No. 23-____

IN THE

Supreme Court of the United States

ALFONSO CIOFFI, MELANIE ROZMAN, MEGAN ROZMAN
AND MORGAN ROZMAN,

Petitioners,

v.

GOOGLE LLC,

Respondent.

On Petition for a Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

1. Should the *Antares Pharma, Inc. v. Medac Pharma Inc.*, 771 F.3d 1354, 1358 (Fed. Cir. 2014) "exact embodiment" standard for "original patent" disclosure be overruled as inconsistent with 35 U.S.C. § 251 and this Court's decision in *U.S. Industrial Chemicals, Inc. v. Carbide & Carbon Chemicals, Corp.*, 315 U.S. 668 (1942)?

PARTIES TO THE PROCEEDING

Petitioners in this Court, plaintiffs-appellees below, are Alfonso Cioffi, Melanie Rozman, Megan Rozman and Morgan Rozman. Respondent in this Court, defendant-appellant below, is Google LLC.

RELATED CASES

- *Cioffi, et al. v. Google Inc.*, Case No. 2:13–CV–103–JRG–RSP, U.S. District Court for the Eastern District of Texas. Judgment entered Jan. 19, 2022.
- *Cioffi, et al. v. Google, Inc.*, Case No. 15-1194, U.S. Court of Appeals for the Federal Circuit. Judgment entered Nov. 17, 2015.
- *Cioffi, et al. v. Google LLC*, Case No. 18-1049, U.S. Court of Appeals for the Federal Circuit. Judgment entered April 18, 2023.

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PETITION FOR WRIT OF CERTIORARI

For eighty-one years, *U.S. Industrial Chemical, Inc. v. Carbide & Carbon Chemicals Corp.* has defined the standard for obtaining broadening reissue patent claims. 315 U.S. 668 (1942). This Court has established that to receive broadening reissue claims, it is "not enough that an invention might have been claimed in the original patent because it was suggested or indicated in the specification. It must appear from the face of the instrument that what is covered by the reissue was intended to have been covered and secured by the original." *U.S. Indus. Chem., Inc. v. Carbide & Carbon Chemicals, Corp.*, 315 U.S. 668, 676 (1942). In 2014, the Federal Circuit panel decision in *Antares Pharma, Inc. v. Medac Pharma Inc.* ratcheted up this Court's standard for broadening reissue, holding that "the specification must clearly and unequivocally disclose the newly claimed invention as a separate invention." 771 F.3d 1354, 1362 (Fed. Cir. 2014). In interpreting its own standard, the Federal Circuit recently clarified that *Antares* requires that "[t]here must be an 'express disclosure' of the 'exact embodiment claimed on reissue.'" *Cioffi, et al. v. Google LLC*, Case No. 2018-1049, 2023 WL 2981491 at *4-5 (Fed. Cir. Apr. 18, 2023)(quoting *Antares*, 771 F.3d at 1363); App. 11a. This standard far exceeds the standard set in *U.S. Industrial Chemical*, conflicts with decades of Federal Circuit precedent predating *Antares*, and finds no basis in the reissue statute, 35 U.S.C. § 251.

The negative consequences of the Federal Circuit's heightened new test, and departure from *U.S.*

Industrial Chemical, are significant: First, the Federal Circuit's heightened standard arbitrarily limits patentees' right to seek reissue, a policy both expressly authorized by Congress in the reissue statute, 35 U.S.C. § 251, and recognized by this Court for almost 150 years. Second, this standard makes it virtually impossible to obtain narrower claims in reissue by narrowing from a disclosed broad embodiment (a genus), to a narrower sub-embodiment (a species) – a point made plain by the instant case where the Inventors narrowed from a broader disclosed embodiment to a narrower species. The Federal Circuit's heightened standard erects another barrier for patentees to obtain patent rights on inventions that would otherwise be deemed novel and patentable. This is the wrong direction for the U.S. patent system, which has been under siege for decades by big technology companies, such as Respondent, to weaken patents and the patent system for their own benefit.[1]

This petition concerns protecting the important and more than 150 year-old history of permitting inventors to correct their issued patent claims through the process of "reissue." This Court recognized that to

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[1] The consensus now is that "Big Tech" has gone too far in weakening the U.S. patent system. *See, e.g.*, Harvard Business Review (https://hbr.org/2022/08/big-tech-has-a-patent-violation-problem) Newsweek (https://www.newsweek.com/big-tech-abusing-us-patent-system-time-congress-step-opinion-1819256); The Hill (https://thehill.com/opinion/technology/4157340-big-techs-patent-troll-attacks-are-a-smokescreen-dont-let-them-fool-you/); The Heritage Foundation (https://www.heritage.org/technology/report/big-techs-abuse-patent-owners-the-ptab-must-end) RealClear Policy (https://www.realclearpolicy.com/articles/2023/04/05/big_tech_has_eviscerated_americas_patent_system_891935.html).

fully effectuate our Country's patent system, inventors must have a mechanism to correct errors in their patents. *Grant v. Raymond*, 31 U.S. 218, 241-43 (1832); *O'Reilly v. Morse*, 56 U.S. 62 (1853)(stating "[t]he right to surrender the old patent, and receive another in its place, was given for the purpose of enabling the patentee to give a more perfect description of his invention, when any mistake or oversight was committed in his first."). In passing on the first reissue statute, the Court specifically recognized that "[t]he object of the patent law is to secure to inventors a monopoly of what they have actually invented . . . and it ought not to be defeated by a too strict and technical adherence to the letter of the statute, or by the application of artificial rules of interpretation." *Topliff v. Topliff*, 145 U.S. 156, 171 (1892).

The Court last spoke on the standard for broadening reissue patent claims in *U.S. Industrial Chemical* where the Court addressed the situation where reissue claims eliminated a step that was described as essential in the original patent specification. The Court stated that:

> The question is whether, in the light of the disclosures contained in the two patents, they are for the same invention. This court has said that they are if the reissue fully describes and claims the very invention intended to be secured by the original patent; if the reissue describes and claims only those things which were embraced in the invention intended to have been secured by the original patent; if the broader claims in the reissue are not merely suggested or indicated in the original

specification but constitute parts or portions of the invention which were intended or sought to be covered or secured by the original patent. The required intention does not appear if the additional matter covered by the claims of the reissue is not disclosed in the original patent. . . . And it is not enough that an invention might have been claimed in the original patent because it was suggested or indicated in the specification. It must appear from the face of the instrument that what is covered by the reissue was intended to have been covered and secured by the original.

U.S. Indus. Chem., Inc., 315 U.S. at 675-76.

In 1954, with the passage of the Patent Act, the patentees' right to seek reissue was codified in 35 U.S.C. § 251. The statute provides in relevant part:

Whenever any patent is, through error . . . , deemed wholly or partly inoperative or invalid, by reasons of a defective specification or drawing, or by reasons of the patentee claiming more or less than he had a right to claim in the patent, the Director shall . . . reissue the patent for the invention disclosed in the original patent . . . .

35 U.S.C. § 251.

While Section 251 introduced some small language changes over the prior reissue statute, the Federal Circuit, its predecessor court, and the circuit courts have all treated Section 251 as maintaining this Court's precedent under *U.S. Industrial Chemical* and

prior caselaw. *Antares Pharma, Inc.*, 771 F.3d at 1360. That precedent recognized the important underlying policies that favor a liberal reissue process, and the need to not arbitrarily foreclose patentees' ability to correct the scope of their inventions. *See Topliff v. Topliff*, 145 U.S. 156, 171 (1892). But the Court's precedent has also had to balance the important remedial nature of reissue with its potential for abuse, in particular with reissue claims seeking broader scope. *Miller v. Bridgeport Brass Co.*, 104 U.S. 350, 355, 26 L. Ed. 783 (1881) (noting the potential abuse by those seeking broadening reissue).

The Federal Circuit decision in *Antares*, however, upended this Court's precedent, conflicts with many earlier Federal Circuit panel decisions, and precludes inventors from claiming narrower species of a broader disclosed genus. Prior to *Antares*, every Federal Circuit panel properly treated the disclosure obligation under Section 251 akin to the "written description" requirement under 35 U.S.C. § 112. For example, in *In re Amos*, the Federal Circuit stated that:

> [A] claim submitted in reissue may be rejected under the "original patent" clause if the original specification demonstrates, to one skilled in the art, an absence of disclosure sufficient to indicate that a patentee could have claimed the subject matter. Merely finding that the subject matter was "not originally claimed, not an object of the original patent, and not depicted in the drawing," does not answer the essential inquiry under the "original patent" clause of § 251, which is whether one skilled in the art, reading the specification, would identify the

subject matter of the new claims as invented and disclosed by the patentees.

953 F.2d 613, 618 (Fed. Cir. 1991).

Similarly, a different Federal Circuit panel in *Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.* explained:

The essential inquiry for the 'original patent' requirement is 'whether one skilled in the art, reading the specification, would identify the subject matter of the new claims as invented and disclosed by the patentees.' This inquiry is analogous to the written description requirement under § 112, ¶ 1. Because we have held that the written description requirement is satisfied, we similarly hold that claim 22 complies with § 251.

563 F.3d 1358, 1367 (Fed. Cir. 2009).

However, in 2014 a Federal Circuit panel in *Antares Pharma, Inc. v. Medac Pharma Inc.* created a new standard, holding that in order to satisfy original patent under Section 251, the patentee's original "specification must clearly and unequivocally disclose the newly claimed invention as a separate invention." 771 F.3d at 1362. The Federal Circuit has since clarified the *Antares* standard holding that "the exact embodiment claimed on reissue [be] expressly disclosed in the specification." *Cioffi*, 2023 WL 2981491 at *4-5 (quoting *Antares*, 771 F.3d at 1363); App. 11a. This standard is extremely high, and goes well beyond this Court's standard announced in *U.S. Industrial Chemical*. Moreover, this heightened standard conflicts

with decades of prior Federal Circuit precedent, and finds no support in the reissue statute, Section 251.

