

June 21, 2023

Federal Trade Commission  
600 Pennsylvania Avenue, NW  
Washington, DC 20580

**Re: Solicitation for Public Comments on the Business Practices of Cloud Computing Providers**

To the Federal Trade Commission:

The Consumer Technology Association (CTA)® submits this comment in response to the Request for Information on the business practices of cloud computing providers (Cloud RFI) by the Federal Trade Commission (FTC).<sup>1</sup> CTA is North America’s largest technology trade association. Our members are the world’s leading innovators—from startups to global brands—helping support more than 18 million American jobs.

CTA represents companies providing cloud services to consumers and businesses, as well as companies using cloud services, and has jointly managed the ISE CTA Cloud Computing™ Index (CPQ™) together with NASDAQ since 2018.<sup>2</sup> The index tracks the performance of companies actively involved in the cloud computing industry. CTA receives compensation as a third-party index provider by researching, classifying, and scoring publicly traded companies’ involvement in cloud computing through a passive, rules-based methodology. CTA also owns and produces CES®, the most influential tech event in the world.

CTA members operate in a competitive market to produce innovative products that benefit consumers and power the economy. Cloud computing facilitates economic growth and provides significant benefits for consumers and small businesses in the form of better, faster services and lower costs.

Cloud computing is an important and growing part of the information technology (IT) and services market in the United States. It competes with on-premises hosting and traditional software applications across enterprise and consumer markets. Cloud services provide diverse

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<sup>1</sup> FTC, Solicitation for Public Comments on the Business Practices of Cloud Computing Providers, <https://www.regulations.gov/document/FTC-2023-0028-0001> (“Cloud RFI”).

<sup>2</sup> NASDAQ, ISE CTA Cloud Computing Index (CPQ), <https://indexes.nasdaqomx.com/Index/Overview/CPQ>.

offerings that fit the needs of a range of consumers and businesses, including small and medium-sized firms, in response to market demand. Cloud services have transformed the IT services industry and have reshaped how advanced technology can be used by both businesses and households. Today, cloud services are a major driver behind businesses' innovative services that bring better products to Americans at a lower cost. The innovation in cloud services has helped make the United States the world leader in technology, and it will remain a foundation of American competitiveness and global power for decades to come.

As the FTC proceeds with its inquiry, it should recognize the existing competitive and highly innovative landscape in cloud computing and avoid policy recommendations that would hinder innovation.

### **Cloud Computing is Competitive and Diverse.**

As the FTC notes, cloud computing is increasingly central to the global economy.<sup>3</sup> Industry analysts forecast that worldwide spending on public cloud services will grow almost 21% to total nearly \$600 billion in 2023, up from \$490 billion in 2022.<sup>4</sup> Cloud computing supports innovative companies that seek to offer new products and services at lower costs, while offering significant benefits such as enhanced data security. Cloud computing is agile, scalable, flexible, and elastic, which supports organizations, especially small businesses and startups, through growth and uncertainty.

Cloud providers vary in size, customer base, and geographic focus. There is a broad diversity of cloud services with offerings to meet the varied needs of large enterprises, small businesses, non-profit organizations, and consumers. Major providers in the U.S. include several large enterprises that focus on business and government customers and offer the full range of Infrastructure-, Platform-, and Software-as-a-Service capabilities. Other cloud providers in the U.S. focus on small businesses and non-profit organizations. There is a diverse ecosystem of companies that offer free or low-cost data storage for businesses and consumer applications. U.S. providers also face competition from providers in Europe and Asia, while decentralized storage networks provide new and innovative options in the marketplace.

Cloud providers have a wide array of offerings and compete with other cloud providers and on-premises IT services providers on features, speed, reliability, and security. Nearly all large enterprise companies in the U.S. are using multiple cloud providers,<sup>5</sup> which enables lower costs, increased resilience and reliability, access to innovation, and reduced risk.<sup>6</sup> Data that is

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<sup>3</sup> FTC, "FTC Seeks Comment on Business Practices of Cloud Computing Providers that Could Impact Competition and Data Security," (Mar. 22, 2023), <https://www.ftc.gov/news-events/news/press-releases/2023/03/ftc-seeks-comment-business-practices-cloud-computing-providers-could-impact-competition-data>.

