



No. 13-461

In the Supreme Court of the United States

AMERICAN BROADCASTING COMPANIES, INC., ET AL.,

Petitioners,

v.

AEREO, INC. F/K/A/ BAMBOOM LABS, INC.,

Respondent.

**On Writ of Certiorari to the United States
Court of Appeals for the Second Circuit**

**BRIEF OF BSA | THE SOFTWARE ALLIANCE
AS *AMICUS CURIAE* IN
SUPPORT OF NEITHER PARTY**

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TABLE OF CONTENTS

Table of Authorities.....	iii
Interest of the <i>Amicus Curiae</i>	1
Summary of Argument.....	2
Argument.....	5
I. Cloud Computing Is A Critical Emerging Technology With Significant Long-Term Economic Benefits.	5
A. Cloud Computing Is An Important Technological Advance Providing Significant Advantages For Consumers And Businesses.....	7
B. Information Technology Companies Are Investing Significant Resources In Cloud-Computing Infrastructure.....	11
II. The “Transmit Clause” Of The Copyright Act Should Not Be Construed In A Manner That Artificially Restricts The Development Of Cloud Computing.	13
A. The Transmit Clause Does Not Apply To Transmissions Of Data From A Provider Of Cloud Data Storage Services To An Individual User.....	14
1. The Transmit Clause does not apply to private transmissions.	15
2. Data transmissions from a cloud computing network to an individual user are private.	20

TABLE OF CONTENTS—continued

3. Whether transmission of the work violates another provision of the Copyright Act or an agreement between the user and the copyright owner has no bearing on application of the Transmit Clause.	21
B. Whether A Network Maintains A Single Master Copy Or Multiple User- Specific Copies Is Irrelevant To Application Of The Transmit Clause.	21
C. If Existing Copyright Principles Do Not Properly Balance The Interests Of Rights Owners And the Public, Because Of The Development Of New Technologies, Congress Can And Does Readjust The Balance.	24
III. Providers Of Cloud Computing Storage Services Are Not Directly Liable For Copyright Infringement By Their Users.	26
IV. Alternative Theories Of Copyright Liability Remain Unexplored In This Case.	28
Conclusion	29

TABLE OF AUTHORITIES

CASES

<i>Cartoon Network LP v. CSC Holdings, Inc.</i> , 536 F.3d 121 (2d Cir. 2008)	<i>passim</i>
<i>Columbia Pictures Industries, Inc.</i> <i>v. Redd Horne, Inc.</i> , 749 F.2d 154 (3d Cir. 1984)	23
<i>CoStar Grp., Inc. v. LoopNet, Inc.</i> , 373 F.3d 544 (4th Cir. 2004)	27
<i>Dastar Corp. v. Twentieth Century</i> <i>Fox Film Corp.</i> , 539 U.S. 23 (2003)	25
<i>Eldred v. Ashcroft</i> , 537 U.S. 186 (2003)	15
<i>Fortnightly Corp. v. United</i> <i>Articles Television, Inc.</i> , 392 U.S. 390 (1968)	18, 19
<i>Metro-Goldwyn-Mayer Studios, Inc. v.</i> <i>Grokster, Ltd.</i> , 545 U.S. 913 (2005)	25, 28
<i>Sebelius v. Cloer</i> , 133 S. Ct. 1886 (2013)	15
<i>Sony v. Universal City Studios</i> , 464 U.S. 417 (1984)	15, 25, 26, 28

STATUTES

17 U.S.C.	
§ 101	3, 17, 18, 23
§ 106(1)	28
§ 106(4)	13, 15, 16, 17
§ 501(a)	26

TABLE OF AUTHORITIES—continued

Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998)	26
--	----

OTHER AUTHORITIES

Damon C. Andrews & John M. Newman, <i>Personal Jurisdiction and Choice of Law in the Cloud</i> , 73 Md. L. Rev. 313 (2013)	8, 10, 11
Lee Badger et al., Recommendations of the Nat'l Inst. of Standards & Tech., U.S. Dep't of Commerce, NIST Special Publication 800-146: Cloud Computing Synopsis and Recommendations (2012).....	9, 10
<i>ECPA Reform and the Revolution in Cloud Computing: Hearing before the Subcomm. on the Constitution of the H. Comm. on the Judiciary</i> , 111th Cong. 29 (2010)	7
John F. Gantz, et al., <i>Cloud Computing's Role in Job Creation</i> , IDC White Paper (2012)	12, 13
H.R. Rep. No. 94-1476, at 64-65 (1976), reprinted in 1976 U.S.C.C.A.N. 5659	19
Jared A. Harshbarger, <i>Cloud Computing Providers and Data Security Law</i> , 16 J. Tech. L. & Pol'y 229, 232 (2011)	6, 8, 9
IBM Commits \$1.2 Billion To Expand Global Cloud Footprint (Jan. 17, 2014)	12
Int'l Data Corp., IDC Forecasts Worldwide Public IT Cloud Services Spending (Sept. 3, 2012).....	11, 12

