Submitted by: Dan Lang & Kerri A. Braun
For: Cisco Systems, Inc.

October 30, 2023

The Honorable Shira L. Perlmutter
Register of Copyrights and
Director of the US Copyright Office
US Library of Congress
101 Independence Ave SE
Washington, DC 20540

Re: ***Notice of Inquiry and Request for Comment re Artificial Intelligence and Copyright.*** **[Docket No. 2023-06]**

Dear Register Perlmutter,

Cisco Systems, Inc. ("Cisco") appreciates the opportunity to offer comments in response to the U.S. Copyright Office's Notice of Inquiry and Request for Comments on Artificial Intelligence and Copyright (the "NOI").

Cisco is a global leader and trusted provider in the technology industry. We are focused on creating and delivering, together with our global ecosystem of trusted partners, the software and services that help our customers solve problems faster and more securely. Our portfolio of solutions includes networking, WIFI and 5G, data centers, security, collaboration, cloud management, Internet of Things, and videoconferencing.

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Cisco's customers include businesses of all sizes, government companies, and other service providers and individuals in the United States and around the world. Our technologies are at the heart of the networks of large and small organizations across the public and private sectors, including 98% of the Fortune 500 companies and over 90,000 state, local, and education customers. Cisco invests over $6 billion annually in research and development and employs tens of thousands of engineers and scientists. Cisco relies heavily on intellectual property rights, including its copyrights, to secure its substantial investment in the development of goods and services that help to securely connect and advance industries and communities now and into the future.

Prior to the NOI, Cisco submitted comments relating to GAI before the Department of Commerce and the Department of State on the G7 Principles, and submitted comments with multiple industry associations such as the Business Software Alliance (BSA), the Information Technology Industry Council (ITI), and Digital Europe.

While Cisco and many others in the technology industry will be greatly impacted by the host of issues for which the Office seeks comment, we provide below a brief commentary on issues that we believe are most immediately and highly impactful for our sector: copyrightability and the impact of the Office's substantive examination of copyright applications involving materials generated with the assistance of AI.[1] Cisco would welcome additional opportunities in the future to provide comments on the remaining and other topics.

Question 1. As described above, generative AI systems have the ability to produce material that would be copyrightable if it were created by a human author. What are your views on the potential

[1] Capitalized terms have the meaning set forth in the glossary to the NOI. "Artificial Intelligence" or "AI" is defined in the NOI "to refer to technologies that employ machine learning." The NOI defines "machine learning" as "[a] technique for building AI systems that is characterized by the ability to automatically learn and improve on the basis of data or experience, without relying on explicitly programmed rules" and "involves ingesting and analyzing materials such as quantitative data or text and obtain inferences about qualities of those materials and using those inferences to accomplish a specific task" with such inferences "represented within an AI model's weights." An "**AI system**" is defined in the NOI as "[a] software product or service that substantially incorporates one or more AI models and is designed for use by an end-user."

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benefits and risks of this technology? How is the use of this technology currently affecting or likely to affect creators, copyright owners, technology developers, researchers, and the public?

AI systems have substantial benefits, particularly for technology companies like Cisco and their customers. For example, in terms of software, these tools provide productivity advantages to human authors, who remain the "master mind" for the software development process by setting the requirements, selecting the desired code modules, and making all decisions with respect to programming, development, and the code that is incorporated into the code base. Generative Artificial Intelligence ("GAI") tools can provide increased efficiencies in ideation, debugging, testing, and optimizing, among other things, which decreases coding time, expense, and investment, while freeing human developers to focus on uniquely human and creative aspects of the coding design and creation process. These considerations reduce costs and improve time to market for higher-quality products.

As to potential risks, Cisco focuses its comments on issues related to copyrightability and the risk and uncertainty arising from the increasing ubiquity of GAI tools coupled with the uncertainty and risk created by the Office's current guidance on registrability of works containing material generated by artificial intelligence.[2] This combination produces a substantial risk that copyright owners will be impaired in their ability to protect and enforce works that are facilitated by GAI systems, including concerns regarding registrability, timely access to courts, augmented litigation burdens, and diminished scope of relief, as discussed more fully below in response to Questions 18 and 34.

