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DECLARATION OF PHIL EISLER

1. I am the Vice President and General Manager of GeForce NOW, NVIDIA’s cloud-gaming business. I have worked at NVIDIA since 2009, and I have been the leader of NVIDIA’s GeForce NOW business since 2011.

2. I am responsible for the operation of the GeForce NOW cloud-gaming platform and strategic planning for NVIDIA’s cloud-gaming business.

3. I submit this declaration in response to Subpoena *Ad Testificandum* FTC File No. 221-0077, which was issued by the Federal Trade Commission (“FTC”) to NVIDIA Corporation (“NVIDIA”) on November 15, 2022.

4. This declaration contains competitively sensitive information about NVIDIA’s business, including information relating to customers, business strategies, and forward-looking business plans.

5. Accordingly, I understand that my declaration will be confidential and will not be publicly disclosed or shared with anyone outside of the FTC without the prior notice to NVIDIA that is required by law and FTC regulations.

Introduction of Cloud Gaming

6. For years, consumers have played video games on expensive hardware—typically a gaming personal computer (“PC”) or gaming console located in their home.

7. Improvements in Internet technologies, including faster speeds, higher bandwidth, and lower latency, however, have recently enabled consumers to play video games hosted on remote servers (in the “cloud”). With cloud gaming, gameplay video is streamed over the Internet, from software running on the server to the gamer’s “client” device (such as a PC or mobile device). Specific examples of improved Internet technologies that have enabled high-performance cloud gaming include newer fiber optic and Data Over Cable Service Interface Specification (“DOCSIS”) Internet connections as compared to older Asymmetric Digital Subscriber Line (“ADSL”) connections; broader deployment of Fiber to the Home (“FTTH”); better-performing wireless routers, like WiFi-6-enabled routers and 5 GHz routers; and new-generation cellular technologies, including 5G.

1 8. Cloud gaming has several advantages over traditional PC- and console- gaming.

2 9. ***High-End Experience Without High-End Hardware.*** Cloud gaming allows high-
3 powered GPUs and CPUs to be hosted in the cloud. Consumers can access those high-powered
4 processors through their devices with low processing power, such as low-end laptops and mobile
5 devices. As a result, cloud gaming provides a high-end gaming experience, with rich graphics,
6 without requiring consumers to upgrade to the latest graphics card, PC, or console.

7 10. ***Lower Costs.*** Cloud gaming can lower costs to end users in at least two ways. First,
8 when purchased by an individual consumer, a video game system (such as a gaming PC or a gaming
9 console) will be idle for a significant amount of time. In contrast, cloud gaming services allow GPU
10 and CPU resources to be shared across many users, allowing many users to be served by the same
11 video game system. Time-sharing the online resources can translate to lower overall costs for the
12 end user. Second, by renting a high-end gaming PC in the cloud, an end user does not need to pay
13 the higher upfront costs to own the PC. Shifting gaming hardware to the cloud has helped AAA
14 gaming reach users in lower socioeconomic groups who otherwise would not be able to purchase,
15 or could not afford, their own video game system or gaming PC. Similarly, shifting gaming
16 hardware to the cloud has helped expand AAA gaming in underserved geographic markets, such as
17 Brazil and India.

18 11. ***Improved Gaming Experience.*** Publishers frequently update games to add new
19 content and fix bugs. These updates can create significant delays and require gamers to download
20 large amounts of data. Cloud gaming services perform those updates in the cloud, saving gamers
21 time, effort, and data, for which users may have monthly caps. Additionally, because games are
22 stored in the cloud, gamers do not need to store games on their own devices, manage their device's
23 limited storage, or wait for a game to download. For modern video games, the initial download and
24 install of a game may take up to an hour or much longer for local gaming. That time is reduced to
25 one minute for cloud gaming.

26 12. As a result of these advantages, NVIDIA believes that cloud gaming represents the
27 future of gaming and will continue to grow significantly.

