No. _____

In The

Supreme Court of the United States

CARL M. BURNETT,

Petitioner,

v.

PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA, PANASONIC INTELLECTUAL PROPERTY CORPORATION OF AMERICA,

Respondents.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

1) Whether electronic data is the tangible embodiment of an electromagnetic analog or digital signal and when changed to a new and useful form of electronic data remains a tangible embodiment of an electromagnetic analog or digital signal and is therefore directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court.

2) Whether a process that creates a new and useful tangible embodiment of electronic data is therefore directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court.

PARTIES TO THE PROCEEDING

All parties to the proceeding are identified in the caption.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner Carl M. Burnett respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The Court of Appeals for the Federal Circuit's ("CAFC") opinion reproduced at App. 1-14 is reported at *Burnett v. Panasonic Corp.*, No. 18-1234, 2018 U.S. App. LEXIS 19843 (Fed. Cir. 2018). The District Court's opinion reproduced at App. 15-34 is reported at *Burnett v. Panasonic Corp. of N. Am.*, 2017 U.S. Dist. LEXIS 203808 (D. Md. 2017).

JURISDICTION

The CAFC entered its judgment on July 16, 2018. This petition is filed within ninety (90) days of that judgment. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101.

"The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material." 35 U.S.C. § 100(b).

INTRODUCTION

The CAFC addressed fundamental questions relating to the patent eligibility of inventions that involve electronic geographic data and a process to convert electronic geographic data to a new form of electronic geospatial data. The CAFC held that "a process that starts with data applies an algorithm and ends with a new form of data is directed to an abstract idea." In assessing whether this process and the new form of data is patent-eligible under 35 U.S.C. § 101, the CAFC acknowledged the process had been previously approved under preceding legal precedents as patent-eligible under 35 U.S.C. § 101.

A more important legal issue concerning this holding by the CAFC is whether electronic data is tangible property. In *Digitech Image Tech's*, the court held "[d]ata in its ethereal, non-physical form is simply information that does not fall under any of the categories of patent-eligible subject matter under § 101." *Digitech Image Tech's v. Electronics for Imaging*, 758 F.3d 1344, 1350 (Fed. Cir. 2014), and, "[t]he claims are instead directed to information in its non-tangible form." *Id.* at 1349. These holdings are all based on the previous holdings in the precedential case *In re Nuijten*, that:

"[a]ll signals within the scope of the claim do not themselves comprise some tangible article or commodity." *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007). In *Burnett*, the court held that electronic data is non-tangible based on the holding in *Digitech* and *Nuijten*. App. 9.

These holdings now create a major legal disagreement between the CAFC and courts of appeals of the other federal circuits as to the admissibility of electronic data as tangible evidence. The electronic data in *Burnett* is Global Positioning System ("GPS") geographic coordinate data, and the newer form of geospatial metadata, Geospatial Entity Object Code ("GEOCODE") metadata. However, the holdings in *Burnett*, *Digitech*, and *Nuijten* also apply to any electronic data which may represent electronic data encoded as a tangible embodiment of an electromagnetic analog or digital signal.

All appeals courts in the federal circuits that adjudicate criminal and civil law have accepted the admissibility of GPS and GEOCODE metadata as tangible evidence in civil and criminal proceedings. There is also significant legal precedent that the courts have accepted many other forms of electronic data, such as video and audio electronic data as tangible evidence.

The CAFC in *Burnett*, *Digitech*, and *Nuijten* has held that all electronic data, specifically GPS and GEOCODE metadata, is abstract and non-tangible. Even if GPS source data and the resulting GEOCODE metadata is tangible, the CAFC has also held that

a computer process, or algorithm, produces a non-tangible form of electronic data that is abstract, non-tangible, and ineligible under 35 U.S.C. § 101. App. 9.

These holdings in *Burnett*, *Digitech*, and *Nuijten* therefore identify a fundamental disagreement among the appeals courts in the federal circuits regarding whether electronic data and electronically stored information, are tangible property that can be used as admissible evidence. Additionally, the CAFC holding in *Burnett* establishing that a computer process that produces any type of electronic data is abstract renders all electronic data produced by a computer process abstract and non-tangible. App. 9.

These inherently contradictory legal holdings among the federal circuits concerning the tangibility of electronic data and electronically stored information nullifies the admissibility of electronic data, electronically stored data, and electronically produced data as tangible electronic evidence in any court proceedings.

STATEMENT OF THE CASE

I. STATUTORY BACKGROUND

The Patent Act specifies the general subject matter eligible for a patent—namely "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. The subject matter eligible for patenting includes "any new and useful process, machine,

manufacture, or composition of matter, or any new and useful improvement thereof." *Id.* The judicially recognized exceptions from this provision are for "[l]aws of nature, natural phenomena, and abstract ideas." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014).

Patent-eligible subject matter for claiming different types of patent claims falls into two general categories: claims that cover products and claims that cover methods. *See also Diamond v. Diehr*, 450 U.S. 175 (1981); *Parker v. Flook*, 437 U.S. 584 (1978); *Gottschalk v. Benson*, 409 U.S. 63 (1972); *Bilski v. Kappos*, 561 U.S. 593 (2010).