<sup>4</sup> Gartner, "Gartner Forecasts Worldwide Public Cloud End-User Spending to Reach Nearly \$600 Billion in 2023," (Oct. 31, 2022) <https://www.gartner.com/en/newsroom/press-releases/2022-10-31-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-reach-nearly-600-billion-in-2023>.

<sup>5</sup> Oracle, "98% of Enterprises Using Public Cloud Have Adopted a Multicloud Infrastructure Provider Strategy," Press Release, (Feb. 9, 2023) <https://www.oracle.com/lu/news/announcement/98-percent-enterprises-adopted-multicloud-strategy-2023-02-09/>.

<sup>6</sup> Cisco, "What is Multicloud?," <https://www.cisco.com/c/en/us/solutions/cloud/what-is-multicloud.html>.

stored in the cloud can be easily archived by customers and is often moved. Companies frequently need to transfer data between cloud providers, as evidenced by a thriving services sector for cloud migrations and multicloud services.<sup>7</sup>

A multicloud strategy is a popular and effective tool for organizations of all sizes, as it enables greater customization to meet their unique business needs in an affordable and scalable manner.<sup>8</sup> For example, companies can choose a cloud infrastructure provider who specializes in offering a better data management environment before moving the data seamlessly to another infrastructure environment providing stronger data visualization tools. This capability is made possible through our existing robust, competitive ecosystem of diverse cloud offerings.

### **Cloud Computing is Critical for Innovation and Growth.**

The American technology industry is competitive, vibrant, and growing. Technology companies lead the U.S. in research and development spending, and the industry includes a strong startup ecosystem that drives innovation and consumer benefits. Cloud computing's flexible offerings support rapid growth and innovation.

Most of CTA's members are small businesses. Recent surveys indicate that over 90% of small businesses use cloud computing services, and small businesses give cloud services high marks for customer satisfaction and security.<sup>9</sup> Most small businesses see sufficient diversity in the cloud marketplace.<sup>10</sup> Cloud providers that promote interoperability, portability, and openness are particularly attractive for new, growing, and small companies because they are scalable. Cloud services enable small businesses and other companies to outsource needed functions such as data storage and applications while maintaining security at a level that would be difficult for many companies to achieve on their own. In the absence of cloud services offerings, small businesses would have to invest in and scale their own on-premises IT services, build out servers and maintain data storage centers upfront. With cloud offerings, small businesses can outsource their IT services and increase or decrease their usage to meet their needs. Growing businesses can prioritize and plan investments while minimizing concerns about whether an investment in a dedicated on-site IT or IT security capability is worth the cost. This allows businesses to focus on bringing new and innovative products to market that benefit consumers while benefiting from cloud providers' investments in infrastructure and security. Analysts also observed an increased transition to cloud during the COVID-19 pandemic, because it offered "flexible computing power, high availability, disaster recovery, lower cost for backup and disaster recovery, resilient

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<sup>7</sup> See, e.g. CDW, "Multicloud services," <https://www.cdw.com/content/cdw/en/services/amplified-services/infrastructure-services/multicloud-services.html>; CloudFuze, "CloudFuze X-Change," <https://www.cloudfuze.com/cloudfuze-xchange/> (touting capability to "transfer data between 40+ leading consumer and enterprise clouds").

<sup>8</sup> Elastic, "The multicloud advantage: scalability, reliability, flexibility," (June 21, 2022) <https://www.elastic.co/blog/multicloud-advantage-scalability-reliability-flexibility>.

<sup>9</sup> Small Business & Entrepreneurship Council, *SBE Council Survey: Emerging Technology, Innovation, and Small Business*, at 5-6 (June 2023) <https://sbecouncil.org/wp-content/uploads/2023/06/SBE-Emerging-Tech-Innovation-V4.pdf>.