TABLE OF AUTHORITIES—continued

Nancy J. King & V.T. Raja, <i>What Do They Really Know About Me in the Cloud?</i> , 50 Am. Bus. L.J. 413 (2013).....	7
Paul Lanois, <i>Caught in the Clouds: The Web 2.0, Cloud Computing, and Privacy?</i> , 9 Nw. J. Tech. & Intell. Prop. 29 (2010)	10
Mark A. Lemley & R. Anthony Reese, <i>Reducing Digital Copyright Infringement Without Restricting Innovation</i> , 56 Stan. L. Rev. 1345 (2004).....	24
McKinsey Global Institute, McKinsey & Company, <i>Disruptive Technologies</i> (May 2013).....	12
Peter Mell & Timothy Grance, Recommendations of the Nat'l Inst. of Standards & Tech., U.S. Dep't of Commerce, <i>NIST Special Publication 800-145: The NIST Definition of Cloud Computing</i> (2011).....	6
Sand Hill Group, <i>Job Growth in the Forecast: How Cloud Computing is Generating New Business Opportunities and Fueling Job Growth in the United States</i> (2012).....	12
Kevin Werbach, <i>The Network Utility</i> , 60 Duke L.J. 1761 (2011).....	7, 8, 9, 10

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**BRIEF OF BSA | THE SOFTWARE ALLIANCE
AS *AMICUS CURIAE* IN
SUPPORT OF NEITHER PARTY**

INTEREST OF THE *AMICUS CURIAE*

BSA | The Software Alliance is an association of the world's leading software and hardware technology companies. On behalf of its members, BSA promotes policies that foster innovation, growth, and a competitive marketplace for commercial software and related technologies. BSA members rely on copyright protection to establish property rights in their critical assets; as a group they hold a significant number of copyrights. At the same time, many BSA members either design or operate significant cloud computing networks, which store and transmit huge quantities of data. BSA members thus have a significant interest in, as well as a uniquely balanced perspective on, copyright protection in computer networks.¹

The members of the BSA include Adobe, Apple, ANSYS, Autodesk, AVG, Bentley Systems, CA Technologies, CNC/Mastercam, Dell, IBM, Intel, Intuit, McAfee, Microsoft, Minitab, Oracle, PTC, Rockwell Automation, Rosetta Stone, Siemens PLM, Symantec, Tekla, and The MathWorks.

¹ Pursuant to Rule 37.6, *amicus* affirms that no counsel for a party authored this brief in whole or in part and that no person other than *amicus* and its counsel made a monetary contribution to its preparation or submission. The parties' letters consenting to the filing of this brief have been filed with the Clerk's office.

SUMMARY OF ARGUMENT

Cloud computing has become an essential element of America's information technology infrastructure. This case, which requires the Court to construe the Copyright Act's Transmit Clause, could have very significant repercussions for the future of cloud computing.

Traditionally, computing was performed "locally." A desk-top computer or an office-based server stored a user's data and performed computing functions. Although this approach to computing provides significant benefits, particularly when combined with the development of the Internet and "light" computing devices such as smart phones and tablets, it often is not the most efficient way to create, store, and manage information.

That is because the user must purchase the physical computer components that store and process data. To expand capabilities, the user must acquire new computer hardware—but not too much because the additional computing power will be unused or underused for long periods of time. And locally-stored data may be accessed only via the computer system on which it is located.

The advent of ubiquitous, high-speed Internet connections has given rise to a new approach to computing. "Cloud computing" enables the user to access, via an Internet connection, a vast computer network—owned and maintained by a specialized information technology provider—that stores and processes data. The user may purchase the precise amount of data storage and processing power it needs at the time it is needed.

Cloud computing networks realize enormous efficiencies through economies of scale, allowing users to benefit from reduced cost and increased reliability. And cloud computing provides substantial data portability, permitting a user access to his or her data via any device with an Internet connection.

In sum, the cloud computing revolution is fundamentally reshaping information technology. It is no surprise, therefore, that cloud computing has substantial implications for the economy. The cloud computing sector itself is large and quickly growing. And because it significantly reduces information technology costs, cloud computing touches virtually every sector of society—including individual consumers, companies large and small, schools and universities, and governments.

The Court's interpretation of the Transmit Clause will have very significant implications for the development of cloud computing. The Transmit Clause grants to a copyright owner the exclusive right to "transmit * * * a performance" of a work subject to copyright "to the public." 17 U.S.C. § 101. Two issues, addressed by the decision below, are critical to cloud computing.

First, the court below correctly concluded that transmissions between a computer network and an individual user do not constitute a transmission of a performance "to the public" under the Transmit Clause when the transmission is accessible only by the individual user who initiated it. Petitioners' contrary argument—that multiple private transmissions may be aggregated to find a transmission "to the public"—is inconsistent with the plain statutory text.

Moreover, adopting petitioners' argument would impose substantial burdens on cloud computing. Cloud computing providers do not monitor the content of all user-initiated private transmissions. If transmissions of the same work could be aggregated to impose copyright liability, providers would have to hobble their systems in ways neither consumers nor businesses would expect, want, or understand—or risk copyright liability. Either would impose significant new costs that would constrict the development of cloud computing.

Second, the court below erred in suggesting that application of the Transmit Clause turns on whether it is the transmission of a separate user-specific copy of the work or of one master copy of the work. On a large computer network, used by thousands or millions of subscribers, multiple users frequently will store identical pieces of data (the same document, song, or blueprint). For example, 1,000 users might store the identical data file on the same cloud storage service.

The court below found that the Copyright Act draws a distinction between a cloud service with 1,000 separate, user-specific data files, and a cloud service with a single master file made accessible to each of the 1,000 users. Nothing in the text of the Clause, or in its purpose or legislative history, indicates that the source of the transmission is relevant. Nor is there any practical reason for the distinction, as the particular network architecture is irrelevant to the user's experience and to a copyright owner's claim under the Transmit Clause.