Product claims relate to tangible items—i.e., in the terms of § 101, "machine[s], manufacture[s], or composition[s] of matter." 35 U.S.C. § 101. In patent terms, claims to machines are often called "system" or "apparatus" claims. Unlike product claims, "method" claims (also known, in the terms of § 101, as "process" claims) claim a series of steps that lead to a useful result.

This Court has "set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd.*, 134 S. Ct. at 2355. First, the court must "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* "If not, the claims pass muster under § 101." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714 (Fed. Cir. 2014).

Second, if the answer to the first step is "yes," then the court must "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice Corp. Pty. Ltd.*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1297 (2012)). This step asks whether the claims add an "inventive concept" that is "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Alice Corp. Pty. Ltd.*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Servs.*, 132 S. Ct. at 1297) (modification marks omitted). Additionally, an issued patent, such as the patent-in-suit in this matter, is entitled to a presumption of validity that applies to § 101 challenges. This places a heavy burden on the party alleging the claims as patent-ineligible. *CLS Bank Int'l v. Alice Corp. Pty.*, 717 F.3d 1269, 1284 (Fed. Cir. 2013).

There are however, two areas of subject matter that involve statutory eligibility under 35 U.S.C. § 101 that have not been revisited by this Court since *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 14 L. Ed. 601 (1853). These areas involve the patenting of electronic data and electromagnetic signals. The divided Court in *O'Reilly* held for Claim 8, that:

> "He claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is

> the marking or printing intelligible characters, signs, or letters at a distance."

O'Reilly v. Morse at 112.

> "In fine, he claims an exclusive right to use a manner and process which he has not described and indeed had not invented, and therefore could not describe when he obtained his patent. The court is of opinion that the claim is too broad, and not warranted by law."

Id. at 113.

In reaching this holding, the Court indicated that Morse did not teach and enable other ways to communicate information at a great distance by using the electromagnetic force. This enablement requirement is covered under 35 U.S.C. § 112. The Court also held that Claim 8 was at such a high level of generality and abstraction that it claimed an "idea" rather than a practical application and implementation of an idea, which made the claim ineligible under 35 U.S.C. § 101.

However, in Judge Grier's dissent he states:

> "The mere discovery of a new element, or law, or principle of nature, without any valuable application of it to the arts, is not the subject of a patent. But he who takes this new element or power, as yet useless, from the laboratory of the philosopher, and makes it the servant of man; who applies it to the perfecting of a new and useful art, or to the improvement of one already known, is the benefactor

> to whom the patent law tenders its protection, and;
>
> When a new and hitherto unknown product or result, beneficial to mankind, is effected by a new application of any element of nature, and by means of machines and devices, whether new or old, it cannot be denied that such invention or discovery is entitled to the denomination of a 'new and useful art.'"

Id. at 132-133.

> He then asks:
>
> "What is meant by a claim [specifically, Morse's claim 8] being too broad?" "It is only when he claims something before known and used, something as new which is not new, either by mistake or intentionally."

Id. at 135.

This question by Judge Grier concerning the statutory patentability of the invention of "electromagnetic force" or signals and the embedded data in an electromagnetic signal has been answered by the CAFC in *Burnett*, *Digitech*, and *Nuijten*, but not by this Court.

II. PROCEEDINGS BELOW

A. The Invention.

U.S. Patent No. 7,107,286 ('286 Patent) was approved on September 12, 2006 as a continuation patent

of U.S. Patent No. 6,681,231 ('231 Patent). The '231 Patent was approved on September 7, 2003. The '231 Patent claims priority based on the submission of U.S. Provisional Patent Application Ser. No. 60/145,694, filed on July 26, 1999. The '231 Patent is a single system patent claim, that patented an integrated information processing system for geospatial media.

The '286 Patent was filed to patent the individual technologies that were dependent claims of the '231 Patent. The '286 Patent contains five (5) independent claims and twelve (12) dependent claims. The asserted patent claims in the proceeding below include the following claims:

Claim 1 of the '286 Patent is a machine claim that invented a geospatial media recorder. The claim states:

> 1. A geospatial media recorder, comprising: converting means for converting longitude and latitude geographic degree, minutes, and second (DMS) coordinate alphanumeric representations or decimal equivalent geographic coordinate alphanumeric representations and altitude alphanumeric representations into individual discretion all-natural number geographic coordinate and measurement representations; and combining means for concatenating the discrete all-natural number geographic coordinate and measurement representations into a single discrete all-natural number geospatial coordinate measurement representation for identification of a geospatial positional location at, below, or above earth's surface allowing user to geospatially reference entities

> or objects based on the identified geospatial positional location and point identification.

'286 Patent at 13:60.[1] (Fed. Cir. Appx073).

