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 13 **IN THE UNITED STATES DISTRICT COURT**
 14 **FOR THE NORTHERN DISTRICT OF CALIFORNIA**

15 U.S. WECHAT USERS ALLIANCE, *et al.*,
 16
 17 Plaintiffs,

Case No. 3:20-cv-05910-LB

DECLARATION OF JOHN COSTELLO
 (REDACTED VERSION)

18 v.

19 DONALD J. TRUMP, President of the United
 States, and WILBUR ROSS, Secretary of
 20 Commerce,

21 Defendants.

22 **DECLARATION OF JOHN COSTELLO**

23 I, John Costello, declare as follows:

24 1. I am currently employed as the Deputy Assistant Secretary for Intelligence and Security
 25 at the United States Department of Commerce. I have served in this capacity since June 22, 2020.

26 2. Prior to assuming my current position, I was Senior Director and Lead for Task Force
 27 Two at the U.S. Cyberspace Solarium Commission and Senior Advisor to the Director of the
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1 Cybersecurity and Infrastructure Security Agency (CISA). For part of that time, I also served as
2 Director of Strategic Operations Planning and Senior Advisor to the Assistant Secretary for
3 Cybersecurity and Communications at the Department of Homeland Security. Before then, I was a
4 Senior Analyst for Cyber and East Asia at the business risk intelligence firm, Flashpoint, and an analyst
5 at a defense contractor, where my area of concentration was China's defense establishment and the use
6 of information operations as tools of state power. I have worked as a Fellow for the Committee on
7 Oversight and Government Reform of the United States House of Representatives, where I advised on
8 technology and cyber-policy and assisted the Committee's investigation into the Office of Personnel
9 Management (OPM) data breach. I also served in the United States Navy for six years as an analyst and
10 cryptologic linguist in Chinese (Mandarin), concurrent with my role in supporting the National Security
11 Agency for approximately four years, where my work specialized in language analysis and foreign
12 adversary cyber and information warfare. I have a working professional proficiency in Chinese
13 (Mandarin), have co-authored a chapter on Chinese information warfare in the edited volume *China's*
14 *Evolving Military Strategy*, and testified before the U.S.-China Economic and Security Review
15 Commission on Chinese advances in quantum information science, Chinese intelligence agencies, and
16 China's evolving approach to cyber operations and information warfare.

17 3. In my current post, I participated in the decision-making process regarding the
18 identification of prohibited transactions relating to the WeChat mobile application and Tencent Ltd. by
19 the Secretary of Commerce (Secretary) pursuant to Executive Order 13943. As part of these activities, I
20 oversaw the preparation of the September 17, 2020, decision memorandum, attached hereto as Exhibit A
21 (Decision Memorandum), on which the Secretary relied in his Identification of Prohibited Transactions
22 under Executive Order 13943.

23 4. I have reviewed the declaration of Adam Roach, a former employee of Mozilla
24 Corporation, filed by Plaintiffs on October 8, 2020, ECF No. 84-1. I make this declaration in further
25 support of the Government's motion to stay the Court's preliminary injunction, and in response to Mr.
26 Roach's declaration regarding the anticipated impact of the six prohibited transactions identified by the
27 Secretary. The facts attested to herein are based on my personal knowledge or information made
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1 available to me in the course of my official duties.

2 ***First Category of Prohibited Transactions***

3 5. The first class of transactions identified by the Secretary prohibits the provision of
4 services to distribute and maintain the WeChat mobile application, constituent code, and mobile
5 application updates through an online mobile application store or other online marketplace within the
6 territorial and maritime United States. I agree with Mr. Roach that this prohibition would not
7 immediately prevent persons in the United States from using any already-installed versions of the
8 WeChat app. *See* Roach Decl. ¶¶ 4-7. Specifically, and as reflected in the Decision Memorandum,
9 these prohibitions “would not require the removal of the app from user devices, [and] thus the app would
10 remain on any device where the app has been downloaded prior to the order.” Decision Mem. at 15.
11 While the app would no longer have the ability to be updated, and would therefore become less effective
12 and functional over time, *id.*, this prohibition alone is not likely to have any short-term effect on the
13 continued use of an already-installed version of the WeChat app.