The Court's review and reversal of *Antares* and its progeny is needed for at least two (2) reasons. *First*, *Antares*' heightened standard undermines the Court's long established reissue policy meant to strike a balance between allowing inventors to claim what they actually invented, and the potential for abuse if reissue is not for the same invention. The Federal Circuit's arbitrary raising of the bar upsets this balance and denies inventors from obtaining patents on what they actually invented. This further erodes the U.S. patent system as a whole. Second, the Federal Circuit's artificially high standard has the unintended consequence of precluding all reissue that seek to claim a narrower embodiment from a broader disclosed embodiment in the specification (i.e., narrowing to a species of a disclosed genus). Rarely, if ever, do inventors describe all the potential narrower permutations of their invention when a broader disclosure suffices. This practice of "genus claiming" is common. The patentee's specification will broadly describe the "genus" compound or embodiment, but does not attempt to list and describe every "species" that make up the genus. The Federal Circuit's standard under *Antares* forecloses inventors from seeking a narrowing reissue of a more broadly disclosed embodiment because rarely, if ever, will the "exact [narrower] embodiment" be disclosed in the specification when the broader embodiment suffices. *See Application of Grimme*, 274 F.2d 949, 952 (C.C.P.A. 1960) (noting that "[i]t is manifestly impracticable for an applicant who discloses a generic invention to give an example of every species falling within

it, or even to name every such species."). That is exactly what *Antares* requires. Literally, the only way patentees can hope to comply with *Antares* would be to describe in detail in their specification <u>every</u> narrower embodiment included within the broader disclosure. This cannot be the law.

The Federal Circuit's original patent test under *Antares* upsets the balance this Court has maintained for over 150 years, closes the door to what are otherwise novel and patentable inventions, and further erodes the utility of the U.S. patent system.

OPINIONS BELOW

The opinion of the court of appeals is reported at 2023 WL 2981491 (Fed. Cir. 2023) and reproduced at App. 1a-17a. The district court's unpublished decision is available at 2021 WL 3781950 (E.D. Tex. Aug. 26, 2021) and is reproduced at App. 23a-111a. A related opinion of the court of appeals is reported at 632 Fed. App'x 1013 (Fed. Cir. 2015) and is reproduced at App. 112a-135a.

JURISDICTION

The court of appeals rendered its decision on April 18, 2023. It denied rehearing on July 17, 2023. This Court has jurisdiction under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

35 U.S.C. § 251–Reissue of Defective Patents

(a) In General. Whenever any patent is, through error, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by

reason of the patentee claiming more or less than he had a right to claim in the patent, the Director shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.

(b) Multiple Reissued Patents. The Director may issue several reissued patents for distinct and separate parts of the thing patented, upon demand of the applicant, and upon payment of the required fee for a reissue for each of such reissued patents.

(c) Applicability of This Title. The provisions of this title relating to applications for patent shall be applicable to applications for reissue of a patent, except that application for reissue may be made and sworn to by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent or the application for the original patent was filed by the assignee of the entire interest.

(d) Reissue Patent Enlarging Scope of Claims. No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

STATEMENT OF THE CASE

A. The Purpose and Process of Reissue.

After a patent issues, the patent owner can only make changes to the claims through the process of "reissue." The right to reissue is codified in 35 U.S.C.

§ 251 (1952), but it was first recognized and established by the Court more than 150 years ago. *Grant*, 31 U.S. at 241–43 (noting the need for a reissue type process and stating that the "sense of justice and of right which all feel, pleads strongly against depriving the inventor of the compensation thus solemnly promised, because he has committed an inadvertent or innocent mistake."); *see also O'Reilly*, 56 U.S. at 112 (stating that "[t]he right to surrender the old patent, and receive another in its place, was given for the purpose of enabling the patentee to give a more perfect description of his invention, when any mistake or oversight was committed in his first.").

The Court has recognized that the remedial provisions of the reissue statute are grounded in principles of equity and fairness for inventors and the public and thus should apply a liberal construction to the statute favoring reissue. *See Topliff*, 145 U.S. at 171. In considering 35 U.S.C. § 64, the predecessor reissue statute to Section 251, the Court stated:

> To hold that a patent can never be reissued for an enlarged claim would be not only to override the obvious intent of the [reissue] statute, but would operate in many cases with great hardship upon the patentee. The specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy; and, in view of the fact that valuable inventions are often placed in the hands of inexperienced persons to prepare such specifications and claims, it is no matter of surprise that the latter frequently fail to describe with

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requisite certainty the exact invention of the patentee, and err either in claiming that which the patentee had not in fact invented, or in omitting some element which was a valuable or essential part of his actual invention. Under such circumstances, it would be manifestly unjust to deny him the benefit of a reissue to secure to him his actual invention, provided it is evident that there has been a mistake, and he has been guilty of no want of reasonable diligence in discovering it, and no third persons have in the mean time acquired the right to manufacture or sell what he had failed to claim. The object of the patent law is to secure to inventors a monopoly of what they have actually invented or discovered, and it ought not to be defeated by a too strict and technical adherence to the letter of the statute, or by the application of artificial rules of interpretation.

Id. at 171.

When an inventor seeks reissue, the inventor must surrender the original patent and subject the reissue application to same examination process as a new application. *See* 35 U.S.C. § 251; *see also* 1440 Examination of Reissue Application (R-08.2017), MPEP § 1440. The reissue process generally allows inventors to fix four (4) "errors" with their patents: claiming too broadly, claiming too narrowly, defects in the specification and defects in the drawings. *See, e.g.*, *In re Amos*, 953 F.2d at 616 (noting that "the basis for seeking narrowing reissue has generally been the belated discovery of partially-invalidating prior art. In contrast, a broadened reissue has generally been founded

upon post-issuance discovery of attorney error in understanding the scope of the invention"). A reissue seeking a broader scope must be filed within two-years of issuance of the original patent. 35 U.S.C. § 251(d).

Under Section 251, the reissue claims must be for "the invention disclosed in the original patent." 35 U.S.C. § 251(a). Prior to Section 251, the Court referred to this requirement as the "same invention" test. *See*, *e.g.*, *Battin v. Taggert,* 58 U.S. 74, 85 (1854) (stating that reissued patents must be "for the same invention as the original patent").

B. In 2004 The Inventors Received A Patent For An Innovative New Method To Protect Computers From Malware.

Mr. Rozman and Mr. Cioffi are the named inventors of the patents-in-suit.[2] App. 24a-25a. Former engineers at Bell Laboratories and General Electric respectively, they were neighbors in Murphy, Texas, and best friends. Petitioner's Responsive Brief (Case No. Case: 18-1049)(AECF 27) ("Pet. RB") at 16. Both inventors were experts in the field of power electronics and systems architecture. *Ibid.*

The invention at issue emerged from Mr. Cioffi's and Mr. Rozman's personal frustration as computer users. Pet. RB at 17. In 2004, Mr. Cioffi's family computer crashed several times after a user accidentally downloaded malicious software ("malware") from the

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[2] "Inventors" refers to Mr. Rozman and Mr. Cioffi. "Petitioners" refers to Mr. Cioffi and Mr. Rozman's three daughters, Melanie Rozman, Morgan Rozman and Megan Rozman who succeeded in their father's interest in the patents when he passed in 2012.

Internet. *Ibid*. Mr. Cioffi expressed his frustration to Mr. Rozman, leading the two friends to discuss the current vulnerability of computer systems to Internet-based malware. *Ibid.*

In 2004, the state of the art in computer protection was focused on scanning for known malware and preventing it from gaining access to the user's computer. Pet. RB at 19. This method provided inadequate protection against unknown malware. *Ibid.*; App. 32a. Mr. Cioffi and Mr. Rozman developed a new method to protect Internet users from malware that could slip past scanners and firewalls. Their method provides a means to sequester untrusted software downloaded from the Internet from the computer's other programs and files. App. 2a-5a, 32a, 35a-42a, 113a. Specifically, their invention teaches an architecture using a logical process with its own memory space to execute code downloaded from the Internet that might contain malware. App. 35a-42a. The downloaded code could then execute in its own restricted process without harming the rest of the computer. *Ibid.*

In August 2004, Mr. Cioffi and Mr. Rozman filed a patent application entitled "System and Method for Protecting a Computer System From Malicious Software." That application became U.S. Patent No. 7,484,247 (the "'247 patent"), which issued on January 27, 2009. App. 113a.

C. The Reissue Patents.

Upon issuance of the '247 patent, Mr. Cioffi and Mr. Rozman studied their claims and determined that they should have claimed additional embodiments for their invention. App. 72a. As a result, Mr. Cioffi and Mr. Rozman surrendered the '247 patent and sought

to have it reissued pursuant to 35 U.S.C. § 251. App. 2a, 113a-114a. The Patent and Trademark Office ("PTO") granted four (4) reissue patents, including the three at issue here: RE43,500, RE43,528, and RE 43,529. *Ibid*.

The reissue patents have the same abstract and share substantially similar specifications. App. 114a. The patents all describe the invention of a method to isolate suspected malware from other parts of a computer by running distinct web browser processes that are separated either logically (by applying software techniques) or physically (by using separate processors). App. 35a-42a. As taught by the patents, when potential malware is downloaded from the Internet, the suspicious program executes only within the second web browser process, thus ensuring that it cannot damage other aspects of the computer systems and memory space that are accessible only by the first browser process. *Ibid.*

The original claims of the '247 patent all claimed the use of two "logical processes." App. 35a. However, the Inventors narrowed their reissue claims to two "browser processes." *Ibid*. The examiner initially rejected the reissue claims in light of U.S. Patent Application No. 2002/0002673 (known as "Narin" after the inventor). App. 115a. The examiner argued that Narin disclosed a method of operating a computer system using two "browser processes": one browser process that was "open" and capable of accessing the Internet, and another browser process that was "closed." *Ibid*. The inventors argued that Narin is distinguishable because Narin did not allow the closed, secure process (*i.e.*, the "first browser process") to access the Internet. App. 115a-116a.

The examiner rejected this argument, reasoning that the inventors' applications did not require the first browser process to be a web browser process. App. 116a. The examiner explained that, based on the specification, the Inventor's first browser process could be a closed video game or word processor, which would not distinguish Narin. *Ibid.* In response, the inventors amended their applications to replace the term "browser process" with "web browser process" to make clear both processes could access the Internet App. 117a.

