, under criteria (3), Meta is also a critical trading partner: Meta’s Facebook is an essential tool for businesses to reach customers; it generates the greatest advertising revenue among social media platforms.⁷⁷ Thus, Meta is a dominant firm. As a dominant firm, Meta would be compelled to make its platform interoperable.

2. Voluntary Application

Although this rule would be mandatory for firms categorized as “dominant,” non-dominant social media firms would nonetheless have the opportunity and ability to interoperate with dominant and other non-dominant firms. Should a non-dominant firm decide to interoperate, it would abide by the same conditions as the dominant firm, as described below. Additionally, firms choosing voluntary interoperability must do so with reciprocity to other small firms voluntarily choosing to interoperate. Reciprocal (or symmetrical) interoperability is

⁷⁰ *Id.* § 2(b)(6).

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Carla Tardi, *Monthly Active Users (MAU)*, INVESTOPEDIA (Apr. 4, 2022),

[https://www.investopedia.com/terms/m/monthly-active-user-mau.asp#:~:text=Monthly%20active%20users%20\(MAU\)%20is,site%20within%20the%20past%20month.](https://www.investopedia.com/terms/m/monthly-active-user-mau.asp#:~:text=Monthly%20active%20users%20(MAU)%20is,site%20within%20the%20past%20month.)

⁷⁵ Meta Platforms, Inc., Annual Report (Form 10-k) (Feb. 3, 2022).

⁷⁶ *Meta Platforms Inc (FB)*, YCHARTS, May 20, 2022, https://ycharts.com/companies/FB/market_cap.

⁷⁷ *Social Media Forecast to Overtake TV in Ad Spend This Year*, *supra* note 9.

defined as a situation in which “a network that benefits from its users’ posts flowing to and from the dominant social network also must provide interoperability.”⁷⁸

Examples of currently operating non-dominant firms are Twitter and Snapchat.⁷⁹ These existing platforms – which as explained below would not be classified as dominant – would have the choice as to whether they would become interoperable. Because they are not non-dominant firms, interoperating with the dominant firm would be entirely voluntary.

B. Technical Framework

Interoperability can take many forms, and due to the various “structures and business models for big tech, ‘interoperability’ must be defined broadly.”⁸⁰ Types of interoperability include:

- Dynamic interoperability: the “real-time sharing of data and operations.”⁸¹
- Static interoperability: includes data portability and “compelled sharing of productive assets, most frequently intellectual property rights.”⁸²

In addition to dynamic and static interoperability, there are different levels of interoperability across platforms – each with varying degrees of technical demands. We propose public horizontal integration, a tier of interoperability that would enable real-time publication and messaging across platforms.⁸³ Additionally, current data portability tools supporting static interoperability would need to be enhanced. Facebook presently allows transfers of only select user data, including photos and videos, posts, notes, and events.⁸⁴ This data can be transferred to one of four online storage services: Google Photos, Google Docs, Dropbox, and Koofr after

⁷⁸ KADES & SCOTT MORTON, *supra* note 4, at 22. For more conversation about the symmetrical interoperability, see *id.*, which gives the example that,

if there were an entering platform run by AARP and another by the NBA and another by Disney, and all three of those entrants chose to operate under the standard, their users could not only connect to friends on Facebook.com, but the AARP users could “friend” users of the Disney and the NBA platform as well as users on Facebook.com, and vice versa. Reciprocity will help new networks launch and flourish.

The opposite of reciprocal interoperability is asymmetrical; for example, Meta users can share TikTok videos on Facebook and Instagram, but not vice versa. *Id.*

⁷⁹ Marketing Business Network, *Most Popular Social Media Networks by Monthly Active Users 2022*, YOUTUBE (Apr. 7, 2022), https://www.youtube.com/watch?v=tmPebP_ca7A.

⁸⁰ Hovenkamp, *supra* note 14, at 2.