<sup>10</sup> *Id.* at 5.

core for business process and business continuity, legacy skill risk, remote workforce management, safe return to the workplace, and business agility.”<sup>11</sup> Those attributes will continue to drive adoption and innovation.

### **Cloud Computing Promotes National Security.**

A strong U.S. cloud services sector is a foundation of the nation’s technology industry and economy, and U.S. technology is central to our national security and global power status. To maintain our national security, the U.S. must invest in our technology sector, including promoting U.S. leadership in advanced computing, artificial intelligence, and advanced telecommunications,<sup>12</sup> each of which rely on cloud computing.

Cloud services can play an important role in enhancing our national security by securing data and supporting capabilities that are essential to the economy and government functions. The National Security Strategy calls for efforts to prevent other countries from exploiting U.S. technology and data,<sup>13</sup> while the National Cybersecurity Strategy notes that “cloud-based services enable better and more economical cybersecurity practices at scale,” and “are essential to operational resilience across many critical infrastructure sectors.”<sup>14</sup> In addition, cloud services enable customers of all sizes and budgets to provide and rapidly update security at scale.<sup>15</sup> A recent blog post from the US Cybersecurity and Infrastructure Security Agency (CISA), for instance, urges “all [small and mid-sized businesses] with on-prem systems to migrate to secure cloud-based alternatives as soon as possible.”<sup>16</sup>

Federal and private sector efforts to support innovation and standards shows the importance of cloud services to the federal government and to U.S. organizations. For example, The National Institute of Standards and Technology (NIST) has been supporting research and innovation on topics like intercloud interoperability and cloud federation,<sup>17</sup> which help promote U.S. innovation and leadership that is vital to economic and national security. The National Science and Technology Council’s Blueprint for a National Strategic Computing Reserve

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<sup>11</sup> G. Aggarwal, How The Pandemic Has Accelerated Cloud Adoption, Forbes (Jan 15, 2021)

<https://www.forbes.com/sites/forbestechcouncil/2021/01/15/how-the-pandemic-has-accelerated-cloud-adoption/?sh=454ce0e66214>

<sup>12</sup> The White House, *National Security Strategy*, at 11 (Oct. 12, 2022) <https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf> (highlighting the “innovative power of the private sector”).

<sup>13</sup> *Id.* at 33.

<sup>14</sup> The White House, *National Cybersecurity Strategy*, at 9 (March 2023) <https://www.whitehouse.gov/wp-content/uploads/2023/03/National-Cybersecurity-Strategy-2023.pdf>.

<sup>15</sup> FTC, “Cloud computing: taking stock and looking ahead,” (May 11, 2023), comments of Frank Nagle, at 56:27, <https://www.ftc.gov/media/cloud-computing-taking-stock-looking-ahead-may-11-2023> (describing a “single point of patching” as a security benefit of cloud services).

<sup>16</sup> CISA, “Accelerating Our Economy Through Better Security: Helping America’s Small Businesses Address Cyber Threats,” (May 2, 2023) <https://www.cisa.gov/news-events/news/accelerating-our-economy-through-better-security-helping-americas-small-businesses-address-cyber>.

<sup>17</sup> See e.g., Robert Bohn, Craig Lee, Martial Michel, *The IEEE 2302-2021 Standard on Intercloud Interoperability and Federation*, in *IEEE Cloud & Continuum*, at 13 (2022) (describing NIST work on cloud and collaboration between companies that store and manage data and emerging standards for technologically complex challenges, such as cloud “bursting” to obtain additional capacity) <https://ieeecs-media.computer.org/media/marketing/cloud-continuum/cc-vo2-no1.pdf>.

(NSCR) notes the importance of private computing resources including cloud, and promotes public-private partnerships to ensure the government can access needed computing resources.<sup>18</sup> Federal technology acquisition policy is also focused on cloud: the Federal CIO Council’s Cloud Smart program recognizes that the “Federal Government’s responsibility is to achieve the benefits of cloud computing as quickly as possible” as “cloud computing has the potential to play a major part in . . . improving government service delivery.”<sup>19</sup> The U.S. needs a robust cloud sector to promote important policy priorities.