Claim 9 of the '286 Patent is a method claim that invented a specialized geospatial information programming process, the GEOCODE process, which creates a specialized type of electronic metadata. The claim states:

> 9. A geospatial information processing method comprising: converting latitude and longitude geographic degree, minutes, and seconds (DMS) coordinate alphanumeric representations or decimal equivalent geographic coordinate alphanumeric representations and latitude alphanumeric representations into individual discrete all-natural number geographic coordinate and measurement representations; and concatenating the individual discrete all natural number geographic coordinate and measurement representations into a single discrete all-natural number geospatial coordinate measurement representation for identification of a geospatial positional location at, below, or above earth's surface allowing user to geospatially reference entities or objects based on the identified geospatial positional location and point identification.

'286 Patent at 15:5. (Fed. Cir. Appx074).

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[1] Unless otherwise noted, citations to the column and line numbers (e.g., X:Y) in this petition refer to the column and line numbers of the '286 Patent. (Fed. Cir. Appx016-074).

B. Industry Standards

1. Society of Motion Picture and Television Engineers ("SMPTE") Standards

SMPTE is an international standards development organization ("SDO") that establishes technical standards for the movie and television industries through the publication of recommended practices, standards, and engineering guidelines.

On July 16, 2010, Petitioner filed a voluntary Standard Essential Patent ("SEP") licensing declaration to license Claim 9 of the '286 Patent for implementation and use in the SMPTE ST 300M:2011 Unique Material Identifier Standard ("SMPTE 300M Standard"). Petitioner's voluntary patent licensing declaration agreed to license Petitioner's patented technology under Reasonable and Non-Discriminatory ("RAND") licensing provisions for technology implemented in the SMPTE 300M Standard. Compl. Exhibit E at 1, *Burnett v. Panasonic Corp. of N. Am.* 2017 U.S. Dist. LEXIS 203808 (No. 8:17-cv-00236-PX).

On November 5, 2013, Petitioner submitted an updated patent licensing declaration to cover additional SMPTE standards, including the SMPTE 337M-2004 Material Exchange Format ("MXF") File Format Specification Standard ("SMPTE 337M Standard"). The SMPTE 337M Standard defines the data structure of the MXF file format for network transport and storage of audiovisual material. One of the specifications of the SMPTE 337M Standard includes a UMID metadata identifier. Compl. Exhibit F at 1, *Burnett v. Panasonic*

Corp. of N. Am. 2017 U.S. Dist. LEXIS 203808 (No. 8:17-cv-00236-PX).

2. Internet Engineering Task Force ("IETF") Standard

IETF is an international SDO that oversees the Internet architecture and develops Internet standard specifications which are protocols that make the Internet operable. IETF RFC 6225 Dynamic Host Configuration Protocol ("DHCP") Options for Coordinate-Based Location Configuration Information ("LCI") Standard ("IETF RFC 6225 DHCP Coordinate LCI Standard") specifies how the DHCP protocol creates an item of geospatial metadata for the LCI that includes latitude, longitude, and altitude, with resolution or uncertainty indicators. IETF RFC 6225 DHCP Coordinate LCI Standard specifies the format of an item of geospatial metadata used to create a geospatial metadata object that encapsulates geospatial point location information assigned to a network client device. This standard also uses the GEOCODE® process to create the geospatial metadata object. IETF Request for Comments: 6225, Dynamic Host Configuration Protocol Options for Coordinate-Based Location Configuration Information, Internet Engineering Task Force (July 2011), IETF https://tools.ietf.org/html/rfc6225.

On March 18, 2014, Petitioner voluntarily submitted a patent licensing declaration to the IETF under RAND licensing provisions for technology implemented in the IETF RFC 6225 DHCP Coordinate LCI

Standard. On March 19, 2014, the IETF published the Geocode RAND licensing declaration. Compl. Exhibit G at 1, *Burnett v. Panasonic Corp. of N. Am.*, Civil Action No. PX 17-00236 (D. Md. 2017).

C. Lower Court Proceedings

On January 26, 2017, Petitioner Carl M. Burnett filed a complaint in the United States District Court for the District of Maryland alleging that Respondents infringed on Claim 1 and Claim 9 of the Petitioner's '286 Patent. Compl. at 1, *Burnett v. Panasonic Corp. of N. Am.*, Civil Action No. PX 17-00236 (D. Md. 2017). The complaint asserted specifically that Respondents' products, by employing the SMPTE 330M Standard and the SMPTE 337M Standard, integrate the technology protected by Claim 1 and Claim 9 of the '286 Patent.

On March 9, 2017, the Respondents filed a motion to dismiss the suit pursuant to Federal Rules of Civil Procedure 12(b)(6) asserting the claims are invalid under 35 U.S.C. § 101.

Specifically, Respondents argued that Petitioner's claims fall into the § 101 "abstract ideas" exception, as they are directed solely to the abstract concept of "performing mathematical operations on a computer to arrive at a particular data format." App. 22.

On November 1, 2017, the District Court issued a final order in favor of the Respondents and made the order final. App. 35-36.

On November 29, 2017, the Petitioner appealed the District Court order to the CAFC. *Burnett v. Panasonic Corp.*, No. 2018-1234 (Fed. Cir. 2018).

On July 16, 2018, the CAFC affirmed the lower court ruling. App. 1-14.