D. The District Court Proceeding And Prior Appeal.

In 2008, Google launched the accused product, its Google Chrome web browser. By 2008, technology for web browsers was fairly mature, and Google took advantage of existing security systems. Google Chrome makes use of the malware isolation process taught by the patents-in-suit. The browser is separated into multiple processes, including a "browser kernel" and "rendering engines."

The Petitioners brought suit against Google in 2013, alleging that Google Chrome infringed the asserted reissue claims. App. 25a. The District Court initially construed the term "web browser process" as requiring a direct connection to the network, which resulted in Petitioners stipulating to a judgment of non-infringement. App. 118a-120a. The Federal Circuit reversed, concluding that the term did not have the direct access capability requirement. *See Cioffi v. Google, Inc.*, 632 Fed. App'x 1013, 1021–22 (Fed. Cir. 2015) ("*Cioffi I*").

Notably, in describing the patent's teachings regarding "logical processes," the Federal Circuit in *Cioffi I* recognized that a "web browser process" was a predominant species of the broader term. App. 114a. It explained that the specification "describe[s] computer processes, separated either logically or physically (using separate processors), into first and second browser processes" and that Figure 1 (which refers to "logical processes") illustrates "a first web browser process executed within first processor 120 . . . [and] a second web browser process executed within second processor 140[.]" *Ibid.*

On remand, the District Court set the case for trial and Petitioners prevailed. App. 8a. The jury found that the reissue claims were valid and infringed and awarded $20 million in past damages. App. 19a-20a. On post-trial review, the District Court rejected Google's Section 251 "original patent" defense because it was undisputed that a "web browser process" was a species of both a "logical process" and "interactive network process," and the original '247 patent described the "interactive network process" architecture in appropriate detail. App. 43a, 88a-89a.

In finding Google did not meet its burden of clear-and-convincing evidence that the specification did not adequately disclose two web browser processes for purposes of the "original patent" test, the District Court relied on the following facts:

- The "interactive network process" embodiment in the original patent specification was expressly not limited to an online gaming process, but instead made clear online gaming was just one example. App. 84a-85a.

- That "interactive network process status data" disclosed in Figure 6 and Column 14 was likewise not limited to "game status data," and was again just one example where earlier in the specification it discloses "gaming, messaging, and browsing" as interactive applications that are the subject of the invention. *Ibid.* The District Court further noted the "interactive network process" embodiment disclosed P1 120 connecting to the "network," which is defined in the specification as "Internet, a LAN, WAN, VPN, etc." App. 85a.

- That Plaintiffs' expert, Dr. Dunsmore, testified credibly that a person of skill in the art would recognize that (1) "interactive network process" encompasses web browser processes, and (2) "interactive network process status data" encompasses "website data" and thus Figure 6 and Column 14 discloses the use of two web browser processes. App. 13a-14a, 88a.

- Google conceded "web browser processes" are a narrower subspecies of "logical processes" and Google's invalidity expert went so far as to call the '247 Patent's "first logical process" the "same as the first web browser process." App. 43a, 88a.

The District Court also concluded that Google's arguments were contradictory:

Google contends that the '247 Patent specification does not clearly disclose a first "web browser process" for purposes of the original patent requirement because the specification's disclosure of a first "logical process" is not specific enough and that "logical processes" could

refer to a number of different software processes besides "web browser processes." However, when alleging improper recapture, Google contends that the patents' "first logical process" includes a process that "could 'access website data,'" which is the precise definition of a "web browser process." If a person of ordinary skill would recognize that the '247 Patent specification's disclosure of a "first logical process" encompasses a "web browser process," then narrowing the disclosed "logical process" to directly claim a known subspecies (i.e., the "web browser process" of the Asserted Claims) is clearly and unequivocally within the scope of the original invention disclosed in the '247 Patent specification.

App. 89a (internal citations omitted).

Google appealed.

E. The Federal Circuit Reversed The Trial Court.

The Federal Circuit reversed in a unanimous unpublished decision. The Federal Circuit accepted the District Court's findings that the use of two web browser processes were encompassed within the scope of the expressly disclosed "interactive network process" embodiment. App. 12a-15a, 17a. But the Federal Circuit concluded that this disclosure was insufficient because the exact words "web browser process" did not appear in the specification and the evidence did not show that "the terms 'interactive network process' and 'web browser process' are synonymous or otherwise equivalent in meaning." App. 14a, 17a.

The Federal Circuit began its review of the law by noting this Court's decision in *Corbin Cabinet Lock Co. v. Eagle Lock Co.* defined the standard for "broadening" reissue:

> '[T]o warrant new and broader claims in a reissue, such claims must not be merely suggested or indicated' in the original patent, 'but it must further appear from the original patent that they constitute parts or portions of the invention, which were intended or sought to be covered or secured by such original patent.'

App. 10a (quoting *Corbin Cabinet Lock Co.*, 150 U.S. 38, 42-43 (1893)).

The Federal Circuit then noted this Court in *U.S. Industrial Chemical* "expanded" the above standard by requiring that "'[i]t must appear from the face of the instrument that was it [sic] covered by the reissue was intended to have been covered and secured by the original." App. 10a (quoting *U.S. Indus. Chem*, 315 U.S. at 676). Finally, the Federal Circuit noted that in its more "recent cases" addressing original patent the court has held that:

> [I]n order to satisfy the original patent requirement, the invention claimed on reissue must be 'more than merely suggest[ed] or indicat[ed]' by the specification of the original patent. Instead, we have explained, the specification of the original patent 'must clearly and unequivocally disclose the newly claimed invention as a separate invention.' That is, *we have interpreted the original patent requirement to require that 'the exact embodiment claimed on reissue [be] expressly disclosed in the specification.'*

App. 11a (emphasis added)(internal citation omitted).

The Federal Circuit next turned to the standard used by the District Court to analyze Google's original patent defense. The Federal Circuit faulted the District Court for applying a standard where a "broad embodiment" disclosed in the original patent specification would satisfy the original patent requirement for a narrower reissue claim not "expressly described in the specification, as long as the narrow embodiment was nevertheless encompassed by the broad disclosure." App. 14a-15a. The Federal Circuit found this standard "more lenient" than the standard announced in *Antares. Ibid.*

Finally, applying the higher "exact embodiment" standard announced in *Antares*, the Federal Circuit turned to the '247 patent specification. The court noted a skilled artisan would need to make "three related inferences" from the specification "to arrive at the embodiments recited in the asserted claims." App. 15a-17a. All three inferences required a skilled artisan to recognize that the broader term disclosed in the specification encompassed the narrower term used in the reissue claims. *Ibid.* Ultimately, because a skilled artisan would have to make these inferences that narrower claim terms were encompassed within a broader express disclosure, the asserted reissue patents failed the original patent requirement because the original specification failed to disclose the "exact embodiment" in the reissue claims. *Ibid.*

The Federal Circuit's decision invalided all four (4) asserted reissue claims thus reversing the District Court and vacating the underlying jury verdict. The Petitioners petitioned for rehearing and rehearing *en*

banc, which the Federal Circuit denied. App. 136a-143a.

REASONS FOR GRANTING THE PETITION

I. *Antares* Goes Too Far And Upsets The Balance Struck By This Court's Precedent And Earlier Federal Circuit Decisions.

The Federal Circuit's "exact embodiment" standard established by *Antares* finds no support in the plain language of Section 251. Indeed, the Federal Circuit relies on this Court's language in *U.S. Industrial Chemical* as the basis for its "exact embodiment" standard. *U.S. Industrial Chemical* does not support the Federal Circuit's higher standard. Furthermore, the Federal Circuit's "exact embodiment" standard conflicts with its own precedent which also purported to follow *U.S. Industrial Chemical*, but recognized a more flexible test akin to "written description." *Antares*' heightened standard goes too far and upsets the balance struck by this Court to allow for corrections to issued patents, and denies inventors their limited monopoly rights on otherwise patentable inventions.

A. *Antares*' Higher Standard Is Contrary To This Court's Precedent.

The Court last visited the disclosure requirements for broadening reissue claims in 1942 in *U.S. Industrial Chemical*. The respondent patentee had sued the petitioner for infringement of respondent's reissue patent, and the petitioner argued the reissue patent was invalid because it was not for the "same invention" as the original patent. *U.S. Indus. Chem.*, 315 U.S. at 669-70. The respondent's original patent specification

described a method for oxygenizing Ethylene by introducing ethylene, oxygen and water into a heated reaction. However, two (2) of respondent's reissue claims dropped the step of adding water to the reaction which was described in the original specification as essential. *Id.* at 677. The petitioner argued that removal of this "essential" step caused the reissue claims to be broadened and for a different invention. *Id.* at 671.

The respondent first argued the reissue claims qualified as the same invention because the claims still contained the introduction of water. The respondent argued that the reissue claims required the introduction of oxygen, and oxygen could be that of "air" which contains water vapor. *U.S. Indus. Chem.*, 315 U.S. at 671. Second, the respondent argued a skilled artisan would know the step of adding water was immaterial to the inventive process, and thus demonstrates the reissue claims that excluded the introduction of water were within the scope of respondent's original patent. *Id.* at 677-78.

The Court framed the issue as follows: "[t]his dispute must be resolved by a comparison of the disclosures of the two instruments. If that comparison leads to the conclusion that the reissue is not for the same invention as the original, the reissue is void as not within the terms of the statute." *Id.* at 671. The Court reviewed its prior precedent noting that a reissue patent is for the same invention:

> [I]f the reissue fully describes and claims the very invention intended to be secured by the original patent; if the reissue describes and claims only those things which were embraced in the invention intended to have been secured by the original patent; if the broader claims in

the reissue are not merely suggested or indicated in the original specification but constitute parts or portions of the invention which were intended or sought to be covered or secured by the original patent. . . . And it is not enough that an invention might have been claimed in the original patent because it was suggested or indicated in the specification. It must appear from the face of the instrument that what is covered by the reissue was intended to have been covered and secured by the original.

U.S. Indus. Chem., 315 U.S. at 675–76 (internal citations omitted).

The Court consulted the original specification and noted that "[o]n the face of the papers" the addition of water to the reaction was an "integral part of the whole operation" where the reissue patent treated the addition of water as optional and immaterial. *Id.* at 676-77. The Court concluded the reissue omitted a step that was described as essential in the original patent.