But a holding that separate user-specific copies are required would impose very significant and unnecessary cost burdens on cloud computing providers

and render these services much less efficient. Storing 1,000 copies of an identical piece of data requires vastly more resources than storing a single copy. The Court should reject this legal argument, which would imbue with legal relevance such artificial, but highly costly, distinctions.

Of course, the absence of liability for a cloud storage provider under the Transmit Clause does not mean that a user of those storage services would be exempt from copyright liability if, for example, he or she stored pirated material and then distributed it to others.

Finally, however the Court resolves petitioners' claims under the Transmit Clause, it should recognize that petitioners have asserted other claims not pressed in support of their motion for a preliminary injunction—grounded in allegations that respondent is reproducing material subject to copyright, in addition to transmitting those works—that remain unresolved because they turn on factual issues. Those claims may provide potential grounds for imposing copyright liability on respondent.

ARGUMENT

I. Cloud Computing Is A Critical Emerging Technology With Significant Long-Term Economic Benefits.

Clouding computing is the future of information technology. It encompasses a variety of technologies that allow users to store, access, use, process, and share their data using servers located in off-site data centers, “in the cloud,” rather than through personal devices including computers, tablets and smart phones or on-site servers. It provides “ubiquitous, convenient, on-demand network access to a shared

pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.” See Peter Mell & Timothy Grance, Recommendations of the Nat’l Inst. of Standards & Tech., U.S. Dep’t of Commerce, *NIST Special Publication 800-145: The NIST Definition of Cloud Computing* (2011), at 2, <http://tiny.cc/wkwsbx>.

Cloud computing, at its core, is no different than local computing. A user still directs the same types of data storage or processing operations—the only difference is that physical hardware that performs those tasks is located off-site. *The Revolution in Cloud Computing* 20-21 (statement of Richard Salgado). See also Jared A. Harshbarger, *Cloud Computing Providers and Data Security Law*, 16 J. Tech. L. & Pol’y 229, 232 (2011) (“[T]he main difference with traditional computing and cloud computing is that the user transitions from operating their own mainframe to operating on an Internet-based architecture in the ‘cloud.’”). The user does not perceive any difference in his or her experience.

This new technology offers enormous benefits to consumers and businesses alike: the efficiencies produced by the sharing of computing resources lowers the cost for all participants, which particularly benefits consumers and start-up enterprises; cloud computing enhances network security, by providing centralized and expert data protection; and cloud computing adds significant convenience to modern life by making data broadly accessible across a range of devices.

**A. Cloud Computing Is An Important
Technological Advance Providing
Significant Advantages For Con-
sumers And Businesses.**

Cloud computing is “one of the most significant technical advances for global business in this decade—as important as PCs were to the 1970s.” Nancy J. King & V.T. Raja, *What Do They Really Know About Me in the Cloud?*, 50 Am. Bus. L.J. 413, 418 (2013) (quotation omitted). It has created “a new era in computing,” in which “software running on users’ own PCs and local networks increasingly is complemented by applications and services accessed over the Internet from remote data centers.” *ECPA Reform and the Revolution in Cloud Computing: Hearing before the Subcomm. on the Constitution of the H. Comm. on the Judiciary*, 111th Cong. 29 (2010) [hereinafter *The Revolution in Cloud Computing*] (statement of Michael Hintze, Assoc. Gen. Counsel, Microsoft Corp.).

Cloud computing offers several important practical benefits.

First, the ability to access data from a remote data center creates significant economies of scale, resulting in reduced costs. A cloud service provider can provide data backup services, business continuity, security, and other data operation functions far more efficiently than individual users with their own computers. Kevin Werbach, *The Network Utility*, 60 Duke L.J. 1761, 1821 (2011). The cloud provider’s costs are shared across all cloud users, and the cloud provider can develop expertise beyond that of any individual user. *Id.* at 1822. All consumers of computing resources—including individuals, businesses,

governments, and universities—benefit from these reduced costs.

Second, because “companies share virtual capacity in massive clouds,” large remote data centers provide a better solution to fluctuating demand—creating additional efficiencies. Werbach, 60 Duke L.J., at 1822. Cloud-service providers offer a pool of servers to end-users who then can rapidly harness those servers’ collective computing power when needed (“scaling up”), and then rapidly release that power when the desired task is completed (“scaling down”). Damon C. Andrews & John M. Newman, *Personal Jurisdiction and Choice of Law in the Cloud*, 73 Md. L. Rev. 313, 325 (2013). This easy scalability is particularly beneficial for smaller businesses and those that experience seasonal spikes in demand. It permits a customer to pay for the computing power and storage space that it needs, and thus avoids the costs associated with purchasing and maintaining excess computing power and storage space.

Efficiencies in the delivery of information technology services are particularly attractive to small businesses and startup companies that lack the sizeable capital required to purchase and manage an on-site server network and technology department. Harshbarger, 16 J. Tech. L. & Pol’y at 234-235. By lowering the barriers to entry for small companies, cloud computing provides new opportunities for innovation across the economy. *The Revolution in Cloud Computing* 30 (statement of Michael Hintze).