Question 2. Does the increasing use or distribution of AI-generated material raise any unique issues for your sector or industry as compared to other copyright stakeholders?

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[2] *See* U.S. Copyright Office, *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence* (Mar. 16, 2023) at 3–4, *available at* https://copyright.gov/ai/ai_policy_guidance.pdf ("Registration Guidance").

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Yes. The increasing use of AI and AI-generated material raises issues that are especially felt in the technology and software sectors. As noted in response to Question 1 above, there are substantial benefits from the use of GAI tools, which enhance and do not replace human authorship in the software development process. As noted in response to Questions 18 and 34 below, the confluence of increasingly ubiquitous GAI tools and the Office's Registration Guidance creates unique concerns for software developers that their ability to protect and enforce their rights under copyright will be frustrated.

The very purpose of copyright, memorialized in the Copyright Clause in the U.S. Constitution, is to create enforceable exclusive rights to incentivize creation, thereby promoting the progress of science and the useful arts.[3] Certainty as to whether copyright protection can be obtained and enforced is necessary to maintain the United States' position as a leader in the advancement and exploitation of software. Software requires substantial investment in human resources, research, and development, all of which is incentivized by the ability to secure copyright in the resulting software and enforce exclusive rights.

The software industry, along with many other scientific and technical industries (and the human authors within those industries) are shifting to a heavy reliance on and usage of GAI to drive efficiencies, alleviate administrative tasks so that high value resources like engineers can focus on creative endeavors and streamline processes. As uncertainty grows as to whether authors in these fields will continue to enjoy copyright protection in the software they produce, authors will be disincentivized and this will adversely impact the ability for the United States to maintain its competitive edge as a global leader in software development. Productivity advantages achieved by powerful new GAI tools may be partially offset by the risk of potentially losing copyright protection for works that incorporate AI-generated material, as well as the potential inability to timely and effectively enforce or be made whole. The technology and software industries may suffer from underinvestment and underproduction, which will stifle creativity and progress. Maintaining the copyrightability of human authorship, even as enhanced by GAI tools under human control, will be critical to fulfilling the constitutional purpose of copyright.

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[3] U.S. Constitution, Article I, Section 8, Clause 8.

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Question 18. Under copyright law, are there circumstances when a human using a generative AI system should be considered the ''author'' of material produced by the system? If so, what factors are relevant to that determination? For example, is selecting what material an AI model is trained on and/or providing an iterative series of text commands or prompts sufficient to claim authorship of the resulting output?

There are circumstances when the human user of a GAI system should be considered the "author" of material produced by the system, particularly as those outputs are selected, modified, and incorporated into a larger work. Works that include the products of a human-operated GAI system, which are created at the instance of a human author, vetted and approved by a human author, and incorporated into software code pursuant to the vision of a human "master mind" should be granted copyright protection in a manner that is no different than the copyright protection afforded to other works.[4]

By now, it is well settled that the bar for finding copyrightable authorship is low. It is instructive to look at the progress of copyright protection for photographs taken by a human photographer with the assistance of a camera, and related copyrightability decisions. Oliver Wendell Holmes initially described photography as a "mirror with a memory," casting doubt on whether a photograph created by a human photographer using a camera was sufficient human expression to support copyright, much like the current debate around copyrightability of the outputs of GAI systems.[5]

More than a century ago, in the *Burrow-Giles* decision, the Supreme Court justified a very limited photographic copyright in terms of the creative conduct that the photographer undertook before the photograph was fixed, such as adjusting the composition that would be captured by the camera.[6] That case involved the copy and sale of a portrait of Oscar Wilde. The defendant argued that the photograph was not the

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[4] Cisco's comments do not address the issue of ownership or copyrightability of materials generated by AI systems that may infringe a prior copyrighted work.