In rejecting respondent's argument that a skilled artisan would have known the introduction of water was immaterial, the Court confirmed that "it is permissible, and often necessary, to receive expert evidence to ascertain the meaning of a technical or scientific term or term of art so that the court may be aided in understanding not what the instruments mean but what they actually say." *Id.* at 678. However, in this particular instance, it was improper for respondent "to enlarge the scope of the original patent by recourse to expert testimony to the effect that a process described and claimed in the reissue, different from that described and claimed in the original patent, is,

because equally efficacious, in substance that claimed originally." *Id.* at 678.

The Court further rejected respondent's argument that the reissue patents still required use of water through the introduction of "air." The reissue claims only required the introduction of "oxygen" which could be "the oxygen of air." *U.S. Indus. Chem.*, 315 U.S. at 680. Accordingly, even accepting respondent's characterization, the actual introduction of water was still only optional under the reissue claim and thus was for a different invention. *Id.*

In *Antares*, the Federal Circuit purported to follow *U.S. Industrial Chemical*. The facts in *Antares* were similar to *U.S. Industrial Chemical* in that the patentee had dropped an essential limitation ("jet injectors") from the reissue claims. *Antares Pharma Inc.*, 771 F.3d at 1362-63. In reviewing prior precedent, the Federal Circuit acknowledged that the *U.S. Industrial Chemical* original patent standard "is analogous to the written description requirement, which . . . requires that the patent description 'clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed.'" *Id.* at 1362. Yet, notwithstanding this acknowledgment, the *Antares* panel interpreted *U.S. Industrial Chemical* as requiring more than just satisfying the written description standard for purposes of satisfying "original patent" under Section 251. The Federal Circuit held that "*the specification must clearly and unequivocally disclose the newly claimed invention as a separate invention.*" *Id.* at 1362 (emphasis added) (citing *U.S. Industrial Chemical*). While claiming to follow *U.S. Industrial Chemical*, the Federal Circuit's holding actually heightened *U.S. Industrial Chemical* and the

standard for "original patent" under Section 251.[3] *Antares* is now the basis for Federal Circuit's "exact embodiment" standard for broadening reissue under Section 251. App. 11a.[4]

This Court has recognized that the "object of the patent law is to secure to inventors a monopoly of what they have actually invented or discovered, and it ought not to be defeated by a too strict and technical adherence to the letter of the statute, or by the application of artificial rules of interpretation." *Topliff*, 145 U.S. at 171. The patent prosecution process is technical and complicated, and as a result, it is "no matter of surprise" that mistakes are made by patentees in claiming the scope of their inventions. *Id.* As a result, the right to seek broadening reissue exists in order to prevent injustice and unnecessary hardship that would otherwise arise if patentee were denied the true scope of their inventions. *See id.* at 171. Congress's intent to allow broadening reissues is expressed in Section 251, which authorizes patentees through the reissue process to claim "more or less than he had a right to claim" provided the reissue claims are directed to "the invention disclosed in the original patent." 35 U.S.C. § 251.

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[3] Commentators noting the Federal Circuit's new standard for "original patent" is "high." See § 25:34. Requires express disclosure of exact embodiment, 4 Annotated Patent Digest § 25:34.

[4] Most recently, in *Forum US, Inc. v. Flow Valve, LLC* and *In re Float'N'Grill LLC*, the Federal Circuit invalidated reissue claims that omitted an essential element from the original claims similar to what the patentees had done in *U.S. Industrial Chemical* and *Antares. See Forum US*, 926 F.3d 1346, 1352 (Fed. Cir. 2019) and *In re Float'N'Grill LLC*, 72 F.4th 1347, 1352-53 (Fed. Cir. 2023).

The Court in *U.S. Industrial Chemical* did not announce a new standard for obtaining broadening reissue, or a policy shift away from protecting the right of patentees to correct the scope of their claims. The Court followed its prior precedent citing to cases such as *Corbin Cabinet Lock* and *Parker & Whipple Co.* that held broadening reissue claims "must not be merely suggested or indicated in the original specification, drawings, or models, but it must further appear from the original patent that they constitute parts or portions of the invention, which were intended or sought to be covered or secured by such original patent." *Corbin Cabinet Lock Co.*, 150 U.S. at 42–43; *see also Parker & Whipple v. Yale Clock Co.*, 123 U.S. 87, 97-99 (1887).

However, the Federal Circuit in *Antares* has now adopted a bright line test of "exact disclosure," which is precisely the type of overly restrictive and artificial rule of interpretation that this Court cautioned against to avoid injustice and unnecessary hardship for patentees. *See, e.g.*, *Topliff*, 145 U.S. at 171. *Antares*' "exact embodiment" standard for obtaining broadening reissue undermines the Court's precedent in *U.S. Industrial Chemical* and earlier decisions because it removes any evaluation by the lower courts as to whether the reissue claims were invented and disclosed by the patentees in their original patents. Instead of analyzing the original patent disclosure as a whole, and through the eyes of one of ordinary skill, *Antares*' "exact embodiment" standard dictates that unless the specification expressly discloses the "exact embodiment" of the invention claimed in reissue as a separate invention, the reissue claims fail the original patent standard under Section 251.

Not only does *Antares'* original patent standard conflict with this Court's well established precedent, but it also conflicts with earlier panel decisions from the Federal Circuit.

B. Before *Antares*, The Federal Circuit Followed A More Flexible Standard.

Prior to *Antares*, the Federal Circuit and its predecessor court, viewed the key inquiry under Section 251 for broadening reissue as whether one skilled in the art reading the specification, would identify the subject matter of the new claims as invented and disclosed by the patentees. *See Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.,* 563 F.3d 1358, 1367 (Fed. Cir. 2009) (describing the original patent requirement under Section 251 as "analogous" to the written description requirement); *Hester Indus., Inc. v. Stein, Inc.,* 142 F.3d 1472, 1484 (Fed. Cir. 1998); *In re Amos*, 953 F.2d 613, 616-18 (Fed. Cir. 1991); *In re Weiler,* 790 F.2d 1576, 1580-81 (Fed. Cir. 1986); *In re Peters*, 723 F.2d 891, 894 (Fed. Cir. 1983); *In re Hounsfield,* 699 F.2d 1320, 1322-23 (Fed. Cir. 1983); *Application of Mead*, 581 F.2d 251, 255 (C.C.P.A. 1978); *In re Rowand*, 526 F.2d 558, 560 (C.C.P.A. 1975); *Application of Muller*, 417 F.2d 1387, 1390 (C.C.P.A. 1969); *In re Handel*, 312 F.2d 943, 948 (C.C.P.A. 1963).

The Federal Circuit in *Amos* considered an appeal from the Board of Patent Appeals and Interferences for rejection of reissue claims for failing to establish an "intent to claim" the reissue subject matter. *In re Amos*, 953 F.2d at 615-16. The *Amos* court noted that the Board's use of the phrase "intent to claim" in rejection of the reissue claims, was really a finding that the "new claims were not 'for the invention disclosed

in the original [patent].'" *Id*. at 617. After review of prior precedent, the *Amos* court determined that the essential inquiry as to whether the reissue claims are for the invention disclosed in the original patent is "to examine the entirety of the original disclosure and decide whether, through the 'objective eyes' of the hypothetical person having ordinary skill in the art, an inventor could fairly have claimed the newly submitted subject matter in the original application, given that the requisite error has been averred." *Id.*

The *Amos* court held that:

> [A] claim submitted in reissue may be rejected under the 'original patent' clause if the original specification demonstrates, to one skilled in the art, an absence of disclosure sufficient to indicate that a patentee could have claimed the subject matter. Merely finding that the subject matter was 'not originally claimed, not an object of the original patent, and not depicted in the drawing,' does not answer the essential inquiry under the 'original patent' clause of § 251, *which is whether one skilled in the art, reading the specification, would identify the subject matter of the new claims as invented and disclosed by the patentees.*

In re Amos, 953 F.2d at 618-19 (emphasis added).

Prior to *Antares*, this was the law of "original patent" followed by the Federal Circuit and its predecessor court. *Antares* recognized this precedent acknowledging that "our cases explained that the *U.S. Industrial Chemicals* standard is analogous to the written description requirement, which, as our *en banc* decision in *Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.,*

598 F.3d 1336 (Fed. Cir. 2010) made clear, requires that the patent description 'clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed.'" *Antares Pharma, Inc.*, 771 F.3d at 1362. However, *Antares* explicitly rejected the notion that the test for "written description" under Section 112 and "original patent" under Section 251 were "co-extensive," asserting that *U.S. Industrial Chemical* requires a higher standard of disclosure. *Id.* As noted above, the *Antares* court, relying on *U.S. Industrial Chemical*, concluded "the specification must clearly and unequivocally disclose the newly claimed invention as a separate invention." *Id.* at 1362. Stated more succinctly, *Antares* requires "'the exact embodiment claimed on reissue [be] expressly disclosed in the specification.'" App. 11a (quoting *Antares*).

Contrary to the *Antares* court's conclusion, and as discussed above, *U.S. Industrial Chemical* did not add a "plus" factor to the disclosure requirement long established by this Court. *U.S. Industrial Chemical* did confirm, however, that the two (2) tests are different in their application. The original patent (same invention) test for reissue claims has always been a question of law that may be aided by expert testimony, and is reviewed *de novo*. *U.S. Indus. Chem.*, 315 U.S. at 678 (stating that "it is the duty of a court to determine for itself, by examination of the original and the reissue, whether they are for the same invention."). Conversely, whether patent claims satisfy "written description" under 35 U.S.C. § 112 has long been a question of fact for the jury and reviewed for substantial evidence. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1355 (Fed. Cir. 2010). Accordingly, while a jury's verdict may be supported by substantial evidence on the question of written description, there

is added scrutiny for reissue claims because the district court or Federal Circuit may still come to a different conclusion that a skilled artisan, reading the specification, would identify the subject matter of the new claims as invented and disclosed by the patentees for purposes of original patent. This is the "plus" factor that has always existed with respect to the "original patent" inquiry.

Antares' heightened "original patent" disclosure requirement is not supported by *U.S. Industrial Chemical*, and is in conflict with the Federal Circuit's prior precedent. *Antares* should be overruled.