14 6. I disagree with Mr. Roach’s assessment that these circumstances pose an undue security
15 risk for current WeChat users. Mr. Roach opines that because WeChat has approximately 19 million
16 daily active users who would not be able to receive software updates to the WeChat mobile application,
17 this prohibition would “expos[e] approximately 19 million United States citizens to potentially
18 devastating results” by “ensur[ing] that these current users become vulnerable to [malicious] attacks as
19 soon as soon as [a hypothetical security vulnerability] becomes public.” Roach Decl. ¶ 7.

20 7. My team considered the risk of an unpatched security vulnerability with respect to this
21 prohibition, and we determined it to be vastly outweighed by the long-term security benefits of the
22 prohibition. While it is true that, on occasion, critical security vulnerabilities have been discovered in
23 mobile applications that make them immediately vulnerable to the types of malicious attacks that Mr.
24 Roach describes, such as “identity theft, password exfiltration, performing financial transactions on the
25 users’ behalf, . . . and persistently monitoring users’ location, microphone, camera, and screen contents,”
26 Roach Decl. ¶ 6, such discoveries are rare.

27 8. Although an existing WeChat user could miss some updates without seeing an immediate
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1 impact on functionality, after enough missed updates, the app eventually would become slower to
2 respond, certain features would be impaired, and users might find the app incompatible with newer
3 versions of operating systems for their mobile devices. In addition, the WeChat app may not migrate if
4 users attempted to transfer their profiles to a newer device. In this way, the app would gradually become
5 unusable to the point that users in the United States would not be able to use it to communicate or
6 transmit data and would remove it from their devices. Even if a user did not immediately remove the
7 app from his or her device, the gradual effect of this impaired functionality would also impair and
8 reduce the amount of data that could be collected and transmitted through the app, as well as the damage
9 that could be caused by a hypothetical malicious attack. That gradual degradation of functionality also
10 would create additional incentives to use alternative applications instead of WeChat. Although it is
11 impossible to predict with certainty how long it would take for the app to become fully obsolete in this
12 sense, my best estimate, based on current circumstances, is that it would take 1-2 years for the
13 functionality of the app to degrade to the point of causing an otherwise dedicated WeChat user to stop
14 using the app and delete it from his or her device.¹ The chance of an urgent software vulnerability in the
15 WeChat app arising during that time frame is small.

16 9. Even if such a vulnerability were to arise, I disagree with Mr. Roach that it would affect
17 19 million United States users. The intent of the prohibitions is to substantially reduce the number of
18 daily users of the WeChat mobile application in the United States. I expect this would occur in a few
19 different ways. First, for some users, the mere fact of the prohibitions and the security concerns that
20 underlie them would be a sufficient incentive to transition away from WeChat to one of the many
21 alternative mobile applications that serve similar functionalities.² Other users would transition away

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23 ¹ There are certain sophisticated measures that a dedicated WeChat user could take to avoid these
24 degradation effects, such as “sideloading” the app through an Android device or using a “jailbroken”
25 iPhone, but we assumed that most users would not be incentivized to pursue these steps.

26 ² For United States users communicating with persons anywhere other than in China, there are
27 numerous such alternatives, including but not limited to Facebook, Facebook Messenger, FaceTime,
28 Instagram, Twitter, Google groups and Google Hangouts, Line, Telegram, Signal, Snapchat, Zoom,
Skype, iChat, and WhatsApp. For U.S.-based users that want to communicate with persons in China,
there are somewhat fewer options due to China’s “Great Firewall” policy of excluding many of the
foregoing technologies; however, even for these users, there are still numerous alternatives to
communicating through WeChat. These include Signal, iMessage, Line, Wickr, Xiaomi Mitalk, Zoom,
and Skype, as well as other technologies such as telephone and email..

1 from the app only after experiencing some degradation in functionality, which would likely occur before
2 the app ages out altogether, both as a result of the third and fourth categories of prohibitions as well as
3 through the diminishing performance caused by a lack of updates. Finally, the most dedicated subset of
4 WeChat users may only cease using the app when it becomes functionally obsolete. Thus, even if a
5 serious security vulnerability did arise in the near future, I expect it would affect a smaller U.S. user
6 base than currently exists, and that the pool of impacted users would grow smaller with time. I also
7 expect that at least some of any remaining users would elect to stop using the app if a serious security
8 vulnerability were identified.