28 13. According to Newzoo, a publisher of market research that NVIDIA regularly

1 consults, approximately 21.7 million paying users of cloud gaming services spent \$1.5 billion on
 2 cloud gaming in 2021, and there will be approximately 58.6 million paying users spending \$6.3
 3 billion in 2024.

4 ***NVIDIA's GeForce NOW***

5 14. NVIDIA developed its own cloud gaming service, GeForce NOW, to be at the
 6 forefront of the shift to cloud gaming.

7 15. As a cloud gaming service, GeForce NOW launched in beta mode to a limited pool
 8 of users in 2017 (for Macs) and 2018 (for PCs). The service exited its beta phase in February 2020.

9 16. With GeForce NOW, NVIDIA hosts games on its own servers, rendering the
 10 graphics using NVIDIA's GeForce GPUs and then streaming gameplay video to consumers.

11 17. GeForce NOW can be accessed through a variety of client devices, including
 12 Windows PCs, macOS PCs, Google Chromebooks, Android mobile devices, iPhone and iPad
 13 devices, handheld cloud gaming devices, Google Android TVs, and certain televisions. Depending
 14 on the device, consumers access GeForce NOW through web browsers (including Google Chrome,
 15 Microsoft Edge, and Safari), native applications, or firmware.

16 18. Consumers pay a monthly membership fee for GeForce NOW, which currently
 17 ranges from free to \$99.99 for six months. The more expensive membership tiers provide consumers
 18 with access to NVIDIA technologies with higher performance and other benefits. The pricing and
 19 features of GeForce NOW's membership tiers, as of November 22, 2022, are summarized in the
 20 below table:

Free	Priority	RTX 3080
\$0.00	\$9.99 per month or \$49.99 per six months	\$19.99 per month or \$99.99 per six months
<ul style="list-style-type: none"> • Basic rig • Standard access to gaming servers • 1-hour session length 	<ul style="list-style-type: none"> • Premium rig, RTX ON • Priority access to premium servers • 6-hour session length • Up to 1080p resolution • Up to 60 frames per second 	<ul style="list-style-type: none"> • GeForce RTX 3080 rig, RTX ON • Exclusive access to RTX 3080 servers • 8-hour session length • Up to 4k resolution • Up to 120 frames per second

1 As noted above, each membership tier specifies a maximum amount of time for a single gaming
2 session. After a user's gaming session expires, she may join the queue to begin play again. There
3 is no limit to how many times a user may start a new session in a day, as long as the gamer complies
4 with GeForce NOW's other terms of use.

5 19. Since its launch, NVIDIA has constantly improved the quality of GeForce NOW.

6 20. NVIDIA has pushed the envelope by bringing new, cutting-edge features to GeForce
7 NOW. For example, in early 2022, NVIDIA made resolution upscaling available on GeForce NOW,
8 to reduce image blurring while streaming. NVIDIA also launched RTX 3080 memberships in
9 February 2022, which allowed users to access NVIDIA's latest GPU technology through the cloud,
10 bringing ultra-low latency and 1440p resolution at 120 frames per second to PC gamers. Paid
11 subscriber retention rates increased approximately 15% following the launch of RTX 3080
12 memberships.

13 21. NVIDIA has also improved the quality of its service by reducing the latency of
14 GeForce NOW from about 180 milliseconds to about 60 milliseconds in current-generation
15 products. This reduction in latency required significant technical changes, including our newest
16 Ada-generation GPUs running at 240 frames per second.

17 22. NVIDIA has further expanded mobile and tablet gaming capabilities at GeForce
18 NOW. On October 20, 2022, NVIDIA added touch-screen controls to 13 different games, which

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21 28. GeForce NOW does not have its own library of games. Before a game can be added
22 to GeForce NOW, the game's publisher must provide approval and enter into a game-listing
23 agreement with NVIDIA. After a game has been added to GeForce NOW, NVIDIA allows gamers
24 to stream PC games they already own (and that have been approved for GeForce NOW) by linking
25 their game store accounts to their GeForce NOW accounts. The game stores currently supported by
26 GeForce NOW include Steam, Epic Games Store, EA Origin, and Ubisoft Connect.