II. *Antares* Forecloses An Entire Class Of Reissue Undermining The Purpose Of The Reissue Statute.

A long and fundamental practice in patent claim drafting is the use of "genus claims." It is the job of the lawyer to <u>not</u> "limit the claim to a particular thing or 'species,' even though that's normally what the patentee actually built or conceived. Instead, patent lawyers lead with a 'genus claim' -- a broad claim that covers a group of structurally related products that incorporate the basic advance of the patented invention." Dmitry Karshtedt et. al., *The Death of the Genus Claim*, 35 Harv. J.L. & Tech. 1, 3 (2021). This is done to prevent others from making easy workarounds through small changes. *See id.*

However, in light of *Antares*, genus claims – the use of broader terms that may encompass sub-embodiments – cannot be narrowed and corrected through reissue unless the original patent also happens to disclose the "exact embodiment" upon which reissue is

sought. This is troubling because patentees rarely describe every species encompassed within the genus. *Application of Grimme*, 274 F.2d 949, 952 (C.C.P.A. 1960) (stating that it is "manifestly impracticable for an applicant who discloses a generic invention to give an example of every species falling within it, or even to name every such species. It is sufficient if the disclosure teaches those skilled in the art what the invention is and how to practice it."). Accordingly, reissue is foreclosed for all of these patents to the extent narrowing is sought on a species or sub-embodiment that was not explicitly disclosed. And further, an unknown number of granted reissues are now invalid for narrowing to species or sub-embodiments not explicitly disclosed.

This cannot be the law and further conflicts with other important principles of patent law, such as written description (35 U.S.C. § 112) and anticipation (35 U.S.C. 102). For example, it has long been the law that disclosure of a genus can provide written-description support for a species—even if the species is not disclosed in the specification. *See, e.g.*, *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1365 (Fed. Cir. 2003) (noting that "[a] specification may, within the meaning of 35 U.S.C. § 112 para. 1, contain a written description of a broadly claimed invention without describing all species that [the] claim encompasses."); *see also* § 22:39. Generic disclosure providing support for species claim, 3 Annotated Patent Digest § 22:39 (collecting cases). However, under *Antares*, this will not suffice for original patent. Similarly, anticipation under 35 U.S.C. § 102 applies if the claimed invention was "described" in a prior art reference. Federal Circuit precedent has established that a prior art

reference's "disclosure of a small genus can be a disclosure of each species within the genus," even if the claimed species is not specifically disclosed in the reference. *See, e.g.*, *Ineos USA LLC v. Berry Plastics Corp.*, 783 F.3d 865, 872 (Fed. Cir. 2015). And such disclosure of a small genus can be clear-and-convincing evidence for each species. *See id. Antares* rejects the relevance of a broader disclosure holding that reissue is only permitted if the original patent described the "exact embodiment" regardless of whether one of skill would easily know the narrower embodiment is encompassed by the broader disclosure.

Such a bright line and arbitrary rule unnecessarily forecloses a whole class of reissue patent claims, and only serves to weaken the U.S. patent system and create further injustice and hardship for patentees.

III. This Case Is A Good Example For Why *Antares* And Its Progeny Should Be Overruled.

A. Antares' Bright Line "Exact Embodiment" Standard Is Ill Suited For Reissues Claiming A Narrower Embodiment.

The underlying case involved the situation where the Inventors narrowed their reissue claims from using broad "logical processes" disclosed in their original patent to specific "web browser processes." App. 14a-15a, 43a, 75a, 86a, 88a-89a, 101a. There was no dispute that "web browser processes" were a known sub species of "logical processes," and "interactive network processes" and were specifically disclosed as such.

App. 43a, 88a.[5] However, when describing the broader "interactive network process" embodiment in Figure 6, the Inventors' specification only described in detail one example species of "interactive network process" – online gaming. App. 15a, 47a, 56a-57a, 84a.

As noted above, the District Court found the broader disclosure of "logical process," and "interactive network process" to be sufficient disclosure of the narrower "web browser process" for purposes of satisfying original patent under Section 251. App. 14a-15a, 84a-88a. Moreover, Petitioner's expert testified persuasively that a skilled artisan would easily recognize that the narrower "web browser process" claimed in reissue was encompassed by the broader disclosure of "interactive network process" in the original patent. App. 88a.

However, because the Federal Circuit's test under *Antares* requires express disclosure in the specification of the "exact embodiment," the original patent's broader disclosure was deemed insufficient. The only satisfactory disclosure was the exact embodiment. This was particularly unfair to the Petitioners because their original specification identified at least three types of "interactive" applications – online gaming, instant messaging and *web browsing*. The specification described the "interactive network processes" embodiment in detail, but did so with only one example – online gaming – instead of separately describing all three interactive applications. App. 84a-85a. The

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[5] *See also*, *Cioffi I*, 632 Fed. App'x at 1014–15 (Federal Circuit panel acknowledging that web browser process was a species of the broader disclosed "logical processes.").

Federal Circuit faulted the Petitioners for precisely this:

> It is true that [in] the 'Background' section, the specification states that 'many applications[,] such a[s] gaming, messaging, and browsing' may have an 'interactive nature.' In the opening discussion of the Figure 6 embodiment, however, the only 'interactive network process' that is expressly disclosed is 'online gaming.' A skilled artisan would need to infer that the embodiment of Figure 6 could be applied to the other types of programs described in the background section of the specification.

App. 15a (internal citations omitted).

Obviously, unless a patentee's specification separately describes every species of a broader disclosed genus (which has never been the law of written description), an inference will always need to be drawn with respect to whether a species is included within broader disclosed genus. Under the *Amos* and *U.S. Industrial Chemical* standard for "original patent" this was precisely the type of permissible inference that could be drawn through the eyes of the hypothetical skilled artisan. Before *Antares*, the inquiry would have been whether one of skill would recognize a "web browser process" as another species of an "interactive network process?" The answer here is indisputably "yes." However, the *Antares* standard rejects this inquiry altogether because the original '247 patent did not separately describe "web browser processes" as a separate species of "interactive network process" with respect to the embodiment disclosed in Figure 6. The *Antares* standard leaves no room to consider whether

one skilled in the art, reading the specification, would identify the narrower embodiment claimed in reissue as invented and disclosed by the patentees in the original patent.

It is also notable that *Antares* and the subsequent Federal Circuit's decisions that have followed *Antares*, would likely have reached the same outcome irrespective of *Antares'* heightened standard. In *Antares*, *Forum US* and *In re Float'N'Grill LLC*, the Federal Circuit addressed the same fact pattern that presented in *U.S. Industrial Chemical*. Specifically, in all three cases the patentees sought to enlarge their reissue claims by omitting an essential element from their original claims. *See Antares Pharma, Inc.*, 771 F.3d at 1363 (patentee dropped "jet injectors"); *Forum US*, 926 F.3d at 1352 (patentee dropped the use of "arbors"); *In re Float'N'Grill LLC*, 72 F.4th at 1349 (patentee dropped use of "plurality of magnet"). All three cases reach the same outcome without *Antares'* heightened standard because *U.S. Industrial Chemical* already held that broadening reissues are invalid when they seek to enlarge claim scope by dropping essential elements from the original patent.

The Inventors' reissue claims in this case in no way resemble the broadening reissues sought in *U.S. Industrial Chemical, Antares, Forum US* or *Float'N'Grill*. Unlike those cases, here the Inventors attempted to <u>narrow</u> their reissue claims from the broad "logical processes" in their original claims, to narrower species of "web browser processes." Applying *Antares* "exact embodiment" standard to the facts of this case exposes all the troubling issues outlined above that were not obvious before. This makes the

present case a particularly appropriate vehicle for correcting the Federal Circuit's impermissibly stringent original patent standard announced in *Antares*.

B. This Petition Is Likely Outcome Determinative.

In following *Antares*' "exact embodiment" standard, the Federal Circuit invalidated all four (4) of the reissue claims asserted at trial. As a result, the $20 million jury verdict was vacated and costs were awarded to Google. It is notable that Google's original patent defense was its only defense on appeal that would invalidate all four reissue claims and was also entitled to *de novo* review. All of Google's other asserted defenses only targeted specific claims or were subject to "substantial evidence" review, a much higher standard to overcome. This is relevant because all four (4) of the reissue claims independently support the jury's verdict. Pet. RB at 26-27. Accordingly, remand or reversal of the Federal Circuit's decision on original patent will place the Petitioners in a strong position to prevail on Google's remaining defenses and reinstate the jury's verdict.

This case illustrates the potential injustice and hardship to patentees where the limits on reissue are unduly strict. *Antares* "exact embodiment" standard is exactly that, and an erroneous departure from this Court's precedent and the Federal Circuit's earlier precedent.

CONCLUSION

The Petitioners' writ of certiorari should be granted.

Respectfully submitted.

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October 16, 2023

APPENDIX

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APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, DATED APRIL 18, 2023

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

April 18, 2023, Decided

2018-1049

ALFONSO CIOFFI, MELANIE ROZMAN,
MEGAN ROZMAN, MORGAN ROZMAN,

Plaintiffs-Appellees

v.

GOOGLE LLC,

Defendant-Appellant

Appeal from the United States District Court for the Eastern District of Texas in No. 2:13-cv-00103-JRG, Chief Judge J. Rodney Gilstrap.

Before REYNA, BRYSON, and TARANTO, Circuit Judges.

BRYSON, *Circuit Judge.*

The plaintiffs-appellees (collectively, "Cioffi") brought this patent infringement action against defendant-appellant Google LLC, alleging infringement of a total

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of four claims across three patents. Following a trial, the jury found the asserted claims to be infringed and not invalid. The district court then addressed the question whether the asserted claims were invalid under 35 U.S.C. § 251 and held that they were not. We reverse the district court's determination that the claims were not invalid.

I

A

Cioffi asserted four patent claims against Google in this case: claim 43 of U.S. Patent No. RE43,500 ("the '500 patent"); claims 5 and 67 of U.S. Patent No. RE43,528 ("the '528 patent"); and claim 49 of U.S. Patent No. RE43,529 ("the '529 patent"). Each of the asserted patents is a reissue patent of U.S. Patent No. 7,484,247 ("the '247 patent").