### **The FTC Should Avoid Impeding the Innovation Enabled by U.S. Cloud Services.**

The FTC should champion the U.S. cloud sector’s important role in maintaining and advancing American innovation, economic security and data security. It should not restrict companies’ growth or innovation, which may harm economic competitiveness and national security. As the FTC reviews the record in response to this inquiry, it should account for the competitive and innovative cloud computing landscape summarized above.

Additionally, the FTC should recognize that there is significant work already underway in the federal government to develop guidance for cloud security. Agencies such as NIST and the Department of Defense have substantial expertise in defining best practices and guidelines for security controls for cloud services.<sup>20</sup> NIST is leading the way in applying state-of-the-art concepts such as zero trust to cloud services.<sup>21</sup> The FTC should defer to these agencies’ ongoing efforts to avoid creating overlapping and confusing cloud security guidance.

In parallel, the FTC should note the important contribution by private sector cloud security standards, guidance and trust marks. The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) and ISO/IEC 27017,<sup>22</sup> the Microsoft Cloud Security Benchmark (MCSB),<sup>23</sup> the PCI DSS Cloud Security Guidelines,<sup>24</sup> and

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<sup>18</sup> See National Strategic Computing Reserve: A Blueprint, A Report by the Subcommittee On Networking And Information Technology Research And Development Committee On Science And Technology Enterprise And The Subcommittee On Future Advanced Computing Ecosystem Committee On Technology Of The National Science And Technology Council (October 2021) [https://www.whitehouse.gov/wp-content/uploads/2021/10/National-Strategic-Computing-Reserve-Blueprint-Oct2021.pdf?utm\\_medium=email&utm\\_source=govdelivery](https://www.whitehouse.gov/wp-content/uploads/2021/10/National-Strategic-Computing-Reserve-Blueprint-Oct2021.pdf?utm_medium=email&utm_source=govdelivery)

<sup>19</sup> Office of Management and Budget, “Cloud Smart,” <https://www.cio.gov/policies-and-priorities/cloud-smart/> (last visited 5/26/2023).

<sup>20</sup> E.g., Defense Information Systems Agency, Department of Defense Cloud Computing Security Requirements Guide, Version 1, Release 4 (Jan. 14, 2022), available at <https://public.cyber.mil/dccs/dccs-documents/>.

<sup>21</sup> See NIST, Special Publication 800-207A (Draft): A Zero Trust Architecture Model for Access Control in Cloud-Native Applications in Multi-Cloud Environments, (April 18, 2023) <https://csrc.nist.gov/publications/detail/sp/800-207a/draft>.

<sup>22</sup> ISO/IEC 27017:2015, Information technology — Security techniques — Code of practice for information security controls based on ISO/IEC 27002 for cloud services, <https://www.iso.org/standard/43757.html>.

<sup>23</sup> Microsoft Cloud Security Benchmark, <https://learn.microsoft.com/en-us/security/benchmark/azure/introduction>.

<sup>24</sup> PCI DSS Cloud Computing Guidelines, [https://www.pcisecuritystandards.org/pdfs/PCI\\_DSS\\_v2\\_Cloud\\_Guidelines.pdf](https://www.pcisecuritystandards.org/pdfs/PCI_DSS_v2_Cloud_Guidelines.pdf).

the Cloud Security Alliance STAR mark,<sup>25</sup> are all examples of the ongoing work by the private sector to continue enhancing cloud security.

The FTC also should remain focused on what policies best enhance consumer welfare. Protecting consumers and promoting consumer benefits is the established standard under antitrust laws, and one that has generated decades of technological innovation. The consumer welfare model has helped make the U.S. the world leader in cloud services and technology. Cloud services will continue to promote consumer welfare by reducing IT costs and spurring innovation.

Respectfully submitted,

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<sup>25</sup> Cloud Security Alliance, Security Trust Assurance and Risk (STAR), <https://cloudsecurityalliance.org/star>.