⁸¹ *Id.*

⁸² *Id.*

⁸³ IAN BROWN, OPEN FORUM ACADEMY, THE TECHNICAL COMPONENTS OF INTEROPERABILITY AS A TOOL FOR COMPETITION REGULATION 38 (Nov. 2020), https://www.openforumeurope.org/wp-content/uploads/2020/11/Ian_Brown_The_technical_components_of_interoperability_as_a_tool_for_competition_regulation.pdf.

⁸⁴ *How Do I Transfer My Information to a Service Off of Facebook?*, FACEBOOK, <https://www.facebook.com/help/230304858213063> (last accessed Aug. 9, 2022).

the user authenticates their account with the receiving service using an OAuth sign-in.⁸⁵ Notably, no single service can receive all categories of user data available for transfer.

Application Programming Interfaces (“API”) enable communication between companies and applications both internally within an organization and externally with partners and developers using a common set of standards. API’s enable some of the most popular technologies and tools today, including Google Maps, hotel and flight reservation websites, and third-party payment platforms such as Paypal and Stripe. API access is available at various tiers, including open for public development, restricted to approved partners, or privately accessible within an enterprise. API protocols vary based on the data, security, and level of access requirements desired, and include popular options such as SOAP and REST.⁸⁶ The connectivity between applications established by an API ensures only the intended data is transmitted thus mitigating the risk of a data breach or unauthorized access beyond the defined scope of the API’s level of access. The use of an API for an interoperable network is appealing because API adoption is widespread, well-documented, and highly standardized within individual protocols.

Representational State Transfer (“REST”) API’s offer several attractive design features that could be adapted to social media interoperability, including lightweight and scalable data transfers, client-server decoupling, and statelessness.⁸⁷ Any successful interoperability solution would need to reliably connect current platforms while accommodating future firms seeking to enter the market. The REST API’s design principles ensure compatibility across the network through uniform resource identifiers (URI). URI’s uniquely associate any data accessible via the network to an identifier visible to all platforms. Client-server decoupling is another important REST design benefit, ensuring both durability and scalability. The REST protocol allows the server logic and client-side design to be iterated independently without fear of technical incompatibility.⁸⁸ Further, REST API’s do not place any restrictions on the internal systems architecture of a platform. All firms will be able to make any IT design decisions they wish in pursuit of a competitive advantage without compromising their ability to access the interoperable network via a REST API protocol. Statelessness dictates that any API request can occur in isolation from other requests, and that no information is stored on the server side. This allows for the degree of scalability and data concurrency needed by any successful interoperable social network.

JavaScript Object Notation (JSON) provides an ideal data format for the proposed REST API. JSON is both a widely adopted standard and sufficiently flexible to provide the data functionality necessary to appeal to potential new entrants. A JSON “object” is a self-contained data structure capable of being transmitted between platforms while containing information such as universal resource identifiers (“URIs”), name, email, message content, geotag, image, etc.

⁸⁵ *Your Facebook Information*, FACEBOOK (May 17, 2022), https://www.facebook.com/settings?tab=your_facebook_information.

⁸⁶ *Application Programming Interface (API)*, IBM (May 23, 2022), <https://www.ibm.com/cloud/learn/api>.

⁸⁷ *REST API: Key Concepts, Best Practices, and Benefits*, ALTEXSOFT (May 22, 2002), <https://www.altexsoft.com/blog/rest-api-design>.

⁸⁸ *REST Architecture - Part 1: Building the API*, AUTH0 (May 22, 2022), <https://auth0.com/blog/rest-architecture-part-1-building-api>.