The asserted patents and the '247 patent are all directed to the use of multiple processors or processes in a computer system to prevent malware obtained over a network from accessing certain data stored on the computer. As the specification of the '247 patent explains, prior art computer systems would frequently run "a known and trusted set of programs" concurrently with an "Internet browser" and other programs such as "Java applets[] or EXE/COM executables." '247 patent, col. 4, ll. 60-65. Those latter programs, the specification notes, could "possibly contain[] malware." *Id.* at col. 4, ll. 65-66. When the known and trusted programs share memory and resources with programs that may contain malware, the

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malware may be "capable of corrupting critical files on the shared memory storage medium." *Id.* at col. 6, ll. 56-64.

To address that problem, the '247 patent discloses "a means of isolating the network interface program [e.g., a web browser] from the main computer system such that the network interface program does not share a common memory storage area with other programs." *Id.* at col. 7, ll. 1-4. In such a system, the specification explains, "malware programs are rendered unable to automatically corrupt critical system and user files located on the main memory storage area." *Id.* at col. 7, ll. 9-11.

For purposes of this appeal, claim 49 of the '529 patent is generally representative of the asserted claims. Claim 49 depends from claim 36 of the '529 patent. Those claims recite:

> 36. A method of operating a portable computer based system employing a common operating system and configured with a first memory space and a second protected memory space and at least one electronic data processor, comprising:
>
> storing at least one system file within the first memory space;
>
> downloading website content potentially containing malware from a network of one or more computers using a secure web browser process, wherein the secure web browser

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process is configured to execute on the at least one electronic data processor, and comprises a first web browser process and at least one second protected web browser process, the first web browser process and the at least one second protected web browser process being configured to access the website content via the network of one or more computers; executing instructions in the first web browser process, wherein the first web browser process is configured to access data contained in the first memory space and to initialize the at least one second protected web browser process;

passing data from the first web browser process to the at least one second protected web browser process;

executing instructions in the at least one second protected web browser process, wherein the at least one second protected web browser process is configured to access data contained in the second protected memory space and to execute instructions from the downloaded website content, wherein the downloaded website content is capable of accessing the second protected memory space but is denied access to the first memory space;

displaying digital content generated by the secure web browser process;

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wherein the secure web browser process is configured such that the at least one system file residing on the first memory space is protected from corruption by website content potentially containing malware downloaded from the network and executing as part of the at least one second protected web browser process.

* * *

49. The method of claim 36 further comprising:

executing instructions from the first web browser process on a first core of a multi-core processor; and

executing instructions from the at least one second protected web browser process on a second core of the multi-core processor.

'529 patent, claims 36, 49. The asserted claims of the '500 and '528 patents are similar, although claim 43 of the '500 patent and claim 67 of the '528 patent recite a "computer program product" configured to perform certain steps rather than a method of operating a computer system.

The specification of the '247 patent discloses several embodiments that are relevant to this appeal. Figure 1 of the '247 patent depicts a computer system that contains a first processor ("P1"), a first memory ("M1"), a second processor ("P2"), and a second memory ("M2"). '247 patent, col. 9, ll. 30-47; *id.* at col. 10, ll. 29-37; *id.* at Fig.

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1. In that embodiment, P1 can access the data stored in M1 and M2, while P2 can access only the data stored in M2. *Id.* at col. 10, ll. 43-58. Additionally, only P2 is used to access the network. *See id.* at col. 10, ll. 29-31. That arrangement has the effect of "isolat[ing]" P1 and M1 from the network such that malware may not "initiat[e] unwanted intrusions on [P1]." *Id.* at col. 10, ll. 40-43.

Figure 2 of the '247 patent depicts a "process flow" according to which the system of Figure 1 operates. *Id.* at col. 10, ll. 64-66. In that embodiment, a user may open a "protected process," such as a web browser program, that executes on P2. *Id.* at col. 11, ll. 2-11. Meanwhile, P1 "receives user interface data," such as keystrokes, from a user and passes that data to P2 when the protected process is active. *Id.* at col. 11, ll. 17-22. P2 then generates "video data" from the protected process and passes that data to a "video processor," which is separate from P1 and P2. *Id.* at col. 11, ll. 27-29; *id.* at Fig. 1. The video processor then "interleaves" video data from the processes being executed on P1 and P2 and transmits that data to a "video display." *Id.* at col. 11, ll. 29-33.

Figure 6 of the '247 patent depicts another exemplary process flow for the system shown in Figure 1. In that embodiment, the computer system carries out "an interactive network process, such as online gaming." *Id.* at col. 14, ll. 28-31. The user "initiates an interactive network process" via P2, and P2 "receives interactive network process status data from [the] network." *Id.* at col. 14, ll. 31-34. Next, P2 "informs [P1] that interactive network process status data is available." *Id.* at col. 14, ll. 34-36. P1

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then "retrieves interactive network process status data from P2" and uses that data "to update the interactive network process and update [the] video display." *Id.* at col. 14, ll. 36-39. After that, P1 "passes the updated interactive network process status data to P2," which sends that data to the network. *Id.* at col. 14, ll. 39-42. The specification adds that P1 may be configured to accept only "game status information in the proper format, thereby minimizing the chance" that malware may be loaded onto P1 or M1. *Id.* at col. 14, ll. 50-54.

Figure 9 of the '247 patent discloses a different configuration of the computer system that is described in the specification of that patent. *Id.* at col. 16, ll. 6-8. In that configuration, the computer system contains a single processor that comprises "multiple processor cores." *Id.* at col. 16, ll. 8-12. Alternatively, the specification explains, the functions carried out by the two processors "may comprise separate, secure logical processes executing on the same physical processor." *Id.* at col. 16, ll. 22-24. In such a configuration, the first logical process "may comprise executing instructions necessary to carry out the functions of an operating system," or a computer program, "including but not limited to a word processor." *Id.* at col. 16, ll. 24-30. The second logical process "may comprise executing instructions necessary to carry out the functions of a web browser program . . . [or] an instant messenger program." *Id.* at col. 16, ll. 30-34.

B

This case has come to this court before. After the claim construction proceedings, the district court held

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one of the claims that is no longer at issue in the case to be indefinite, and the parties stipulated to a judgment of non-infringement of the other asserted claims. *Cioffi v. Google, Inc.*, 632 F. App'x 1013, 1014 (Fed. Cir. 2015). In the appeal from that judgment, we reversed the district court's construction of two claim terms and remanded for further proceedings. *Id.* As relevant to this appeal, we construed the term "web browser process" to mean a "process that can access data on websites" either directly or indirectly. *Id.* at 1018-22.

C

At the trial on remand, Google argued that the asserted claims were invalid under 35 U.S.C. § 251 because the subject matter of the reissue claims was not disclosed in the original patent (in violation of the "original patent" requirement) and reclaimed subject matter surrendered during prosecution of the original patent (in violation of the "rule against recapture"). The jury found that the asserted claims were infringed and not invalid. J.A. 3922-23. Google moved for judgment as a matter of law on several issues, including non-infringement and invalidity under section 251. J.A. 3905, 3909.

After reviewing Google's post-trial submissions, the district court determined that the issue of invalidity under section 251 was for the court to decide instead of the jury. J.A. 5634-42. The court then entered an order rejecting Google's arguments on that issue, concluding that Google had failed to prove by clear and convincing evidence that the asserted claims were invalid under section 251. J.A. 70.

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Google argued that the asserted claims did not satisfy the original patent requirement because the specification of the '247 patent did not clearly and unequivocally disclose an embodiment containing two "web browser processes," as recited in the asserted claims. J.A. 3913-14. The district court disagreed, finding that the disclosure of an embodiment containing "interactive network processes" in the specification constituted a clear and unequivocal disclosure of two web browser processes. J.A. 54. In particular, the district court relied on the testimony of Dr. Hubert Dunsmore, Cioffi's expert, who explained that "those skilled in the art reading Column 14 [of the '247 patent specification] would understand that P1 and P2 can refer to two processes, both of which are accessing data from the Internet, which thus meets the Court's construction of 'web browser process.'" J.A. 21.

The district court also held that Google had not shown that the asserted claims violated the rule against recapture. J.A. 70. In a subsequent order, the court denied the remainder of Google's motion for judgment as a matter of law, including on the issue of non-infringement. J.A. 72-88. This appeal followed.

II

Google argues that the district court erred in holding that the asserted claims were not invalid under the original patent requirement and the rule against recapture. Google also argues that the district court erred in denying its motion for judgment as a matter of law that Google did not infringe the asserted claims. Because we conclude that

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the asserted claims are invalid under the original patent requirement, we reach only that issue.

A district court's determination of validity under 35 U.S.C. § 251 is a question of law that we review de novo. *Forum US, Inc. v. Flow Valve, LLC*, 926 F.3d 1346, 1350-51 (Fed. Cir. 2019). The legal conclusion regarding compliance with section 251, however, "can involve underlying questions of fact." *Id.* at 1351. For that reason, the court "may consider expert 'evidence to ascertain the meaning of a technical or scientific term or term of art so that the court may be aided in understanding not what the instruments mean but what they actually say.'" *Id.* (quoting *U.S. Indus. Chems. v. Carbide & Carbon Chems. Corp.*, 315 U.S. 668, 678 (1942)).

In 1893, the Supreme Court explained in *Corbin Cabinet Lock Co. v. Eagle Lock Co.*, 150 U.S. 38, 42-43, 14 S. Ct. 28, 37 L. Ed. 989, 1893 Dec. Comm'r Pat. 612 (1893), that "to warrant new and broader claims in a reissue, such claims must not be merely suggested or indicated" in the original patent, "but it must further appear from the original patent that they constitute parts or portions of the invention, which were intended or sought to be covered or secured by such original patent." In *Industrial Chemicals*, the Court expanded on that standard by noting that "[i]t must appear from the face of the instrument that was it covered by the reissue was intended to have been covered and secured by the original." 315 U.S. at 676. The Court's decision in *Industrial Chemicals* interpreted 35 U.S.C. § 64, which provided that reissue patents could be issued only for "the same invention." *Id.* at 670 n.3 (quoting 35

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U.S.C. § 64 (1934)). That requirement was referred to as the "same invention" requirement. *Forum*, 926 F.3d at 1351.