REASONS FOR GRANTING THE PETITION

Although this Court has examined 35 U.S.C. § 101 in recent years and addressed the application of § 101 to computer-implemented inventions, the Court has not addressed the issue of electronic data and electromagnetic analog or digital signals as statutory subject matter since *O'Reilly v. Morse*. Additionally, the Court has never examined whether electronic data is a tangible embodiment of electromagnetic analog or digital signals and whether electronic data is tangible or non-tangible property for the purposes of statutory subject matter under 35 U.S.C. § 101. In *Benson, Flook, Diehr*, and *Bilski*, the Court examined the issues of computer software and its patentability under 35 U.S.C. § 101, but not electronic data or electromagnetic analog or digital signals used by telecommunication networks, computer hardware and computer software.

Given the importance of electronic data in virtually every industry globally and its essential use in electronic commerce worldwide, the Court should have a strong interest in examining this issue. The European Patent Office's Board of Appeal ("EPO Board") held in its *Shiller Medical* decision that the European

Patent Convention did not as such exclude the patentability of signals, so that signals can now be claimed in patents. EPO Case Number T 0533/09, 3.4.01, (2014). The EPO Board acknowledged that a signal was neither a product nor a process but could fall under the definition of "physical entity." The European Union also formalized the rules concerning electronic data use with the General Data Protection Rules (EU) 2016/679 (GDPR) in 2016.[2] Additionally, The State of California recently passed the California Consumer Privacy Act of 2018 which legally recognizes the tangibility of electronic data in digital privacy laws. Cal. Civ. Code § 3, Title 1.81.5, Part 4, Division 3 (2018).

These new legal authorities and regimes, both nationally and internationally, now compel the Court to examine whether electronic data is a tangible embodiment of an electromagnetic analog or digital signal and the eligibility of this subject matter under 35 U.S.C. § 101. Additionally, the holdings by the lower courts now nullify the admissibility of electronic data as electronically stored information and tangible evidence for criminal and civil proceedings. These legal issues are ripe and now warrant expeditious review by this Court.

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[2] EU General Data Protection Regulation (GDPR): Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ 2016 L 119/10).

I. THE HOLDINGS BY THE CAFC CONFLICT WITH SCIENTIFIC FACTS THAT ELECTRONIC DATA IS THE TANGIBLE EMBODIMENT OF AN ELECTROMAGNETIC ANALOG OR DIGITAL SIGNAL.

The lower courts in *Burnett*, *Digitech*, and *Nuijten* have held that electronic data embedded as an embodiment in electromagnetic analog or digital signals is a non-tangible property. This was first held by the CAFC in *Nuijten*. In *Nuijten*, the CAFC stated that "[a]ll signals within the scope of the claim do not themselves comprise some tangible article or commodity." *In re Nuijten*, 500 F.3d at 1356-57. However, this holding was predicated on a misleading statement in the Appellee's brief that incorrectly stated a scientific fact: "[t]hus, contrary to IPO's suggestion, an electrical signal, like optical signals and radio signals, is simply energy, i.e., an electric field, and does not qualify as patentable subject matter for the same reasons that other energy signals do not." Appellee Br. at 18, *In re Nuijten*, 500 F.3d at 1346.

The misleading statement is derived from information in the textbook Physics with Modern Physics for Scientists and Engineers which reads as:

> "[i]n an electromagnetic wave, the corresponding ***physical quantities*** are the electric and magnetic fields—which are vector quantities." Wolfson & Pasachoff, *Physics with Modern Physics for Scientists and Engineers*, 889, 3rd ed., Addison Wesley, (1999); and, "***[p]hysically***, the existence of the waves is possible

> because a change in either kind of field—electric or magnetic—induces the other kind of field, giving rise to a self-perpetrating ***electromagnetic field structure***."

Id. at 893 (emphasis added).

Additionally, according to Dr. William Stallings, a preeminent scholar, scientist, and expert in the field of data communications, "[s]ignals are electric or electromagnetic encoding of data." William Stallings, Data and Computer Communications, 29, 1st ed., MacMillan Publishing Company (1985).

Both authorities contradict the legal theory espoused by the Appellees.

The CAFC also adopted new legal terminology from the Appellees' brief. In its opinion, the CAFC stated; "The claims on appeal cover ***transitory electrical and electromagnetic signals*** propagating through some medium, such as wires, air, or a vacuum." *In re Nuijten*, 500 F.3d at 1352.

The use of the term ***"transitory electrical and electromagnetic signals"*** is very problematic terminology because it implies that a signal is transitory or non-transitory and can change condition or state. The issue of a transitory condition of a signal was based on a discussion in the Appellees' brief as to whether Claim 14 of the '286 Patent should be in the "composition of matter" category of patentable subject matter. The final position of the Appellees was that: "The Court properly refused to read in such a requirement [that a composition of matter be stable] into the definition of

'composition of matter.'" Appellee Br. at 22, *In re Nuijten*, 500 F.3d at 1346. Regardless of this statement, the CAFC found that signals do not fall into the "composition of matter" category. The Appellees discussed in their brief whether signals are patentable subject matter and determined that this matter was best left up to Congress to define a category of patent eligibility. Appellee Br. at 22-23. The CAFC however, held that signals could not be placed into a patentable subject matter category, and therefore are not patentable under 35 U.S.C. § 101. *In re Nuijten*, 500 F.3d at 1357.