JSON is both machine and human-readable. Each JSON object is composed of at least one name-value pair of information separated by a colon and enclosed within curly braces. Additionally, JSON is supported by numerous modern programming languages to package the data for transmission as well as receiving it – known as serializing and deserializing, respectively.⁸⁹

To consistently define the type and structure of data transmittable via the API, an object-oriented programming (“OOP”) design framework is used to model the hierarchy of properties and relationships between entities. OOP describes more specialized classes of entities extended from generalized base classes. An example of the relationship between base and extended classes would be a hypothetical “animal” base class and a “dog” or “cat” extended class. Extended class objects have all the properties of the base class in which they originate, as well as any additional properties unique to the specialized class. Extended objects are described as having an “is a” relationship with their base class – possessing all the base class properties in addition to properties unique to the extended class. To model an interoperable network, we propose a set of base classes including Object, Link, Activity, which extends the specialized classes Activity Types, Link Types, and Object Types, respectively (see **Figure 1**).⁹⁰

⁸⁹ *How to serialize and deserialize (marshal and unmarshal) JSON in .NET*, MICROSOFT (May 22, 2022), <https://docs.microsoft.com/en-us/dotnet/standard/serialization/system-text-json-how-to?pivots=dotnet-6-0>.

⁹⁰ James M Snell, *Activity Vocabulary*, W3C (May 8, 2022), <https://www.w3.org/TR/activitystreams-vocabulary>.

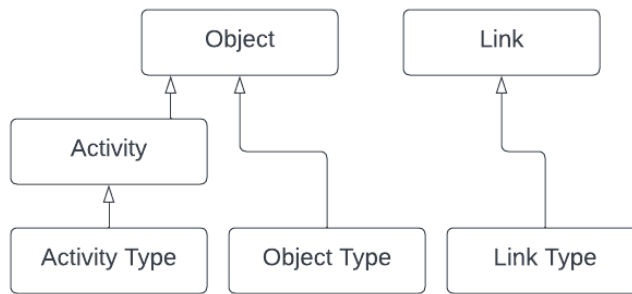


Figure 1: Model Interoperable Network

To establish static interoperability, the transferability of users’ data would need to be expanded beyond the current functionality offered by Facebook to accommodate additional destinations such as new social media firms. Data transfers would be authenticated using the industry standard OAuth protocol. Further, transferable user data would need to be expanded to include at minimum user friends lists and direct messaging logs. Making friends lists accessible is essential to maintain social connectivity between users across platforms. Notably this data is already available to users as an offline download by Facebook.

Dynamic interoperability would be established at a level of functionality guaranteeing real-time messaging and posting across platforms among friend contacts – known as public horizontal integration. This would provide tangible product value to entice new firms while maintaining sufficient flexibility to allow product specialization by a platform without being constrained by the excessive requirements of a proposed interoperability API. Dynamic interoperability would require the implementation of URI’s for each current Facebook user as well as any new users joining via competing platforms. This would allow friends to be uniquely identified across platforms and to receive direct messages or posts published by contacts originating on other platforms. The technical requirements of this is not particularly burdensome and would conform to existing industry standards regarding the use of URIs within JSON data format transmitted via REST APIs.⁹¹ **Figure 2** illustrates Facebook’s current JSON format used when downloading an offline copy of a user’s friend list. **Figure 3** illustrates the addition of a URI identifier for each user (denoted by the “id” name value pair).

⁹¹ 7 Rules for REST API URI Design, RESTCASE (June 18, 2017), <https://blog.restcase.com/7-rules-for-rest-api-uri-design>.

```

{
  "friends": [
    {
      "name": "Joel Klein",
      "timestamp": 1504450423
    },
    {
      "name": "Mark Zuckerberg",
      "timestamp": 1489070774
    },
    {
      "name": "Sheryl Sandberg",
      "timestamp": 1478835833
    }
  ]
}

```

Figure 2: Proposed JSON Data Format Transmitted via REST APIs with Additional URI Identifier

```

{
  "friends": [
    {
      "name": "Joel Klein",
      "timestamp": 1504450423,
      "id": "interop.facebook.com/users/joel-klein"
    },
    {
      "name": "Mark Zuckerberg",
      "timestamp": 1489070774,
      "id": "interop.facebook.com/users/mark-zuckerberg"
    },
    {
      "name": "Sheryl Sandberg",
      "timestamp": 1478835833,
      "id": "interop.facebook.com/users/sheryl-sandberg"
    }
  ]
}