In 1952, Congress amended the Patent Act to replace the phrase "the same invention" from section 64 with "the original patent." *Id.*; 35 U.S.C. § 251 (1952). The statutory language embodying the original patent requirement currently provides that the Director of the United States Patent and Trademark Office may grant a reissue patent "for the invention disclosed in the original patent." 35 U.S.C. § 251(a) (2012).

Despite the change in statutory language enacted by Congress after the Supreme Court's decision in *Industrial Chemicals*, courts have continued to apply the principles of *Industrial Chemicals* when evaluating whether a reissue claim satisfies the original patent requirement. *Antares Pharma, Inc. v. Medac Pharma Inc.*, 771 F.3d 1354, 1360-61 (Fed. Cir. 2014) (collecting cases). In our recent cases addressing the original patent requirement, we have held that in order to satisfy the original patent requirement, the invention claimed on reissue must be "more than merely suggest[ed] or indicat[ed]" by the specification of the original patent. *Forum*, 926 F.3d at 1351; *see also Antares*, 771 F.3d at 1362. Instead, we have explained, the specification of the original patent "must clearly and unequivocally disclose the newly claimed invention as a separate invention." *Antares*, 771 F.3d at 1362; *Forum*, 926 F.3d at 1352. That is, we have interpreted the original patent requirement to require that "the exact embodiment claimed on reissue [be] expressly disclosed in the specification." *Antares*, 771 F.3d at 1363.

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Google argues that the original patent requirement is not satisfied because there is no clear and unequivocal disclosure in the '247 patent of an embodiment that comprises two web browser processes. Cioffi responds that the original patent requirement is satisfied because the embodiment disclosed in Figure 6 and column 14 of the '247 patent represents a clear and unequivocal disclosure of an embodiment having two web browser processes. As noted above, the embodiment depicted in Figure 6 contains an "interactive network process" that includes an exchange of "interactive network process status data" between P2 and P1. '247 patent, col. 14, ll. 28-45.

As Cioffi acknowledges, the specification of the '247 patent does not use the claim term "web browser process." Appellees' Br. 24. Nonetheless, Cioffi argues that "web browsing is clearly within the scope and definition of 'interactive applications' and thus the 'interactive network process' disclosed in Figure 6." *Id.* at 30. The district court accepted that general argument, holding that "the '247 patent specification's 'interactive network processes' embodiment encompasses the dual-web-browser process limitations set forth in the Asserted Claims." J.A. 54. In support of its holding, the district court relied on the testimony of Dr. Dunsmore, who testified, in relevant part, as follows:

> Q: Professor Dunsmore, let's move to [Google's expert's] second argument. Do you agree with [Google's expert] that the specification does not disclose the use of two web browser processes?

13a

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A: No, I do not.

Q: Okay. . . . So, Professor Dunsmore, directing your attention to Column 14, Lines 28 through 45, why do you disagree with [Google's expert] that there is -- why do you disagree with his position that there is no disclosure of using two web browser processes?

A: I disagree because of the things that are in -- highlighted here. Here we have two processors, P1 and P2. And both of them are retrieving data from the network, and that's exactly what needs to be done by the processes of a web browser.

Q: And does P1 and P2 accessing website data meet the definition -- the Court's definition of what a web browser process is?

A: Yes, it does.

Q: So, in your opinion, Professor Dunsmore, does the ['247] patent specification adequately disclose use of -- or does it adequately disclose use of a first and second web browser process?

A: Yes.

J.A. 5044-45.

Dr. Dunsmore's testimony essentially amounts to an assertion that a web browser process is a type of

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interactive network process because both processes "retriev[e] data from the network." J.A. 5045. He did not state, however, that the terms "interactive network process" and "web browser process" are synonymous or otherwise equivalent in meaning. Thus, Dr. Dunsmore's testimony serves to "assert[] what a person of ordinary skill in the art would purportedly understand" from the specification rather than what is apparent "*from the face of the instrument.*" *See Forum*, 926 F.3d at 1351-52 (citation omitted). As we explained in *Forum*, testimony directed to the former point "is insufficient to comply with the standard set forth in *Industrial Chemicals* and *Antares.*" *Id.* at 1352.

The district court characterized Dr. Dunsmore's testimony as explaining what the disclosures in the '247 patent specification would "convey to a person of ordinary skill in the art." J.A. 52. The court further noted that Dr. Dunsmore's testimony established (1) that the term "'interactive network process' encompasses web browser processes," and (2) that the term "'interactive network process status data' encompasses 'website data.'" *Id.* But that falls short of showing that the specification of the '247 patent clearly and unequivocally discloses, on its face, the use of two web browser processes. Instead, it reflects a conclusion that a skilled artisan would be able to infer that the '247 patent specification discloses an embodiment that "encompasses" the use of two web browser processes. J.A. 54; *see also* J.A. 53. Under the standard applied by the district court, a disclosure of a broad embodiment in the original patent specification would represent a clear and unequivocal disclosure of a narrow embodiment that was

not expressly described in the specification, as long as the narrow embodiment was nevertheless encompassed by the broad disclosure. That standard is more lenient than the one we have adopted in our cases applying the original patent requirement.

Turning to the '247 patent specification itself, there are three related inferences that a skilled artisan would need to draw from the Figure 6 embodiment to arrive at the embodiments recited in the asserted claims. First, a skilled artisan would have to conclude that an "interactive network process," as described in column 14 of the specification, includes web browsing. It is true that in the "Background" section, the specification states that "many applications[,] such a[s] gaming, messaging, and browsing" may have an "interactive nature." '247 patent, col. 6, ll. 17-18. In the opening discussion of the Figure 6 embodiment, however, the only "interactive network process" that is expressly disclosed is "online gaming." *Id.* at col. 14, ll. 3-45. A skilled artisan would need to infer that the embodiment of Figure 6 could be applied to the other types of programs described in the background section of the specification.

Second, a skilled artisan would need to infer that the "interactive network process status data" described in column 14 of the '247 patent specification includes website data. According to Cioffi, one of the web browser processes recited in the asserted claims is the process running on P1 in the Figure 6 embodiment of the '247 patent. *See* Appellees' Br. 27. As the specification explains, that process "retrieves interactive network process status

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data from P2." '247 patent, col. 14, ll. 36-37. In order to fall within the scope of the claimed "web browser process," the process running on P1 must be capable of accessing "website data," either directly or indirectly. *Cioffi*, 632 F. App'x at 1021-22. In the context of online gaming, the specification suggests that interactive network process status data refers to "[i]nformation about the current and new state of the game [that is] exchanged between various users' computer systems." '247 patent, col. 14, ll. 10-13. The specification does not expressly indicate that interactive network process status data would be equivalent to data available on a website. A skilled artisan would need to draw the inference that the interactive network process status data discussed in column 14 of the '247 patent specification either includes or could be replaced with website data.

Third, a skilled artisan would need to an infer that a web browser process could be executed on P1 in the first place. Although not expressly disclosed with respect to Figure 6 of the '247 patent, web browsers are discussed with respect to various embodiments of the invention. For example, the specification explains that the embodiment depicted in Figure 2 may be used to run a "protected process, such as browsing the internet." *Id.* at col. 11, ll. 9-10. That protected process is described as running on P2. *Id.* at col. 11, ll. 4-21. And the specification explains with respect to Figure 9 that "[a] second logical process may comprise executing instructions necessary to carry out the functions of a web browser program," while disclosing that other types of processes, such as an "operating system" or a "word processor," may operate as a "first

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logical process." *Id.* at col. 16, ll. 24-32. Notably, however, in neither case is a web browser, with its associated functions, described as being executed on P1. Thus, a skilled artisan would need to infer that it is possible to execute a web browser process on P1, particularly in view of the specification's description of such a process as "protected." *Id.* at col. 11, ll. 9-10.

To be sure, the above inferences are ones that might well be drawn by a skilled artisan after reading the '247 patent. Dr. Dunsmore testified essentially to that effect, and the district court found that testimony to be credible. However, our precedent requires more than that a skilled artisan be able to infer that the embodiment claimed on reissue was described in the specification of the original patent. There must be an "express disclosure" of the "exact embodiment claimed on reissue." *Antares*, 771 F.3d at 1363. An express disclosure of an embodiment containing two web browser processes "is exactly what was missing here," *see id.*, and the asserted claims are therefore invalid under the original patent requirement of 35 U.S.C. § 251.

Accordingly, we reverse the judgment of the district court that the asserted claims are not invalid under 35 U.S.C. § 251.

REVERSED

**APPENDIX B — ORDER OF THE UNITED
STATES DISTRICT COURT FOR THE EASTERN
DISTRICT OF TEXAS, MARSHALL DIVISION,
FILED JANUARY 19, 2022**

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

Civil Action No. 2:13-cv-103

CIOFFI *et al.*,

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

STIPULATED FINAL JUDGMENT

A jury trial commenced in this case on February 6, 2017. The jury returned a unanimous verdict (Dkt. No. 259) finding infringement and that the claims in suit were not invalid.

Thereafter, Defendant Google, LLC moved for judgment as a matter of law and new trial on (i) invalidity under 35 U.S.C. §§ 102, 103 and 251 (Dkt. No. 292), and (ii) non-infringement, damages, patent ineligibility, and intervening rights (Dkt. No. 293).

On March 29, 2018, the Court granted Google's motion for new trial in part as to Google's § 251 invalidity defenses, instructing the parties to submit proposed findings of fact

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and conclusions of law, and carried Google's § 102 and 103 invalidity arguments.

On August 26, 2021, the Court issued its findings of facts and conclusions of law denying Google's invalidity defenses under 35 U.S.C. § 251 (Dkt. No. 340).

On September 3, 2021, the Court issued a memorandum and order denying Google's motion for judgment as a matter of law and new trial as to a non-infringement, damages, patent ineligibility, and intervening rights (Dkt. No. 342).

On December 6, 2021, the Court issued a memorandum and order denying Google's motion for judgment as a matter of law and new trial as to invalidity under 35 U.S.C. § 102 and 103 (Dkt. No. 344).