9 10. Finally, WeChat is already one of the least secure mobile chat applications in light of,
10 among other things, its failure to use robust encryption protocols and Tencent's close connections to the
11 government of the People's Republic of China, which is well-known for its cyber-espionage activities
12 and monitoring of communications sent through WeChat. In light of these facts, and all of the
13 considerations above, we assessed that the temporary risk of security vulnerabilities associated with the
14 first category of prohibited transactions is significantly outweighed by the security benefit of
15 encouraging users to transition to other safer, more secure platforms that do not expose U.S. users to
16 ongoing surveillance by the PRC.

17 ***Second Category of Prohibited Transactions***

18 11. The second category of prohibited transactions prohibits any "provision of Internet
19 hosting services enabling the functioning or optimization of the WeChat mobile application" within the
20 United States. *See* Decision Mem. at 15. Mr. Roach's statement that this prohibition is "likely to make
21 WeChat less functional, slower, and less responsive to users in the United States," Roach Decl. ¶ 8, is
22 incorrect. [REDACTED]

23 [REDACTED]
24 [REDACTED]
25 ***Third Category of Prohibited Transactions***

26 12. The third category of transactions covers any "provision of content delivery services
27 enabling the functioning or optimization of the WeChat mobile application" within the United States.
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1 Decision Mem. at 16. Content delivery services are services that copy, save, and deliver content, for a
2 fee, from geographically dispersed servers to end-users for the purposes of enabling faster delivery of
3 content. Information provided by Tencent in response to the Department’s administrative subpoena
4 indicates that Tencent contracts with [REDACTED] content delivery network providers in the United States for
5 the purpose of speeding and optimizing services for U.S.-based WeChat users. I therefore agree with
6 Mr. Roach that this prohibition would reduce the functionality and usability of the app for users in the
7 United States. *See* Roach Decl. ¶ 8. However, these effects are somewhat limited. Tencent could
8 continue to use content delivery services outside of the United States, such as in other locations in North
9 America, to optimize its services. Moreover, given the speed of modern Internet communications, even
10 if the data were required to flow from Tencent’s cloud storage centers in Hong Kong, the app would
11 likely still be usable for most WeChat users, even if it operated more slowly. I do not expect the impact
12 of this prohibition, even combined with prohibition number four below, to deter otherwise dedicated
13 users of the WeChat application from continuing that use. Mr. Roach appears to conclude similarly, as
14 he opines that this prohibition will “not limit the availability of WeChat users’ information to Tencent or
15 the government of the People’s Republic of China,” thus suggesting that he anticipates user activity to
16 proceed without substantial effect. Roach Decl. ¶ 8.

17 13. Mr. Roach states that this prohibition will cause “the U.S. government [to] completely
18 lose[] all ability to monitor WeChat’s operations to determine whether collection of private user data is
19 occurring.” *Id.* Mr. Roach does not state the premise for his assumption that the Government presently
20 possesses the ability to “monitor WeChat’s operations” through the provision of content delivery
21 services in the United States, nor does he state how doing so would give the U.S. Government visibility
22 into what is occurring in China. I therefore disagree with Mr. Roach’s assessment that the “effect of
23 [this prohibition] . . . will be to exacerbate, rather than address, the data security concerns[.]” *Id.* I do
24 not expect this prohibition to have any meaningful impact on the U.S. Government’s ability to monitor
25 WeChat’s operations.

26 ***Fourth Category of Prohibited Transactions***

27 14. The fourth prohibition covers the “provision of directly contracted or arranged Internet
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1 transit or peering services enabling the functioning or optimization of the WeChat mobile application”
2 within the United States. *See* Decision Mem. at 16. Tencent’s response to the administrative subpoena
3 indicates that Tencent currently maintains peering or transit agreements with [REDACTED] within the
4 United States for the purposes of speeding delivery and optimizing services for users based in the United
5 States. This category of prohibitions would require termination of those [REDACTED] contracts. Again,
6 however, those effects are limited because, as Mr. Roach acknowledges, Tencent could continue to
7 contract with Internet Service Providers (ISPs) for dedicated transmission of WeChat data outside of the
8 United States. *See* Roach Decl. ¶ 10. Moreover, this prohibition would not affect Internet transit or
9 peering services in the United States that are not “directly contracted or arranged” by Tencent, and thus
10 would leave the overwhelming majority of Internet traffic, including WeChat data, untouched.
11 Similarly, this prohibition would not, as Mr. Roach states, shut down “all direct Internet traffic between
12 the United States and China,” *id.* ¶ 9; it would simply shut down directly-arranged WeChat traffic
13 between Tencent and the United States. Mr. Roach’s opinion that this category of prohibitions
14 “represents an unprecedented and overbroad interference of the operation of the global internet,” *id.*, is
15 therefore incorrect as it overlooks the critical phrase “directly contracted or arranged.”