```

Figure 3: Proposed JSON Data Format Transmitted via REST APIs with Additional URI Identifier

To facilitate dynamic messaging and posting to existing friend groups, an additional OOP extended “Relationship” class can be used from the base Object class (see **Figure 1**). This Relationship Object would adhere to the JSON data format proposed throughout this paper and be fully compliant with REST API design principles.⁹² When a user sends a direct message to a friend, the user’s host platform would first look for the URI corresponding to the message recipient. If a match isn’t found, the platform initiates the appropriate HTTP method query and transmits the information across the interoperable network to the recipient’s host platform via the API. A similar approach can be used for content shared publicly among friend groups. The user’s host platform would first check its own platform for the user’s friends via the URI’s found in their Relationship Object. Any of the user’s friends not found on that platform would receive the post’s information via their respective host platforms as an HTTP method query transmitted via the API; creating a distributed audience for the user’s post among their friends across multiple platforms.

1. What Becomes Interoperable

The intent of the dynamic interoperability enabled by our proposed API aims to offer social media firms a foundation of functionality. Firms have complete freedom (and are encouraged) to innovate further upon the real-time messaging and posting features provided by the API. The JSON data format utilized by the API provides a lightweight and widely adopted standard upon which proprietary features could be developed. We propose offering a balance of access to useful data without requiring firms to accommodate unwanted data supplied by the API. The required categories (see Section III) include widely utilized datapoints such as timestamp, message content, geotag, and username. Crucially, new optional data categories can be added later and transmitted via the API offering firms additional data to develop proprietary features upon. The API makes no demands on firms to conform to a particular look or feel within their platform. As an example, user posts shared with friends—and transmitted via API—could be

⁹² Snell, *supra* note 90.

used within a news feed style feature or as standalone message notifications of a friend’s activity (or both) within a firm’s platform.

2. Data, Privacy, and Business Model

Data privacy across the interoperable network is addressed via the technical specifications of our proposed REST API. Hypertext Transfer Protocol Secure (HTTPS) encryption ensures any data is encrypted as it transits the network using either 128 or 256 bit encryption. HTTPS protects against common “man in the middle” attacks as data is exchanged between platforms. Additional data protections are provided by the JSON data format used by the API to standardize the structure of the data exchanged. No sensitive user data is incorporated into the Object or Link type base classes (see Section III). As a result, any potential PII data would remain on the user’s host platform servers, and would be protected under their data storage and security provisions. A third layer of security is provided by the REST API’s stateless design. This eliminates the need for any authentication credentials exchanged between a client and server to be stored on the server. Each stateless API request for data is self-contained and includes all the necessary data as well as authentication information.

IV. Implementing and Enforcing the Social Media Platform Interoperability

The following section sets forth recommendations for regulators to implement and ensure interoperability compliance across dominant social media platforms.⁹³

A. Oversight

The Communications Act gives the FCC commissioners the ability to delegate their duties to employees, individual commissioners, and advisory bodies.⁹⁴ We recommend that the Commission create two such bodies: an advisory committee and a monitoring board.

1. Interoperability Council

We recommend the FCC appoint an existing advisory council or establish a new committee to issue reports, best practices, and recommendations to facilitate social media interoperability.⁹⁵ The council would have the responsibility of creating, updating, and

⁹³ For a more ample discussion on the intricacies of the rulemaking Note and Comment process and potential concerns regarding the agency authority under the Administrative Procedures Act, see KADES & SCOTT MORTON, *supra* note 4, at 32–35.

⁹⁴ 47 U.S.C. § 155(c)(1).