This incorrect legal theory was then used by the CAFC as justification to affirm the Board of Patent Appeals and Interferences holding. *In re Nuijten*, 500 F.3d at 1357. The Federal Circuit in adopting the misleading legal term, ***"transitory electrical and electromagnetic signals"*** failed to challenge the Appellees' incorrect legal theory as a scientific fact when the Court held:

> "Nuijten and the USPTO agree that the claims include physical but ***transitory forms of signal transmission*** such as radio broadcasts, electrical signals through a wire, and light pulses through a fiber-optic cable, so long as those transmissions convey information encoded in the manner disclosed and claimed by *Nuijten*. We hold that such transitory embodiments are not directed to statutory subject matter."

In re Nuijten, 500 F.3d at 1353 (emphasis added).

First, a signal cannot be "transitory" or non-transitory but is either continuous or discrete depending on the type of the signal and its state. The scientific facts concerning electrical and electromagnetic signals depends on the type of signal created. A signal exists in a given "state" just like particles. "The terms ***analog*** and ***digital*** [signals] correspond, roughly, to ***continuous*** and ***discrete*** respectively." Stallings, *supra* at 29 (emphasis added).

Second, the CAFC agreed the signal is ***physical***. *In re Nuijten*, 500 F.3d at 1353. Recognizing that a signal is "physical" makes it tangible. However, the CAFC then used a misleading legal theory that a signal is a ***"transitory electrical and electromagnetic signals"*** as justification to hold that "such transitory embodiments are not directed to statutory subject matter." *Id.* (emphasis added).

What the CAFC failed to acknowledge is that a signal can never be transitory or non-transitory. A signal either exists or does not exist. This is an important issue because the Court has not defined what a non-transitory signal is. Furthermore, the issue of existence is paramount in determining if electronic data, which is encoded in electromagnetic analog or digital signals, is real, and therefore exists.

The term "non-transitory" was finally defined by the USPTO on August 25, 2009 in a U.S. Patent and Trademark Office ("USPTO") training manual concerning patentability of software programs. In the guidance from the USPTO, it stated:

> "[t]he broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals per se in view of the ordinary and customary meaning of computer readable media, particularly when the specification is silent."

Subject Matter Eligibility of Computer-Readable Media, 1351 Off. Gaz. Pat. Office 212 (Feb. 23, 2010).

This definition, however, did not define what a non-transitory signal is. The guidance defined something completely different—a computer readable medium. The problem with this definition is that the legal theory used to define ***"transitory electrical and electromagnetic signals"*** now leaped to a different type of entity, a computer readable medium, to define "non-transitory." The new definition of "non-transitory" is in no way the same type of entity (a signal), that is legally defined as transitory, abstract, and non-tangible in *Nuijten*.

This placed "computer readable medium" in a statutory category under 35 U.S.C. § 101. However, this changed again in 2012 based on the holding by the USPTO Patent Trial and Appeal Board ("PTAB") in the *Ex parte Mewherter* appeal. *Ex parte Mewherter*, 107 USPQ2d 1857 (PTAB 2013). In this appeal, International Business Machine Corporation ("IBM"), the assignee of the patent, appealed the ineligibility decision

of Claim 16 in patent application 10/685.192 by the patent examiner. Claim 16 is:

> "16. A ***machine readable storage medium*** having stored thereon a computer program for converting a slide show presentation for use within a non-presentation application, the computer program comprising a routine set of instructions for causing the machine to perform the steps of:
>
> extracting a slide title for a first slide in a slide show presentation produced by a slide show presentation application executing in memory of a computer;
>
> converting said first slide with said slide title into a raster image;
>
> disposing both said slide title and said raster image of said slide in a markup language document; and,
>
> repeating said extracting, converting and disposing steps for a selected group of other slides in the slide show presentation."

Id. at 3 (emphasis added).

The PTAB, in rendering its decision, held the following:

> "Given the significant amount of available guidance and evidence supra, we conclude that those of ordinary skill in the art would understand the claim term ***"machine-readable storage medium"*** would include signals per se. Further, where, as here, the broadest

> reasonable interpretations of all the claims each covers a signal per se, the claims must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter."

Ex parte Mewherter, 107 USPQ2d at 1859-62 (emphasis added), *see also In re Nuijten*, 500 F.3d at 1356-57.

This decision held that electronic data written to a ***"machine-readable storage medium"*** was therefore abstract, transitory, and non-tangible based on the holding in *Nuijten* which stated that "[a]ll signals within the scope of the claim do not themselves comprise some tangible article or commodity." *In re Nuijten*, 500 F.3d at 1356-57.

The inaccurate and misleading legal theory of *Nuijten* was then used by the CAFC in *Digitech* when it held that "[d]ata in its ethereal, non-physical form is simply information that does not fall under any of the categories of patent-eligible subject matter under § 101." *Digitech Image Tech's*, 758 F.3d at 1350. "The claims are instead directed to information in its non-tangible form." *Id.* at 1349. Again, the CAFC incorrectly held that data is ethereal and non-tangible. Electronic data, which is encoded in an electromagnetic analog or digital signal and on a medium, can never be ethereal and non-tangible. If what is described is ethereal and non-tangible, then it is an ***idea, thought, or imaginings*** and therefore abstract and cannot be termed "data."