16 15. For the same reason, Mr. Roach is wrong that “WeChat will be shut down under this
17 prohibition.” *Id.* ¶ 10. Rather, as with the third set of prohibitions, I expect that this prohibition will
18 somewhat reduce the speed and functionality of the WeChat app within the United States. However, I
19 do not expect the impact of this prohibition standing alone (or even combined with prohibition number
20 three above), to be sufficient to inhibit or otherwise discourage WeChat users from using the app.

21 ***Fifth Category of Prohibited Transactions***

22 16. The fifth category of prohibited transactions covers any “provision of services through
23 the WeChat mobile application for the purpose of transferring funds or processing payments to or from
24 parties within” the United States. As we noted in the Decision Memorandum, the “WeChat Pay”
25 functionality is not currently available in the United States. Thus, this prohibition is forward-looking
26 only and is not expected to impact the experience of current WeChat users.

27 17. Mr. Roach’s opinion that this prohibition “does not address the concerns specifically
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1 expressed in the Executive Order,” Roach Decl. ¶ 11, is incorrect. By prohibiting a key functionality
2 that is designed to encourage users to select WeChat over similar chat and social media applications, this
3 prohibition seeks to limit use of the WeChat app within the United States. *See* Am. Compl. ¶ 2, ECF
4 No. 49 (alleging that the “payment” function is part of what makes WeChat “essential to the conduct of
5 daily life for its users”). Moreover, any hypothetical financial information that could be transmitted
6 through WeChat Pay if it were to become available in the United States—such as bank account data and
7 purchase history—is one of the many types of U.S. user data that the Secretary’s Identification of
8 Prohibited Transactions seeks to protect.

9 ***Sixth Category of Prohibited Transactions***

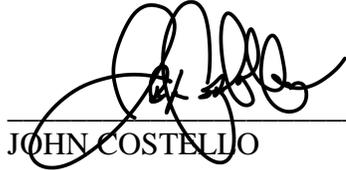
10 18. Finally, the sixth category of transactions consists of any “utilization of the WeChat
11 mobile application’s constituent code, functions, or services in the functioning of software or services
12 developed and/or accessible within” the United States. The main thrust of this prohibition is to prevent
13 potential circumvention of the previous prohibitions through any reservicing of the WeChat code in
14 another app by a different name. In addition, this prohibition would prevent interoperability of third-
15 party apps that utilize WeChat functions and services. However, WeChat-interoperable third-party apps
16 are not currently a major component of the U.S. software industry and I do not expect that this
17 prohibition would substantially impact either the core functionalities used by most existing WeChat
18 users or the U.S. software industry more broadly. Nor am I aware of any basis to conclude that it would
19 “cause substantial portions of the U.S. software development industry”—or any portions of the U.S.
20 software industry—to “move their development operations off shore.” Roach Decl. ¶ 13.

21 19. Finally Mr. Roach opines that “[t]aking the prohibitions as a whole, it is highly likely that
22 WeChat will suffer serious degradation of services and effectively be shut down as soon as they are fully
23 implemented.” *Id.* I agree in part: the purpose of the prohibitions is to degrade, impair, and (as pertains
24 to financial transactions) prohibit the WeChat services that permit Tencent to surveil and monitor
25 millions of U.S. persons, with the goal of encouraging and eventually requiring U.S.-based WeChat
26 users to transition to alternative platforms. However, as Mr. Roach acknowledges, those effects will not
27 occur until the prohibitions are “fully implemented.” *Id.* As discussed above, it is my best estimation
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1 that it would take 1-2 years for the WeChat app to be impaired to the extent that it would no longer
2 function.

3 I certify, pursuant to 28 U.S.C. § 1746, under penalty of perjury that the foregoing is true and
4 correct to the best of my knowledge, information, and belief.

5 Executed this 19th day of October 2020 in Washington, D.C.

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7 _____
8 JOHN COSTELLO

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