Small businesses particularly benefit from the easy scalability that cloud computing provides. Without cloud computing, a web-based startup company, for example, faces obstacles in ensuring ade-

quate processing and storage capacity to meet user demand. If the company underestimates demand, its servers will crash, producing substantial cost and delay, resulting in lost revenue. On the other hand, if the company overestimates demand, it wastes resources maintaining computer resources it does not use. Cloud computing solves these problems by providing dynamic computing power to new companies in a cost-effective manner. See Werbach, 60 Duke L.J. at 1822.

Third, cloud computing improves the security of user data, by enhancing the protection of data networks and providing improved disaster recovery capabilities.

Cloud computing network providers—whose business model focuses on the construction and maintenance of secure computer networks—generally are better equipped to protect networks against outside attack. Because of their significant scale, these companies can direct vastly greater resources into network protection than can a non-IT business, university, or government that attempts to manage its own computer systems in-house. Harshbarger, 16 J. Tech. L. & Pol’y at 234.

Moreover, cloud-based computing provides businesses with disaster recovery services on a much more cost-efficient basis. See Lee Badger et al., Recommendations of the Nat’l Inst. of Standards & Tech., U.S. Dep’t of Commerce, NIST Special Publication 800-146: Cloud Computing Synopsis and Recommendations (2012), at Sec. 5-4, available at <http://tiny.cc/nc2ubx>. If a local network crashes, lost data and lost productivity can impose enormous expense. Efficient cloud-computing options, however,

provide customers a cost-effective means to protect against such disasters. *Ibid.*

Fourth, cloud computing offers significant benefits to consumers as well. "Thanks to cloud computing, users no longer have to worry about storage capacity, memory, endless hardware purchases and upgrades, lengthy software downloads, or constant updates * * * because applications all run directly from the cloud, not from the user's desktop computer." Paul Lanois, *Caught in the Clouds: The Web 2.0, Cloud Computing, and Privacy?*, 9 Nw. J. Tech. & Intell. Prop. 29, 29-30 (2010).

Cloud computing also permits increased data portability, allowing users to access their data using multiple devices from any location in the world that has Internet access. See *The Revolution in Cloud Computing* 14-15 (statement of Edward W. Felten, Dir., Ctr. for Info. Tech. Policy, Princeton Univ.). And computing devices can be smaller and cheaper when they utilize from network-based services. Werbach, 60 Duke L.J. at 1816.

Smartphones and tablet computers, for example, may have far less computing power than a laptop or desktop computer. Through network connectivity and cloud services, a user of one of these devices can access vast amounts of data and computing power. See Andrews & Newman, 73 Md. L. Rev. at 326 n.66. Cloud computing permits the user to create a document on a home laptop, edit it on a tablet, review it on a desktop computer at work, and then share it with colleagues around the world. All this can be done with a *single* copy of a document, saving significant computing resources and greatly enhancing productivity.

There is little doubt that cloud computing—with its dramatically reduced costs—is the future of network technology. Andrews & Newman, 73 Md. L. Rev. at 328-329. Many, if not most, Americans with Internet access use free e-mail accounts, which often provide gigabytes of data storage—a form of cloud computing. Consumers also are increasingly switching to cloud-based solutions for data storage.

Companies, universities, and government likewise are choosing to outsource their computer functions to third-party cloud computing providers. Over time, “[m]ore and more computing functions and communications will move to the cloud as its benefits are more widely felt.” *The Revolution in Cloud Computing* 21 (statement of Richard Salgado, Senior Counsel, Law Enforcement & Info. Sec., Google, Inc.).

B. Information Technology Companies Are Investing Significant Resources In Cloud-Computing Infrastructure.

Given this increasing focus on cloud computing, it comes as little surprise that information technology companies are investing significant sums to develop new cloud computing technologies and resources.

Cloud computing already occupies a significant portion of the IT product and service marketplace. In 2013, spending on public cloud IT services constituted an estimated \$47.4 billion. Int’l Data Corp., IDC Forecasts Worldwide Public IT Cloud Services Spending (Sept. 3, 2012), <http://tiny.cc/fti4bx>. That number is expected to reach \$107 billion in 2017, as cloud computing services are growing at 23.5% an-

nually—about five times the growth of the IT industry as a whole. *Ibid.*

BSA member IBM recently announced that it is committing \$1.2 billion to enhance its cloud computing capabilities, including the construction of 40 new data centers. IBM Commits \$1.2 Billion To Expand Global Cloud Footprint (Jan. 17, 2014), <http://tiny.cc/o4xubx>. Many other BSA members operate well-known consumer and enterprise cloud computing services, such as Microsoft's OneDrive (cloud storage) and Azure (enterprise cloud storage and computing power), Apple's iCloud (cloud storage) and iTunes (content purchase, distribution and, storage), and Adobe's Creative Cloud (cloud computing power).

Projections indicate that cloud computing will continue to grow in economic importance. Business revenue from IT innovation enabled by cloud computing could reach \$1.1 trillion a year by 2015. John F. Gantz, et al., *Cloud Computing's Role in Job Creation*, IDC White Paper (2012) at 2, available at <http://tiny.cc/zuotbx>. Cloud computing could have a total annual economic impact of \$6.2 trillion by 2025. McKinsey Global Institute, McKinsey & Company, *Disruptive Technologies* 61 (May 2013), <http://tiny.cc/5yh4bx>.