27 29. NVIDIA also has steadily expanded the universe of games supported on GeForce
28 NOW to make the service more attractive to gamers and increase the number of users. As of

1 September 2022, GeForce NOW supported more than 1,400 games, including AAA titles such as
2 Cyberpunk 2077, Fortnite, and Destiny 2. Popular AAA titles that are not licensed for GeForce
3 NOW include the Call of Duty series, Valorant, Minecraft, and the Grand Theft Auto series.

4 30. Access to AAA titles, which are the latest, most-popular gaming franchises, is critical
5 to the success of any gaming platform, including GeForce NOW. Without access to the most
6 popular AAA games, it is difficult to gain new users and to convince users to pay for higher-
7 performance membership tiers.

8 31. Today's AAA video games are more akin to interactive feature films than to the
9 earliest video games. They require tens of millions of dollars (in some cases over \$100 million) and
10 years to produce, with large teams devoted to character development, art, action sequences, and
11 unique gameplay elements. Additionally, the leading AAA game franchises have multiplayer
12 functionality and have become social media platforms. Gamers play games with their friends,
13 creating social networks devoted to specific games and high switching costs to transition to other
14 games, even in the same genre. As an example, if a gamer's group of friends is playing Call of
15 Duty, the gamer is not going to switch to Battlefield, because her friends are not on that game. In
16 addition, each new user adds to the gaming experience for other users, either as a competitor or ally
17 in a given gaming session, making it easier for gamers to "match" in an online multiplayer session
18 or as a social media connection. As a result, established AAA video games benefit from significant
19 network effects, which raise barriers to entry for new games and new developers.

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4 34. As discussed below, two key hurdles to achieving profitability are growing the paid
5 user base by obtaining access to AAA games and decreasing the costs associated with streaming,
6 including the costs associated with Microsoft’s Windows Server License.

7 ***NVIDIA’s Competition***

8 35. NVIDIA’s GeForce NOW competes most directly with other cloud gaming services,
9 including Microsoft’s Xbox Cloud Gaming, Sony PlayStation Plus, and Amazon Luna. Until
10 September 2022, Google Stadia was another competitor in the cloud gaming space, but Google has
11 announced its intention to shutter Stadia and exit the market.

12 36. In the ordinary course of business, NVIDIA regularly monitors other cloud gaming
13 services, both in terms of their pricing and features, because we consider cloud gaming services the
14 closest competitors to GeForce NOW.

15 37. GeForce NOW’s membership tiers have historically compared favorably against
16 plans offered by these competing services, and NVIDIA has internally tracked this “competitive
17 pricing.” To illustrate, in January 2021, the “GFN Founders” tier of membership had a planned cost
18 of \$4.99 per month, as compared to \$5.99 per month for Amazon Luna. The “GFN Premium” tier
19 had a planned cost of \$59.99 per six months or \$9.99 per month, the same prices as PlayStation
20 Now, and the same monthly price as Stadia Pro. By contrast, at this time, Xbox Game Pass Ultimate
21 cost \$14.99 per month.

22 ***Importance of Activision Blizzard Video Game Titles***

23 38. When a video game franchise develops a large following, it can become a “must
24 have” for a large segment of gamers. In the case of certain AAA games, gamers will not switch to
25 competing games, even within the same genre. For example, if a gamer’s friends play Call of Duty,
26 she is unlikely to switch to Battlefield, a competing title, because her friends are not playing that
27 game and she has already invested the time and money developing her skills and game-specific
28 attributes (equipment, character skills, etc.) for Call of Duty. These AAA games attract consumers

1 to a gaming platform, and as more consumers join the platform, the platform becomes more
 2 attractive to publishers of AAA titles, which brings more AAA titles to the platform, attracting even
 3 more consumers. Once this self-reinforcing feedback loop takes hold, it makes it more difficult for
 4 a new gaming platform or service to attract consumers, AAA titles, and compete against incumbent
 5 players.

6 39. Activision Blizzard is one of the largest game publishers in the world, with many
 7 high-end “must have” AAA video games and franchises, including Call of Duty, World of Warcraft,
 8 Overwatch, and Diablo.