[5] Oliver Wendell Holmes, *The Stereoscope and the Stereograph*, CLASSIC ESSAYS ON PHOTOGRAPHY 71, 74 (Allen Trachtenberg ed., 1980).

[6] *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884).

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product of human authorship, but merely the output of a machine (and the machine cannot be an author), so the photograph cannot be copyrighted. The Court rejected this argument and found copyrightable human authorship in the creation of the photograph produced by posing the subject, arranging the clothing and accessories, and other "pre-shutter activity" undertaken by the photographer, who acted as the "inventive or master mind" behind the ultimate photograph. The Court stated that copyrightable subsists so long as the ideas in the author's mind are given visible expression. In other words, when the machine is in control, there is no originality and the output is not copyrightable, but when the human is in control of the machine, the use of a machine is no obstacle to copyrightability.

Later, in the *Bleistein* decision, the Supreme Court expanded copyrightability and lowered the "creativity" threshold further.[7] That case involved a dispute between two lithographic companies: one that designed and mass produced a circus poster, and another that further copied the earlier designed poster without permission. The Court's decision expanded copyright protection from fine art images to also include advertising images. In so doing, the Court explained that the image on the poster was "the personal reaction of an individual upon nature. Personality always contains something unique… [and] a very modest grade of art has in it something irreducible, which is one man's alone. That something he may copyright unless there is a restriction in the words of the act." As Justice Holmes said, "it would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the work of pictorial illustrations, outside of the narrowest and most obvious limits."

The Court reinforced the *Bleistein* decision nearly a century later in the *Feist* decision, which rejected the "sweat of the brow" rationale for copyrightability in favor of *Bleistein*'s minimal originality standard.[8] In so doing, *Feist* reaffirmed copyright protection for nearly all works that show even a modicum of creativity by the human authors behind the creation of the work.

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[7] *Bleistein v. Donaldson Lithographinc Co.*, 188 U.S. 239 (1903).

[8] *Feist Publc'ns, Inc. v. Rural Telephone Serv. Co.*, 499 U.S. 340 (1991).

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Just as the camera was found to be merely a tool operated by a human "master mind" to produce the photographer's copyrightable expression, so too should generative AI systems be regarded as a merely a tool operated by a human "master mind" to produce the user's copyrightable expression. The Office should not apply unique and unreasonably high standards to assess the sufficiency of human authorship in a work generated with the assistance of a GAI system when the Supreme Court has recognized the incredibly low bar to copyrightability for works generally.

In the interest of certainty, policy makers could push for sensible safe harbors to ensure that works containing materials generated by an AI system remain copyrightable as the expression of the human author as the "master mind," which could form a foundation for court decisions and policies in years to come. For example, there could be copyrightability arising from (1) human-made arrangements and modifications of materials generated by AI systems; (2) submitting a prompt that is independently copyrightable as a text-based work to a GAI system to produce an output that is an independently copyrightable derivative work; or (3) modifications made by a GAI system of a human author's pre-existing copyrighted work.

Question 34. Please identify any issues not mentioned above that the Copyright Office should consider in conducting this study.

Cisco respectfully submits that the Office should not as a matter of course perform *substantive* examination of applications for works on the basis that they contain materials generated by an AI system. For applications to register "works containing AI-generated material" the Office has been considering "whether the AI contributions are the result of 'mechanical reproduction' or instead of an author's 'own original mental conception, to which [the author] gave visible form."[9] According to the Registration Guidance, "[t]he answer will depend on the circumstances, particularly how the GAI tool operates and how it was used to create the final work," and "[t]his is necessarily a case-by-case inquiry."[10] Such substantive examination would require time consuming, technical, and highly fact-dependent analysis, create uncertainty and disparate results, and frustrate copyright

[9] Registration Guidance at 3–4.
[10] *Id.*

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owners' ability to protect their copyrights, seek timely relief in court, and obtain appropriate relief to which they would otherwise be entitled.

First, as discussed in response to Question 18 above, it is well settled that the bar to establish human authorship that supports copyrightability is very low.