⁹⁵ Alternatively, a new federal body overseeing digital platforms, as proposed by Senator Bennett, could provide oversight. See Digital Platform Commission Act of 2022, S. 4201, 117TH CONG. (2022), https://www.bennet.senate.gov/public/_cache/files/9/c/9cdacd51-41dd-470f-89d7-4cfa6a700cb8/DC68CD6481E262D668211395ABEA0EE2.05.09.21---bennet-digital-platform-commission-act---final-text.pdf.

maintaining the API. The council would work with dominant and non-dominant firms to create, update, and maintain the interoperability API.

This committee would comprise of individuals with technical, engineering, and legal expertise who can contribute to establishing robust and effective social media platform interoperability. The FCC currently has a Communications Security, Reliability, and Interoperability Council which, among other duties, “provide[s] recommendations to the FCC regarding ways the FCC can help ensure . . . interoperability of communications systems.”⁹⁶ This council could additionally provide expertise, or a new council could be established.

2. Implementation, Monitoring Committee, and Enforcement

A platform that is ordered to become interoperable and agrees to do so must be given adequate time to interoperate. We suggest allowing approximately a year, along with periodic check-ins, described below. Social media firms subject to mandatory interoperability would have access to the license and be granted access to the API conceptualized above without paying royalties. To promote competition in the social media marketplace while offsetting any entrenched network effect, use of the API would be available to social media platforms not subject to mandatory interoperability.

To ensure interoperability is adopted by dominant social media firms, we recommend the FCC delegate its authority and create a monitoring committee to ensure compliance with the interoperability standard. To ensure compliance for firms that are dominant and are transitioning to become interoperable, there will be a 180-day reporting requirement. The reporting must “describe[e] in technical depth, the actions it has taken to achieve interoperability”⁹⁷ and the proposal “will be placed on public notice for comment.”⁹⁸

Because of the seriousness of the anticompetitive conduct, failure to abide by the terms of interoperability should be met with penalties that reflect the nature of the violation. Title V of the Communications Act addresses the penalties the FCC may impose on an entity under its jurisdiction. Section 503 states that

Any person who willfully and knowingly violates any rule, regulation, restriction, or condition made or imposed by the Commission under authority of this chapter . . . shall, in addition to any other penalties provided by law, be punished, upon conviction thereof, by a fine of not more than \$500 for each and every day during which such offense occurs.⁹⁹

⁹⁶ *Communications Security, Reliability, and Interoperability Council*, FCC, <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-council-0> (last visited May 7, 2022).

⁹⁷ *In re Time Warner Inc.*, 16 F.C.C. Rcd. 6547, 6629 (2001).

⁹⁸ *Id.*

⁹⁹ 47 U.S.C. § 502.

This section would apply to a social media platform that violated an order to become interoperable; however, depending on a platform’s revenues, \$500 a day could be seen as a cost of doing business, and therefore not an effective penalty.

The FCC also has authority to issue a forfeiture penalty against a part that refuses to interoperate. Section 503(b)(1)(B) states that a firm that “willfully or repeatedly fail[s] to comply with any . . . rule, regulation, or order issued by the Commission . . . shall be liable to the United States for a forfeiture penalty,” which is “in addition to any other penalty provided for”¹⁰⁰ under Title V—thus forfeiture would be a penalty that could be issued in addition to the \$500 daily fine. Section 503 also sets forth the daily penalty for internet service providers: up to “\$10,000 for each violation or each day of a continuing violation, except that the amount assessed for any continuing violation shall not exceed a total of \$75,000.”¹⁰¹

Because of Meta’s enormous revenues, the current penalties in place will not be adequate for incentivizing compliance by a dominant firm; thus, we recommend that any dominant platform that does not comply be sanctioned and not allowed to collaborate on the technical updates to the interoperability API updated and maintained by the Interoperability Council. The first violation would prohibit participation for three years; a second violation would prohibit participation for five years; and a third violation would prohibit participation for ten years.

¹⁰⁰ *Id.* § 503(b)(1)(B).

¹⁰¹ *Id.* § 503(b)(2)(D).