9 40. Activision Blizzard games were available for many months on GeForce NOW during
 10 the free “beta” phase with great success, which I believe drew many gamers to sign up for the
 11 GeForce NOW service. When NVIDIA transitioned from the beta stage to a commercial version of
 12 GeForce NOW (with both a free option and a paid version), Activision Blizzard instructed NVIDIA
 13 to remove Activision Blizzard games from GeForce NOW.

14 41. The table below identifies the Activision Blizzard titles that were previously
 15 available on GeForce NOW and the date they were removed from the service.

Game	Date Added to GeForce NOW	Date Removed from GeForce NOW
Diablo III	6/29/2017	2/8/2020
Hearthstone: Heroes of Warcraft	8/29/2017	2/8/2020
Heroes of the Storm	6/29/2017	2/8/2020
Overwatch	6/14/2017	2/8/2020
StarCraft Remastered	8/29/2017	2/8/2020
StarCraft II	6/29/2017	2/8/2020
StarCraft II Asia	6/29/2017	2/8/2020
World of Warcraft	6/14/2017	2/8/2020
World of Warcraft Classic	8/27/2019	2/8/2020
Call of Duty: Black Ops III – GFN PC	10/19/2017	2/8/2020

Game	Date Added to GeForce NOW	Date Removed from GeForce NOW
Call of Duty: Black Ops 4	8/10/2018	2/8/2020
Call of Duty: Infinite Warfare – WW	1/17/2018	2/8/2020
Call of Duty: Infinite Warfare Korea	1/17/2018	2/8/2020
Call of Duty: Modern Warfare 2019	12/31/2019	2/8/2020
Call of Duty: Modern Warfare 2 Singleplayer	5/25/2018	2/8/2020
Call of Duty: Modern Warfare 2 Multiplayer	5/25/2018	2/8/2020
Call of Duty: Modern Warfare 3 Multiplayer	4/4/2018	2/8/2020
Call of Duty: Modern Warfare 3 Singleplayer	4/4/2018	2/8/2020
Call of Duty 4: Modern Warfare	1/23/2018	2/8/2020
Call of Duty: World at War	9/21/2017	2/8/2020
Call of Duty: WWII WW	11/3/2017	2/8/2020
Call of Duty: WWII – Korea	11/3/2017	2/8/2020
Crash Bandicoot N. Sane Trilogy	6/29/2018	2/8/2020
Sekiro: Shadows Die Twice	3/22/2019	2/8/2020
Spyro Reignited Trilogy	9/27/2019	2/8/2020

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8 ***NVIDIA’s Perspective on Microsoft’s Proposed Acquisition of Activision Blizzard***

9 50. Microsoft currently owns and controls the dominant PC-based operating system,
10 Windows, which is an essential input in PC-based gaming.

11 51. In addition, Microsoft sells the Xbox, which is one of the key platforms for console-
12 based gaming. Microsoft also operates the Microsoft App Store where it sells video games.

13 52. Microsoft also operates its own cloud-based gaming platform, called Xbox Cloud
14 Gaming, which is a subscription-based gaming service.

15 53. Microsoft already has the incentive to marginalize its competitors in subscription-
16 based, cloud gaming. The acquisition of Activision Blizzard would give Microsoft an increased
17 ability and incentive to harm its competitors and, by extension, consumers.

18 54. ***First***, Microsoft would have the ability and incentive to make AAA Activision
19 Blizzard games exclusive to Microsoft’s gaming platforms or bundle AAA Activision Blizzard
20 games with Microsoft software and/or hardware.

21 55. Before the merger, Activision Blizzard pursued a strategy of broadly distributing its
22 games and incorporating NVIDIA’s latest technology.

23 56. Microsoft would have the ability and incentive to make AAA Activision Blizzard
24 titles exclusive to Microsoft’s own platforms. This strategy would harm NVIDIA’s cloud gaming
25 platform, GeForce NOW. Activision Blizzard’s must-have titles would attract many gamers away
26 from GeForce NOW to Microsoft’s platforms, if the only way to access Activision Blizzard games
27 were through Microsoft’s own gaming platforms.