Finally, in *Burnett* the CAFC, citing *Digitech*, expanded the holding that "a process that starts with

data applies and algorithm and ends with a new form of data is directed to an abstract idea." App. 9.

To examine the many issues about these holdings by the CAFC and the PTAB, a simplified GPS electronic data illustration of the process is depicted below to identify the CAFC holdings by case law.

Step 1—Starting with a GPS receiver, the receiver receives GPS electronic data encoded in a radio wave signal. This signal is held to be ineligible, abstract, transitory, and non-tangible in *Nuijten*. *In re Nuijten*, 500 F.3d at 1356-57.

Step 2—The radio wave signal is transmitted to a computing device to decode the radio wave electronic data to create the geographic coordinates as binary electronic data of the location of the GPS receiver. This signal is also held to be ineligible, abstract, transitory, and non-tangible in *Nuijten* and *Digitech*. *In re Nuijten*, 500 F.3d at 1356-57 and *Digitech Image Tech's*, 758 F.3d at 1349-50.

Step 3—The computing device receives the signal and coverts the electronic data encoded in a radio wave signal into binary electronic geographic coordinate data. It uses a computer process to decode the signals and places the binary electronic geographic coordinate data into volatile computer memory. The volatile computer memory is a computer readable medium ("CRM"). Because the CRM is considered transitory, data stored in computer memory is held in *Nuijten* to be ineligible, abstract, transitory, and non-tangible. *In re Nuijten*, 500 F.3d at 1356-57. Additionally, the computer process

that decodes the electronic data encoded in a radio wave signal into binary electronic geographic coordinate data using the volatile computer memory is also held to be a mathematical algorithm. This process has been held to be ineligible, abstract, and non-tangible in *Burnett*. App. 9.

Step 4—The binary electronic geographic coordinate data in volatile computer memory is then transmitted as a binary signal to a non-volatile computer storage memory. The binary signal is stored as binary electronic geographic coordinate data in non-volatile storage memory. This binary electronic geographic coordinate data as a signal and as non-volatile computer storage memory is held in *Nuijten and Digitech* to be ineligible, abstract, transitory, and non-tangible. *In re Nuijten*, 500 F.3d at 1356-57, and *Digitech Image Tech's*, 758 F.3d at 1349-50.

Step 5—The binary electronic geographic coordinate data in storage memory is then transmitted to the TCP/IP network adapter. To convert the binary electronic geographic coordinate data for transmission across a TCP/IP network it must conform to the IETF RFC 4119 A Presence-based GEOPRIV Location Object Format ("IETF Geolocation Protocol"). IETF Request for Comments: 4119: A Presence-based GEOPRIV Location Object Format, Internet Engineering Task Force (July 2011), https://tools.ietf.org/html/rfc4119.

In order to convert the binary electronic geographic coordinate data into the IETF Geolocation protocol format the binary electronic geographic coordinate data

is converted to the new GEOCODE metadata format that complies with the IETF RFC 6225 DHCP Coordinate LCI Standard format by the GEOCODE computerized data transformation process. IETF Request for Comments: 6225: Dynamic Host Configuration Protocol Options for Coordinate-Based Location Configuration Information, Internet Engineering Task Force (July 2011), https://tools.ietf.org/html/rfc6225.

The binary electronic data in signal format along with the converted binary electronic geographic coordinate data in GEOCODE metadata format is held in *Nuijten and Digitech* to be ineligible, abstract, transitory, and non-tangible. *In re Nuijten*, 500 F.3d at 1356-57 and *Digitech Image Tech's*, 758 F.3d at 1349-50. Additionally, because the GEOCODE computerized data transformation process is held to be a mathematical process, even though no arithmetic operations are used, the process has been held in *Burnett* to be a mathematical algorithm. The process is also held to be ineligible, abstract, and non-tangible. App. 9.

Step 6—The binary electronic GEOCODE metadata is then encoded into a digital signal and transmitted by wire or wireless transmission over a TCP/IP network to a networked attached printer. The digital signal is held to be ineligible, abstract, transitory, and non-tangible in *Nuijten* and *Digitech*. *In re Nuijten*, 500 F.3d at 1356-57 and *Digitech Image Tech's*, 758 F.3d at 1349-50.

Step 7—When the digitally encoded signal arrives at the printer the signal is decoded by computerized data transformation process and the GEOCODE metadata is placed in volatile computer readable memory. The electronic data in volatile computer readable memory is held in *Nuijten* and *Digitech* to be ineligible, abstract, transitory, and non-tangible. *Id.*

Step 8—The electronic data is converted using a computerized data transformation process into a new electronic data format for the printer to print the GEOCODE electronic data as character symbols. The computerized data transformation process and the GEOCODE electronic data are also held in *Nuijten, Digitech*, and *Burnett* to be ineligible, abstract, transitory, not real, and non-tangible. *In re Nuijten*, 500 F.3d at 1356-57 and *Digitech Image Tech's*, 758 F.3d at 1349-50 and App. 9.