Cloud computing will enable significant productivity savings. McKinsey estimates that by 2025 those savings will range between \$500 and \$700 billion annually. Gantz, *Cloud Computing's Role*, at 65. A different study estimates that cloud computing may save U.S. businesses as much as \$625 billion over the next five years, allowing that sum to be re-invested in new business opportunities. Sand Hill Group, *Job Growth in the Forecast: How Cloud Computing is Generating New Business Opportunities*

and Fueling Job Growth in the United States (2012), at 1, available at <http://tiny.cc/bxotbx>.

Beyond productivity savings, cloud computing creates American jobs. “As communications and networks become faster and more data intensive, this sector will continue to create new jobs and more opportunities for investors and innovators.” *The Revolution in Cloud Computing* 21 (statement of Richard Salgado). One study estimates that increased spending on IT cloud services will generate nearly 14 million jobs worldwide by 2015. Gantz, *Cloud Computing’s Role*, at 2.

In sum, “[t]he ‘virtual’ services offered in the cloud have created enormous and tangible value in the economy, spawning new businesses and spurring innovation and further growth in the tech sector.” *The Revolution in Cloud Computing* 21 (statement of Richard Salgado).

II. The “Transmit Clause” Of The Copyright Act Should Not Be Construed In A Manner That Artificially Restricts The Development Of Cloud Computing.

Critical to realizing the economic gains from cloud computing is preserving flexibility in the design of cloud computing networks. Copyright rules erecting artificial legal restrictions that constrain the design of networks would produce increased cost with no resulting benefit.

The Copyright Act grants an owner the exclusive right, “in the case of * * * motion pictures and other audiovisual works, to perform the copyrighted work publicly.” 17 U.S.C. § 106(4). Performing the work “publicly” is defined, in part, as to “transmit * * * a performance * * * of the work * * * to the public.” *Id.*

§ 101. This is the “Transmit Clause” of the Copyright Act.

To ensure that the Transmit Clause does not artificially constrain the development of cloud computing, two points are critical.

First, when a cloud computing network transmits data to an individual user, that transmission is not one that is “to the public.” Transmissions between a cloud computing network and an individual user, at the direction of that user, are necessarily private. The Transmit Clause, accordingly, does not apply in these circumstances.

Second, the precise architecture of a cloud computing network—whether a computer network stores an individual master copy of a particular file, or whether it stores multiple, user-specific copies of the same file—is irrelevant to application of the Transmit Clause. The Copyright Act does not turn upon differences in storage architecture.

A. The Transmit Clause Does Not Apply To Transmissions Of Data From A Provider Of Cloud Data Storage Services To An Individual User.

Pursuant to the Transmit Clause’s plain terms, a private transmission that is initiated by the user who stored the content and is accessible only to that user cannot violate the Transmit Clause. Transmissions between a provider of cloud storage services and individual users are thus outside the scope of the Transmit Clause.

A contrary interpretation of the Transmit Clause would be fatal for cloud computing. Cloud networks

would be unable to function if every user-directed transmission implicated the Transmit Clause.

1. The Transmit Clause does not apply to private transmissions.

The rules of statutory construction are well established: “when a statute’s language is plain, the sole function of the courts—at least where the disposition required by the text is not absurd—is to enforce it according to its terms.” *Sebelius v. Cloer*, 133 S. Ct. 1886, 1896 (2013) (quotation & alteration omitted).

While faithful adherence to a statute’s text is mandatory in every case, that is particularly so in interpreting the Copyright Act. “As the text of the Constitution makes plain, it is Congress that has been assigned the task of defining the scope of the limited monopoly that should be granted to authors or to inventors in order to give the public appropriate access to their work product.” *Sony v. Universal City Studios*, 464 U.S. 417, 429 (1984). The Court therefore has routinely “stressed” that it is “for Congress, not the courts, to decide how best to pursue the Copyright Clause’s objectives.” *Eldred v. Ashcroft*, 537 U.S. 186, 212 (2003).

Pursuant to the Copyright Act, an owner has the exclusive right to “perform * * * publicly” the works that it owns. 17 U.S.C. § 106(4). The Transmit Clause defines the phrase “[t]o perform or display a work ‘publicly’” as including:

to transmit * * * a performance or display of the work * * * to the public, by means of any device or process, whether the members of the public capable of receiving the performance * * * receive it in the same place or in

separate places and at the same time or at different times.

Id. § 101.

The Second Circuit correctly recognized in *Cartoon Network LP v. CSC Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008) (*Cablevision*), that the statute’s plain terms do not encompass *private* transmissions, inaccessible to members of the public. *Id.* at 134-140.

To begin with, the first part of the Transmit Clause expressly limits the Clause’s applicability to transmissions “to the public.” Congress thus distinguished between private and public transmissions. Otherwise, Congress would have provided simply that a copyright owner has the exclusive right “to transmit a performance,” without including that limitation. See *Cablevision*, 536 F.3d at 136.²

The second part of the clause makes clear that a transmission qualifies as “to the public” even when the performance being transmitted is received at different places or at different times. Critically, however, that second part of the clause neither overrides the requirement that the transmission be “to the public,” nor provides a comprehensive definition of when a transmission is “to the public”—it simply specifies two criteria that cannot be used in determining whether the transmission is “to the public.”

² Of course, the particular transmission need not be accessible by every member of the public at large, but only by a sufficient number of persons to qualify as the “public” for purposes of copyright law. The critical point is that a series of indisputably private transmissions, accessible only by the user that initiated them, cannot be aggregated to meet that standard.

Plainly, a transmission cannot be “to the public” if the transmission can be accessed by only a single user. The basic prerequisite for the Transmit Clause’s application, therefore, is that the transmission in question be accessible by members of the public.