Second, despite this low bar, substantive examination would require time-consuming, technical, and highly fact-dependent analyses. There is substantial risk that the Office will be transformed from a registration-centric body capable of issuing registrations in an expeditious manner accessible even to laypersons within a couple months,[11] to an examination-centric body (like the U.S. Patent Office), where registrations are relatively expensive, labor intensive, require specialized counsel and examiners, and are resource and time consuming, often taking years before issuance.[12] Individual registration specialists at the Office may have different degrees of familiarity with the technologies and applications across the gamut of copyrightable subject matter, and do not have access to discovery tools like those available in litigation, to properly evaluate copyrightability. These issues may produce disparate results across applications and over time as the law, policy, and technologies evolve.

Third, GAI is becoming ubiquitous as it is increasingly integrated into every facet of modern life, often by default. Applicants and their employees who create code may struggle to understand and identify whether and to what extent GAI was or was not used in the creation process, especially independent creators. Cisco has around 85,000 employees, with a code base of well over a terabyte of data extending across multiple operating systems, platforms, and languages. Access to this code is highly controlled, with no one person or group having access to the entire base. For companies in our industry, meticulously tracking the nature and extent of GAI involvement in code creation

[11] *See* U.S. Copyright Office, *Registration Processing Times* (2023) at 1, *available at* https://www.copyright.gov/registration/docs/processing-times-faqs.pdf ("The average processing time for all claims is 2.2 months").

[12] *See* U.S. Patent & Trademark Office, *Patents Pendency Data August 2023*, *available at* https://www.uspto.gov/dashboard/patents/pendency.html (average of 25.2 months for "traditional pendency" from patent application filing date to final disposition).

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presents an untenable logistical nightmare that would hinder the companies' ability to simultaneously use these tools and maintain intellectual property rights.

Further, the Office may be inundated with applications disclosing the use of GAI, each of which would require a unique "case-by-case inquiry" into the circumstances and technology under the Registration Guidance. Increasing scrutiny for each application and an exponential increase in the number of applications subject to such scrutiny, will strain the Office's resources and its ability to efficiently and expeditiously issue registrations, delaying the time to issuance and creating a backlog of applications.

Finally, engaging in substantive evaluation as a matter of course will potentially create a sea change that may interfere with copyright owners' ability to seek timely and effective relief in court. To file suit for copyright infringement, the Office must first complete its review of the copyright application and either issue a registration or a refusal. Further, an issued registration creates certain benefits for a copyright owner seeking enforcement, such as a presumption of validity and access to statutory damages, fees, and costs.[13] Copyright owners, particularly those in high-tech industries like Cisco and others, rely on copyright as a key component of their intellectual property protection and enforcement strategies. Not only does the Registration Guidance risk delaying access to courts, but also it increases the risk of refusal, which in turn alters the dynamics and calculus in copyright enforcement, including the burdens on copyright owners and available relief.

a. Cisco's Proposal Regarding the Office's Substantive Evaluation.

Although we do not believe that disclosure of material created with the assistance of a GAI tool should be required, to the extent that the Office disagrees, an applicant should satisfy such disclosure requirements at the registration stage with a simple affirmative box check without further inquiry. As GAI use in the creation of works inevitably continues to expand, it is foreseeable that most new applications could contain a "GAI use" disclosure in the future, and this designation will gradually lose its relevance. It is best, therefore, that determinations of validity and scope of copyright registrations

[13] 17 U.S.C. §§ 410–12.

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with respect to GAI use are solely determined by the courts. This process is most efficient, given the momentum of GAI use in the creation of works and the uncertain state of the law, which may result in disparities between applicants filing for copyright registration today as opposed to those who file for registration in the future.

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Cisco again thanks the Office for this opportunity and welcomes any further discussions of these important issues.

Sincerely,

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and

Kerri A. Braun

Senior Corporate Counsel, Trade Secrets and Copyrights

On Behalf of Cisco Systems, Inc.

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