28 57. If Microsoft pursues such a strategy, it would be consistent with NVIDIA’s firsthand

1 experience with Microsoft following other acquisitions.

2 58. In the past several years, Microsoft has purchased other game publishers, including
3 ZeniMax/Bethesda.

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24 62. If the merger is completed, Microsoft would have the ability and incentive to keep
25 Activision Blizzard games from GeForce NOW permanently.

26 63. Making AAA Activision Blizzard titles exclusive to Microsoft would harm
27 consumers. Consumer choice would diminish because consumers would have to use Microsoft
28 platforms, even if they were of inferior quality, to play AAA Activision Blizzard titles. Consumers

1 would also have to pay whatever price was set by Microsoft to access AAA Activision Blizzard
2 titles. Knowing consumers could not play AAA Activision Blizzard titles anywhere else, Microsoft
3 would have an incentive to increase the price to access that content and/or increase the price of the
4 Microsoft hardware or cloud gaming subscription fee needed to play AAA Activision Blizzard titles.
5 In the long run, consumers would be harmed because the inability to access AAA Activision
6 Blizzard titles would make competitors of Microsoft's gaming platforms, like GeForce NOW, less
7 attractive to gamers and as a result, some of those competitors might invest less in platform
8 development or ultimately exit the market, which would further reduce consumer choice.

9 64. **Second**, even if Microsoft were to allow Activision Blizzard games on NVIDIA-
10 powered platforms, Microsoft would have the ability and incentive to delay access or degrade the
11 performance of Activision Blizzard games on GeForce NOW as compared to Microsoft's gaming
12 platforms, harming consumers.

13 65. NVIDIA is constantly adding cutting-edge technology to its world-class GPU
14 hardware and software. For NVIDIA's innovations to reach gamers, however, they must be used in
15 games. As a result, NVIDIA partners closely with video game developers to incorporate NVIDIA's
16 new technologies into their games.

17 66. As a standalone entity, Activision Blizzard has adopted NVIDIA's latest
18 technologies. For example, several Call of Duty games were launched with support for NVIDIA's
19 ray-tracing technologies as a result of engineering collaborations between NVIDIA and Activision
20 Blizzard.

21 67. If Microsoft acquires Activision Blizzard, Microsoft would have the ability and
22 incentive to slow down or prevent the adoption of new NVIDIA technologies in Activision Blizzard
23 products to shield Microsoft's own gaming platforms from competition with products that integrate
24 NVIDIA's GPUs (which Microsoft does not use in its own console and cloud gaming platforms).

25 68. That approach would harm consumers. Consumers benefit from NVIDIA's
26 investments in innovation and improvements in NVIDIA GPUs. If Microsoft were to impede access
27 to improved NVIDIA technologies for gamers who play AAA Activision Blizzard titles, by refusing
28 to support NVIDIA technologies, consumers would not have access to the latest improvements in

1 NVIDIA gaming technology, even those that would offer substantial benefits over other GPUs
2 available from other suppliers.

3 69. In addition, Microsoft could use its control over Windows to impose additional costs
4 on its cloud gaming competitors and delay or prevent gaming features used in Activision Blizzard
5 games from being used on rival platforms.

6 70. Windows holds a dominant position in PC gaming. In October 2022, Steam reported
7 PC gaming operating system shares of Windows at 96.5%, Apple's OSX at 2.23%, and Linux at
8 1.28%. [REDACTED]

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25 72. Degrading the performance of Activision Blizzard games on non-Microsoft cloud
26 gaming platforms using Windows Server would also harm consumers, who benefit from a level
27 playing field for cloud gaming options.

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Pursuant to 28 U.S.C. § 1746, I declare under the penalty of perjury that, to the best of my knowledge, the foregoing is true and correct.

Executed this 2nd day of December, 2022



Phil Eisler
Vice President and GM, GeForce NOW
NVIDIA Corporation