Based on these illustrated steps 1-8, the printed GEOCODE electronic metadata from "electronically stored information" is held in *Nuijten, Digitech*, and *Burnett* to be ineligible, abstract, transitory, and non-tangible. *Id.* In essence the electronic metadata and electronically stored information is not real.

Additionally, this illustration could also be used for other forms of electronic data to include visual, audio, and any other electronic data embedded in an electromagnetic analog or digital signal.

The above illustration demonstrates that the CAFC holdings regarding electronic data encoded as a tangible embodiment of an electromagnetic analog or

digital signal and converted into electronically stored information and transformed into "a printout—or other output readable by sight," are therefore abstract, not real, non-tangible and ineligible subject matter under 35 U.S.C. § 101 based on the holdings in *Nuijten, Digitech*, and *Burnett. Id.*

The entire legal theory of a transitory signal transforming into a non-transitory CRM is an incorrect interpretation of scientific facts regarding data encoded in electromagnetic analog or digital signals. Additionally, the eligibility of non-transitory CRM, both volatile memory and non-volatile storage memory was held to be patent ineligible subject matter under 35 U.S.C. § 101 by the USPTO PTAB based on *Nuijten*. *Ex parte Mewherter*, 107 USPQ2d at 1859-62, *see also In re Nuijten*, 500 F.3d at 1356-57. The CAFC further expanded this holding by holding in *Burnett* that even a computerized process to convert electronic data encoded in electromagnetic analog or digital signals to a new form of data is mathematical and therefore, abstract, not real, non-tangible and ineligible subject matter under 35 U.S.C. § 101. App. 9.

Burnett, *Digitech*, and *Nuijten* are the cited case law by the CAFC regarding the issue of subject matter eligibility of electronic data encoded as an embodiment of an electromagnetic analog or digital signal. The last case reviewed by this Court concerning electronic data embedded in electromagnetic analog or digital signals is *O'Reilly* in 1853. The CAFC did not base its holdings on scientific facts and as a result incorrectly accepted a misleading legal theory regarding transitory and

non-transitory patent-eligible subject matter. This Court now should revisit the holdings concerning electronic data encoded as an embodiment of an electromagnetic analog or digital signal to determine if this subject matter is patentable under 35 U.S.C. § 101.

II. IMMEDIATE INTERVENTION IS REQUIRED BY THIS COURT TO PREVENT THE CAFC HOLDINGS FROM RENDERING INADMISSIBILE ELECTRONICALLY STORED INFORMATION AS EVIDENCE IN CIVIL AND CRIMINAL PROCEEDINGS.

The immediate effect of these holdings by the CAFC in *Burnett*, *Digitech*, and *Nuijten* has been the ineligibility of electronic data encoded as an embodiment of an electromagnetic analog or digital signal and electronically stored information, under 35 U.S.C. § 101. Now, through these CAFC holdings, intellectual property law has made any type of electronic data and electronically stored information non-tangible property and inadmissible evidence because the electronic data and electronically stored information is abstract and non-tangible.

The Federal Rules of Evidence specifically defines:

> "(d) An "original" of a writing or recording means the writing or recording itself or any counterpart intended to have the same effect by the person who executed or issued it. **For electronically stored information, "original" means any printout—or other output readable by sight—if it accurately**

> **reflects the information.** An "original" of a photograph includes the negative or a print from it." (emphasis added).

Fed. Rules of Evid. 1001(d).

Electronically stored information from the "original" source electronic data cannot **accurately reflect the information** because the information is **"abstract, non-tangible."** *In re Nuijten*, 500 F.3d at 1357 (emphasis added). The original source of the electronically stored information is electronic data encoded in a signal, which has been held to be a non-tangible embodiment of an electromagnetic analog or digital signal. *Id.* If the original source electronic data is abstract and non-tangible then the electronically stored information is also abstract and non-tangible. This renders electronically stored information inadmissible as tangible evidence in any court of law.

Furthermore, the holding by the CAFC in this case further expands the ineligibility to include any new forms of electronic data that may be created by a computer process. The CAFC held **"a process that starts with data applies an algorithm and ends with a new form of data is directed to an abstract idea."** App. 9. This holding states a computer process is a "mathematical algorithm," which creates a new form of electronic data. Therefore, because the CAFC additionally held that a computerized process or "computer algorithm" that creates a new form of electronic data, is abstract, then the byproduct of any ineligible computer process is also abstract and non-tangible.

A review of appellate cases in the other circuits that adjudicate criminal and civil law from 2000 to 2018 identified over 134 appeals concerning the admissibility of GPS or GEOCODE electronic data as evidence in a criminal or civil proceeding. These appeals concerned the admissibility of GPS or GEOCODE data provided by GPS trackers, GPS devices, geographic location data, and Cell Site Location Information ("CSLI"). The criminal appeals primarily challenged the admissibility of the GPS or GEOCODE electronic data as evidence based on grounds that the electronically stored information was inadmissible because it was obtained during warrantless searches, not because electronically stored information is inadmissible as tangible evidence.