The second part of the Transmit Clause confirms this conclusion because it refers to “the members of the public capable of receiving the performance” in delineating the two criteria not relevant in applying the “to the public standard.” Because that statutory language rests on the premise that “members of the public” are “capable of receiving the performance,” it too demonstrates Congress’s conclusion that the transmission must be accessible to the public.

Petitioners contend that, because the text of the second part of the Transmit Clause refers to “receiving the *performance*,” the language can encapsulate multiple private transmissions of a single performance. See, e.g., Pet. Br. 31-34. Petitioners therefore argue that the Transmit Clause applies equally whether there is one or multiple transmissions. *Ibid.*

But this ignores the statutory language in the prior phrase of the provision, which provides that the Transmit Clause applies to a party who “transmit[s] * * * a performance or display of the work * * * to the public.” The second part of the Clause uses the phrase “the performance” to make clear that it refers to the performance in the particular transmission made “to the public” that is at issue.

Moreover, Section 106(4) grants a copyright owner exclusive rights over public *performances*—not exclusive rights over transmissions. Section 101 thus defines a public performance as including a public

transmission. Therefore, as used in Section 101, a “transmission” is synonymous with a “performance.” See *Cablevision*, 536 F.3d at 134 (“[A] transmission of a performance is itself a performance.”). The phrase “capable of receiving the performance” is necessarily limited to the particular transmission at issue.

Under petitioners’ contrary approach, there would be no such thing as a “private” transmission. Instead, private transmissions of the same work could always be aggregated; the transmission of the same work to multiple recipients would thus trigger the Transmit Clause. But that cannot be squared with Congress’s clear statutory design, which distinguishes public and private transmissions. See *Cablevision*, 536 F.3d at 136 (“[T]his view obviates any possibility of a purely private transmission.”).

The legislative background of the Transmit Clause further confirms that it reaches only specific transmissions that are capable of being received by the public—and thus does not capture private transmissions.

Congress enacted the Transmit Clause, in part, to address this Court’s decision in *Fortnightly Corp. v. United Articles Television, Inc.*, 392 U.S. 390 (1968). There, an entity operated a retransmission system, available to the public, that used common or master antennas to access over-the-air broadcasts and then relay those broadcasts from the common antennas to cable customers inside and outside the range of the original broadcasts. *Id.* at 391-392. The Court concluded that the retransmissions were not “performances” for the purposes of the Copyright Act of 1909 because the cable companies’ actions were

more akin to a receipt rather than a performance of the transmissions. *Id.* at 400-401.

Congress reacted to this decision by adding the Transmit Clause to the Copyright Act. The purpose of the amendment was thus clear—it was designed to bar *public* retransmission services. *Private* transmissions—whether from an antenna atop a user’s roof, transmitting a signal to a television in the living room, or from a cloud computing network—are thus far removed from the problem that Congress sought to address.

The purpose of the statute therefore supports the plain text interpretation: the Transmit Clause has no bearing on a private transmission accessible only by a single user.

The legislative history further confirms that the Transmit Clause applies only where a transmission is *capable* of being accessed by the public at large: “[u]nder the bill * * * a performance made available by transmission to *the public at large* is ‘public’ even though the recipients are not gathered in a single place, and even if there is no proof that any of the *potential recipients* was operating his receiving apparatus at the time of the transmission.” H.R. Rep. No. 94-1476, at 64-65 (1976) (emphasis added), reprinted in 1976 U.S.C.C.A.N. 5659. The critical inquiry, accordingly, is who is *capable* of accessing a particular transmission; if the “public at large” is not among the “potential recipients” of the particular transmission at issue, that transmission is private.

2. *Data transmissions from a cloud computing network to an individual user are private.*

Data sent from a cloud computing network to an individual user is a quintessential “private” transmission. Using a cloud computing network to store a data file is no different than using an external hard drive with a very long cord. When the user accesses the stored data and directs the network to transmit it, only the particular user is capable of receiving the transmission. That plainly qualifies as a private transmission.

This is true even if multiple users on that network have stored the same data on the network and the network provides individual private transmissions to each of those authorized users. Because neither any other network user nor members of the general public could access each individual transmission, those transmissions could not be aggregated to constitute a transmission “to the public.”

A contrary conclusion would significantly impair the development of cloud computing. Because providers of cloud services do not—and should not—monitor the content of all of the data stored by users, they could not know whether or not users were initiating transmissions of the same information in sufficient quantities to satisfy some “aggregation” standard. Either cloud computing providers would have to impose intrusive and expensive content-monitoring requirements—which likely would discourage users from employing cloud computing—or network providers would have to run the risk of potential copyright liability if the private user-initiated transmissions of the same work occurred in sufficient number to satisfy an inchoate “to the public” standard.

3. *Whether transmission of the work violates another provision of the Copyright Act or an agreement between the user and the copyright owner has no bearing on application of the Transmit Clause.*

Contrary to petitioners' suggestion (see, e.g., Pet. Br. 37 n.5), whether the copyright owner has authorized use or transmission of the work—or the transmission is a fair use—is irrelevant to whether the transmission is private or public for purposes of the Transmit Clause. The nature of the *transmission* does not turn on the allocation of rights in the work being transmitted. If the transmission is private, the Transmit Clause does not attach, regardless of the status of the underlying rights. As the court below found, whether a party “has a license is not relevant to whether its transmissions are public and therefore must be licensed.” Pet. App. 24a.

Of course, the user's storage, transmission or use of the work may constitute infringement even though the Transmit Clause does not attach; it may, for example, infringe the reproduction right or other rights. Or the user may have agreed by contract to restrictions not imposed by operation of the copyright laws. But those are questions wholly apart from the statutory distinction between private and public transmissions.

B. Whether A Network Maintains A Single Master Copy Or Multiple User-Specific Copies Is Irrelevant To Application Of The Transmit Clause.

The court below concluded that a relevant consideration in applying the Transmit Clause is

whether the source of the transmission was a single user-specific copy of a work or a master copy, accessible by multiple users. Nothing in the text or purpose of the Transmit Clause supports that conclusion and this Court should expressly reject it.

When a user stores a particular data file to a cloud-based network—such as a document, song, or a blueprint of a bridge—the network could either (1) store different copies of those files for *each* individual user that uploads them; or (2) store a *single*, master copy of each, that may be accessed by those users who have directed the network to store the file. In either event, the experience is identical for the user: the computing network stores the data, and a user may access it on demand. And the circumstances are identical for a putative copyright owner: if a copyright owner argues that transmission of the material implicates the Transmit Clause, how the underlying network stores the data has no relevance.

The court below suggested that an “essential fact[]” in this case is that Aero’s system stored “unique copies” for each user and that “[n]o other Aereo user can ever receive a transmission from that copy.” Pet. App. 22a-23a. This analysis stemmed from *Cablevision*, which “held that technical architecture [of a particular system] matters.” *Id.* at 33a.

Indeed, in *Cablevision*, the Second Circuit bolstered its distinction between private and public transmissions by considering whether the network transmitted user-specific copies of a particular work or a single master copy. *Cablevision*, 536 F.3d at 137-138. Because the system at issue in *Cablevision* employed user-specific copies, the court found this further suggestive of a private transmission. *Ibid.*

Nothing in the text of the Transmit Clause requires or even supports this view. The provision says nothing at all about the source of the transmission.

The Second Circuit purported to derive this approach from *Columbia Pictures Industries, Inc. v. Redd Horne, Inc.*, 749 F.2d 154 (3d Cir. 1984). There, a video rental store showed the same video cassette to customers in private booths. The store played the same video cassette to different customers at different times. *Id.* at 156-157.

The Third Circuit, however, did not consider the Transmit Clause in that case. There, the court looked to the *first* prong of Section 101's definition of "public performance," which includes "[t]o perform * * * it at a place open to the public or at any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered." 17 U.S.C. § 101. It was *this* provision that the Third Circuit considered, expressly "find[ing] it unnecessary to examine the second part of the statutory definition." *Redd Horne*, 749 F.2d at 158-159. Thus, the court's conclusion that the playing of a single tape to multiple members of the public qualifies as a "public performance" (*id.* at 159) said nothing at all whether the defendant "transmit[ed] * * * to the public, by means of any device or process," which the "public" is "capable of receiving." 17 U.S.C. § 101.

For purposes of the Transmit Clause, there is no meaningful distinction between a transmission stemming from multiple, user-specific copies as opposed to a transmission stemming from an identical single, master copy. The sole inquiry is whether the transmission is "to the public"—the *source* of that transmission is wholly irrelevant, as is the particular technology used to deliver the work. In this case,

where respondent makes content available only to a user who directed the service to store it on his or her behalf, it is irrelevant *how* respondent stores the content (once, twice, or thousands of times), so long as the functional result is the same.

Endorsing the Second Circuit's erroneous view would impose very substantial inefficiencies on cloud computing. Given the large scale of many cloud computing networks (on a large computer network, thousands of users may store identical data files), such network architecture questions can profoundly affect the necessary data-storage and processing power of a computer network, greatly altering its costs and efficiency. Distinguishing between such systems would be debilitating to cloud computing, as it would vastly increase cost and decrease efficiency, with no resulting benefits to anyone. This is precisely a case where courts should be "quite properly reluctant to dictate the design of products." Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 Stan. L. Rev. 1345, 1388 (2004).

In resolving this case, therefore the Court should make clear that whether the work being transmitted comes from a user-specific copy or a master copy has no relevance to application of the Transmit Clause.

C. If Existing Copyright Principles Do Not Properly Balance The Interests Of Rights Owners And the Public, Because Of The Development Of New Technologies, Congress Can And Does Readjust The Balance.

Adapting to new technology is a constant in copyright law. In fact, "it was the invention of a new

form of copying equipment—the printing press—that gave rise to the original need for copyright protection.” *Sony*, 464 U.S. at 430. Thus, “[f]rom its beginning, the law of copyright has developed in response to significant changes in technology.” *Ibid.*

The need to protect copyright owners while simultaneously encouraging innovation requires the copyright laws to reflect a “carefully crafted bargain.” *Dastar Corp. v. Twentieth Century Fox Film Corp.*, 539 U.S. 23, 33 (2003). In maintaining that balance, the Court is “mindful of the need to keep from trenching on regular commerce or discouraging the development of technologies with lawful and unlawful potential.” *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*, 545 U.S. 913, 937 (2005).