GPS trackers and other GPS devices that provide geospatial information over the Internet do so by using IETF Geolocation Protocol. The IETF Geolocation Protocol specifies that the metadata container for transport of geospatial data use the IETF RFC 6225 DHCP Coordinate LCI Standard to format the geospatial data for data communications. Claim 9 of the '286 Patent, the GEOCODE process claim, and data format, was asserted as a Standard Essential Patent ("SEP") claim to create this new form of metadata for more efficient data communications.

Appeals in the other circuits reveal that courts involved in criminal or civil litigation allow the admissibility of GPS or GEOCODE electronically stored information. This electronically stored information is

from electronic data and presented as admissible evidence.

This issue now presents this Court with an immediate conflict between the CAFC holdings and electronically stored information admitted as evidence in all the other appeals courts of the federal circuits. The holding by the CAFC renders inadmissible all electronically stored information from electronic data, specifically GPS and GEOCODE electronic data, in all federal and state courts that follow Rule 1001(d) of the Federal Rules of Evidence.

Additionally, the CAFC holdings render inadmissible any electronic data that is the result of computer process. Accordingly, printed output of electronically stored information from electronic data is also held to be abstract, non-tangible and inadmissible as tangible evidence.

These holdings impact more than just intellectual property, criminal, and civil litigation. These holdings expand the applicability of electronic data as non-tangible property in many other areas of law. On July 2, 2018, Deputy Attorney General, Rod J. Rosenstein issued a report by the Attorney General's Cyber Digital Task Force which identified thirteen (13) different statutes used to persecute cybercrimes. Dept. of Just. Rept. of the Att'y General's Cyber Digital Task Force (July 2, 2018).

These statutes include: Fraud by Wire, Radio, or Television Act, 18 U.S.C. § 1343 (1952); Interception and Disclosure of Wire, Oral, or Electronic Communications

Prohibited Act, 18 U.S.C. § 2511 (1968); Computer Fraud and Abuse Act, 18 U.S.C. § 1030 (1984); Accessing a Computer and Obtaining Information Act, 18 U.S.C. § 1030(a)(2) (1984); Damaging a Computer Act, 18 U.S.C. § 1030(a)(5) (1984); Accessing a Computer to Defraud and Obtain Value Act, 18 U.S.C. § 1030(a)(4) (1984); Threatening to Damage a Computer, 18 U.S.C. § 1030(a)(7) (1984); Electronic Communications Privacy Act of 1986, 18 U.S.C. §§ 2510-22 (1986); Fraud and Related Activity in Connection with Access Device, 18 U.S.C. § 1029 (1994); Economic Espionage and Theft of Trade Secrets, 18 U.S.C. §§ 1831-32 (1996); The Identify Theft and Assumption Deterrence Act, 18 U.S.C. § 1028 (1998); Controlling the Assault of Non-Solicited Pornography and Marketing Act, 18 U.S.C. § 1037 (2003); Clarifying Lawful Overseas Use of Data ("CLOUD") Act, 18 U.S.C. § 2523 (2018). All of these statutes rely exclusively on the use of electronic data and electronically stored information as tangible evidence to prosecute cybercrime activity and convict cybercriminals.

Furthermore, these holdings by the CAFC effectively render inadmissible electronically stored information from electronic data used in digital piracy cases. Digital piracy laws which include: The Electronic Communications Privacy Act of 1986, 18 U.S.C. § 2510-22 (1986); No Electronic Theft Act ("NET Act"), 17 U.S.C. §§ 101, 506-07 (1997); 18 U.S.C. §§ 2319-20 (1997); 28 U.S.C. § 1498 (1997) and The Digital Millennium Copyright Act ("DMCA"), 17 U.S.C. §§ 512, 1201-05, 1301-32 (1998); 28 U.S.C. § 4001 (1998). These laws

allow for the use of electronic data and electronically stored information in litigating theft of digital audio and digital video media.

The holdings by the CAFC concerning the non-tangibility of electronic data may now be used as a defense to render inadmissible electronically stored information from electronic data. Defense attorneys who fail to use this defense may also face professional malpractice charges in courts that adjudicate criminal and civil law.

The questions now before this Court are complicated but are ripe for review.

1. Whether electronic data is the tangible embodiment of an electromagnetic analog or digital signal and when changed to a new and useful form of electronic data remains a tangible embodiment of an electromagnetic analog or digital signal and is therefore directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court?

2. Whether a process that creates a new and useful tangible embodiment of electronic data is therefore directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court?

This Court must now decide if electronic data is tangible property and patent-eligible subject matter under 35 U.S.C. § 101, and if the process to produce electronic data is patent-eligible subject matter under

35 U.S.C. § 101. If the Court decides that the subject matter is patent-eligible under 35 U.S.C. § 101 and therefore tangible property that can be used as tangible evidence in criminal and civil proceeding, then the Court must overturn the holdings by the CAFC in *Burnett*, *Digitech*, and *Nuijten*.

CONCLUSION

For the foregoing reasons, this Court should grant this Petition for Writ of Certiorari.

Respectfully submitted,

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