If new technology upsets that balance, it is critical for Congress to recalibrate the controlling rules, because such policy decisions—which turn on complex technical questions, as well as competing interests across a broad array of stakeholders—require the legislative process. Only “Congress has the constitutional authority and the institutional ability to accommodate fully the varied permutations of competing interests that are inevitably implicated by such new technology.” *Sony*, 464 U.S. at 431. For these reasons, “[s]ound policy, as well as history, supports * * * consistent deference to Congress when major technological innovations alter the market for copyrighted materials.” *Ibid.*

Congress reacts to such innovation with regularity; “[r]epeatedly, as new developments have occurred in this country, it has been the Congress that has fashioned the new rules that new technology made necessary.” *Sony*, 464 U.S. at 430-431. For example, “the development and marketing of player pianos

and perforated roles of music preceded the enactment of the Copyright Act of 1909.” *Id.* at 430 n.11 (citation omitted). New technologies for libraries “gave rise to the statutory exemption for library copying embodied in § 108 of the 1976 revision of the Copyright law.” *Ibid.* And copyright concerns arising from the Internet led to the Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998).

If there is a concern that existing standards somehow skew the balance between copyright owners, innovators, and the public, it is Congress that must—and will—act. Indeed, in the public performance realm, Congress has already shown it is up to this task—as the adoption of the Transmit Clause demonstrates.

III. Providers Of Cloud Computing Storage Services Are Not Directly Liable For Copyright Infringement By Their Users.

Direct liability for copyright infringement requires a volitional act. In the context of cloud-based data storage service—where the storage and transmission of data result from volitional acts performed solely by the user, and the provider of the storage service merely executes the user’s commands—the absence of any volitional act by the provider precludes imposition of direct liability for infringement and bars liability for any infringing acts by its users.³

³ A different situation would be presented if a cloud services provider does not simply store data for users and transmit that data as requested by a user, but rather stores a work on its own initiative and offers access to the public generally or to its “subscribers” (or stores the work at the request of a us-

The Copyright Act extends direct liability only to one “who violates any of the exclusive rights of the copyright owner.” 17 U.S.C. § 501(a). The statute’s use of the active voice makes a volitional act a prerequisite for infringement liability. See, *e.g.*, *Cablevision*, 536 F.3d at 130-131; *CoStar Grp., Inc. v. LoopNet, Inc.*, 373 F.3d 544, 550 (4th Cir. 2004) (“to establish *direct* liability under §§ 501 and 106 of the Act, something more must be shown than mere ownership of a machine used by others to make illegal copies;” rather, there “must be actual infringing conduct with a nexus sufficiently close and causal to the illegal copying that one could conclude that the machine owner himself trespassed on the exclusive domain of the copyright owner”).

A contrary standard would lead to absurd results. Without the volitional-act requirement, the owner of a multipurpose device such as a photocopying machine would be liable whenever, unknown to him or her, the machine is used to infringe. *Direct* liability plainly does not extend so far.

In the context of cloud computing networks that store data, the volitional acts are taken by the *user*, not the network provider.

As the Second Circuit explained in *Cablevision*, “[i]n determining who actually ‘makes’ a copy, a significant difference exists between making a request to a human employee, who then volitionally operates the copying system to make the copy, and issuing a command directly to a system, which automatically obeys commands and engages in no volitional conduct.” 536 F.3d at 131.

er but transmits the work at the request of persons other than that user).

That result makes good sense. The typical provider of cloud-based storage services establishes a computing environment controlled by the user. The user dictates what material will be stored on the network, when copies will be made, and when the network will transmit that data. The network provider does not engage in any volitional acts and is not directly liable for any act of infringement.

This principle undergirded the Court's holding in *Sony*. There was little doubt that a VCR—just like a photocopier—is *capable* of infringing uses. But the fact that the product also could be used for “substantial noninfringing uses” showed that direct liability was unavailable. *Sony*, 464 U.S. at 442; accord *Grokster*, 545 U.S. at 930 (no claim of direct liability because the software provider did not engage in copying).

Cloud computing services also plainly are capable of “substantial non-infringing uses,” and a provider of those services therefore also ordinarily cannot be held liable for the acts of its user in the absence of proof of special circumstances, such as concerted action between the storage provider and user to engage in infringement.

IV. Alternative Theories Of Copyright Liability Remain Unexplored In This Case.

The Copyright Act provides an owner with multiple exclusive rights; liability under the “Transmit Clause” of the Copyright Act is certainly not the only means by which a copyright owner may enforce its rights. The Act, for example, permits a copyright owner to hold responsible those who infringe the reproduction right. 17 U.S.C. § 106(1). It also imposes secondary liability for infringement.

Both of those claims are asserted in this case. See, e.g., Am. Compl. ¶¶ 36, 37, D. Ct. Dkt. 292 (S.D.N.Y. Oct. 17, 2013), 2013 WL 6248724. Presumably because they depend on factual development, they were not pressed in the motion for a preliminary injunction that gave rise to the decision now before this Court.

In the district court, petitioners assert that respondent is both reproducing material subject to copyright, as well as transmitting those works. Petitioners contend that respondent's actions fundamentally change the economics of broadcast, causing economic injury to broadcasters. And petitioners allege that Aereo is engaging in culpable, wrongful conduct that encourages infringement by its users. If petitioners prove these allegations, they may well be able to prevail on those grounds on remand in the event that this Court were to affirm the Second Circuit's denial of relief under the Transmit Clause.

CONCLUSION

The Court should hold that private transmissions are not encompassed by the Transmit Clause and that whether a transmission is based on a user-specific copy of a work or a master copy of the work is irrelevant to application of the Transmit Clause.

Respectfully submitted.

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