Pursuant to Rule 58 of the Federal Rules of Civil Procedure and in accordance with the jury's verdict, the Court's post-trial rulings and findings, and the entirety of the record available to the Court, the Court hereby **ORDERS** and **ENTERS JUDGMENT** as follows:

1   Defendant Google infringes claim 43 of U.S. Patent No. RE43,500; claims 5 and 67 of U.S. Patent No. RE43,528; and claim 49 of U.S. Patent No. RE43,529.

2. The asserted claims are not invalid under 35 U.S.C. §§ 102 and 103, pursuant to the jury verdict returned in this case.

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3. The asserted claims are not invalid under §
    251, pursuant to the Court's findings of fact
    and conclusions of law (Dkt. Nos. 340, 341).

4. The asserted claims are not ineligible for
    patent protection under 35 U.S.C. § 101 (*see*
    Dkt. Nos. 212, 226, 342).

5. Plaintiffs are hereby awarded compensatory
    damages against Google and shall
    accordingly have and recover from Google
    the sum of $20,000,000 U.S. Dollars ($20
    million), which amount is a running royalty.

6. As explained in the Court's Order regarding
    ongoing royalties (Dkt. No. 307), Google
    is **ORDERED** to pay an ongoing royalty
    of $0.002601 per Chrome user per month.
    Such royalty rate shall apply to infringing
    uses that occurred during the period from
    February 1, 2017, through the entry of this
    Final Judgment, as well as for all future
    infringing uses during the remaining life
    of the asserted patents.

7. Twice a year, Google shall produce a report
    of 7-day active users of all infringing
    versions of Chrome as of the 1st day of each
    month beginning February 1, 2017 and
    there forward for all ongoing and future
    infringing uses during the remaining life of
    the asserted patents (Dkt. No. 307). During
    the appeal of this judgment to the Federal

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Circuit, Google shall deliver to Plaintiffs such reports by the last day of each month of February and August of the year. For avoidance of doubt, in 2022, the first report shall be due by February 28, 2022, and the second report shall be due by August 31, 2022.

8. Pursuant to 35 U.S.C. § 284, the Court awards Plaintiffs pre-judgment interest based on the 5-Year Treasury Note (constant maturity) rate,[1] compounded monthly, and calculated based on monthly payments. The Court also awards pre-judgment interest at the corresponding per-diem rate from February 11, 2017 (the day after the jury's verdict) through entry of this Final Judgment.

9. Pursuant to 28 U.S.C. § 1961, the Court awards Plaintiffs post-judgment interest applicable to all sums awarded herein, at the statutory rate, from the date of entry of this Final Judgment until paid.

10. Pursuant to Rule 54(d) of the Federal Rules of Civil Procedure and 28 U.S.C. § 1920, Plaintiffs are the prevailing party in this matter and are entitled to recover their costs from Google. Pursuant to the agreed

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1. Said rate further described at: http://www.bankrate.com/rates/interest-rates/5-year-treasury-bill.aspx.

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Bill of Costs filed by Plaintiffs (Dkt. No. 281, Ex. B), Plaintiffs are awarded $89,931.28 in costs.

11. All other relief requested by either party and not specifically addressed herein is **DENIED**.

12. In accordance with the parties' agreement as reflected herein, this judgment is stayed during its appeal to the Federal Circuit, except for the bi-annual reporting of 7-day active users discussed above. If this judgment becomes enforceable after appeal, Google will continue to provide bi-annual reports of 7-day active users according to the same schedule and also make corresponding bi-annual payments on the judgment on the same schedule, with the first payment covering past damages and ongoing royalties through to the last date reported in the first report provided after the appeal.

The Clerk is directed to **CLOSE** the above referenced case.

So ORDERED and SIGNED this 19th day of January, 2022.

/s/ Rodney Gilstrap
RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE

**APPENDIX C — ORDER AND MEMORANDUM
OPINION OF THE UNITED STATES DISTRICT
COURT FOR THE EASTERN DISTRICT
OF TEXAS, MARSHALL DIVISION,
DATED AUGUST 26, 2021**

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS,
MARSHALL DIVISION

CIVIL ACTION NO. 2:13-CV-00103-JRG

ALFONSO CIOFFI, MELANIE ROZMAN, MEGAN
ROZMAN, MORGAN ROZMAN,

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

August 26, 2021, Decided;
August 26, 2021, Filed

**ORDER AND MEMORANDUM OPINION
REGARDING DEFENDANT'S RULE 50(B)
MOTIONS BASED ON 35 U.S.C. § 251 AND THE
RULE AGAINST RECAPTURE SUPPORTED BY
FINDINGS OF FACT AND CONCLUSIONS OF LAW**

The Court held a jury trial in this case from February
6 to 10, 2017. (Dkt. Nos. 255-58, 261). At the conclusion of

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the trial, the jury returned a unanimous verdict finding that the patents asserted by Plaintiffs Alfonso Cioffi, Melanie Rozman, Megan Rozman, and Morgan Rozman (collectively, "Plaintiffs") against Defendant Google Inc. ("Google") were infringed and not invalid. (Dkt. No. 259). After the trial, Google filed a Motion for Post-Trial Relief on Invalidity Under 35 U.S.C. §§ 102, 103 and 251, seeking either entry of judgment as a matter of law under Fed. R. Civ. P. 50(b) or the granting of a new trial pursuant to Fed. R. Civ. P. 59 (the "Motion"). (Dkt. No. 292). The Court granted-in-part Google's Motion as to the issue of invalidity pursuant to 35 U.S.C. § 251 on March 29, 2018, and ordered that the § 251 issues be adjudicated to the bench. (Dkt. No. 319). The Court now separately issues the following Findings of Fact ("FF") and Conclusions of Law ("CL") addressing Google's § 251 defenses. After careful consideration of the evidence and the parties' arguments, and for the reasons set forth herein, the Court concludes that Google has not shown by clear and convincing evidence that U.S. Reissue Patent Nos. RE43,500 (the "'500 Patent"), RE43,528 (the "'528 Patent"), and RE43,529, Reissue Patents (the "'529 Patent") (collectively, the "Asserted Patents") are invalid under 35 U.S.C. § 251. Accordingly, the Motion as to § 251 is **DENIED**.

I. FINDINGS OF FACT

A. The Parties

[FF1] Plaintiff Alfonso J. Cioffi ("Mr. Cioffi") and the late Allen F. Rozman ("Mr. Rozman") (collectively, "Inventors" or "Applicants") are co-Inventors of U.S.

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Reissue Patent Nos. RE43,500 (the "'500 Patent"), RE43,528 (the "'528 Patent"), and RE43,529 (the "'529 Patent") (collectively, the "Asserted Patents"), which reissued from U.S. Patent No. 7,484,247 (the "'247 Patent"). *See* PTX-001 ('247 Patent); PTX-002 ('529 Patent); PTX-003 ('500 Patent); and PTX-004 ('528 Patent). Mr. Cioffi lives in Murphy, Texas. (Dkt. No. 1 ¶ 1).

[FF2] Plaintiffs Melanie Rozman, Morgan Rozman, and Megan Rozman (the "Rozmans") are the daughters of the late Mr. Rozman. (*Id.* ¶¶ 5-7). The Rozmans each live in Murphy, Texas. (*Id.* ¶¶ 5-7).

[FF3] Mr. Cioffi and the Rozmans are the joint and one hundred percent (100%) owners of the Asserted Patents. (*Id.* ¶ 8).

[FF4] Google is a Delaware Corporation having its principal place of business at 1600 Amphitheater Parkway, Mountain View, California 94043. (Dkt. No. 1 ¶ 9; Dkt. No. 8 ¶ 9).

B.   Procedural History

[FF5] On February 5, 2013, Plaintiffs sued Google for patent infringement. (Dkt. No. 1). Plaintiffs alleged that Google infringed the Asserted Patents based on features of Google's Chrome web browser. (*See id.* ¶¶ 15-26; *see also* Dkt. Nos. 179, 183 (narrowing this case to the Asserted Patents)).

[FF6] Each of the Asserted Patents is titled "System and Method for Protecting a Computer System from

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Malicious Software" and is a reissue patent derived from U.S. Patent No. 7,484,247 ("the '247 Patent"). *See* PTX-001 ('247 Patent); PTX-002 ('529 Patent); PTX-003 ('500 Patent); PTX-004 ('528 Patent). The '247 Patent issued from U.S. Patent Application No. 10/913,609 (the "'609 Application"). PTX-001 at 1.

1.   Relevant Claim Construction

[**FF7**] On August 28, 2014, the Court construed the term "web browser process," as recited in the claims of the Asserted Claims, to mean a "process that can access data on websites." (Dkt. No. 71 at 15). The Court's construction also explained that the "'web browser process' must be capable of accessing a website without using another web browser process." (*Id.* at 14).

[**FF8**] On November 26, 2014, Plaintiffs filed a stipulation and proposed final judgment of non-infringement based in part on the Court's construction of "web browser process." (Dkt. No. 99). The Court entered the proposed judgment on December 2, 2014. (Dkt. No. 104).

[**FF9**] Plaintiffs appealed the Court's claim construction of "web browser process" to the Court of Appeals for the Federal Circuit. (Dkt. No. 105.) The Federal Circuit agreed with the Court's construction of "web browser process" as a "process that can access data on websites" but clarified the construction by noting that the "'web browser process' alone does not have a 'direct' access capability requirement." *Cioffi v. Google, Inc.*, 632 F. App'x. 1013, 1021-22 (Fed. Cir. 2015). The Federal Circuit remanded this case for further

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proceedings pursuant to its guidance. *Id.* at 1023-24. (*See also* Dkt No. 200 (Joint Pre-Trial Order) § V.D. (Stipulated Claim Construction)).

2. Jury Trial

[**FF10**] On remand from the Federal Circuit, the parties proceeded through discovery, pretrial practice, and trial.

[**FF11**] A jury trial was conducted from February 6 to 10, 2017. (Dkt. Nos. 263-273). Plaintiffs asserted four claims of the Asserted Patents at trial: Claim 43 of the '500 Patent; Claims 5 and 67 of the '528 Patent; and Claim 49 of the '529 Patent (collectively, the "Asserted Claims").

[**FF12**] Google did not use the full 12 hours allotted to present its case to the jury. (*See* Dkt. No. 297 at 3 (admitting that "Google did not use its full 12 hours")).

[**FF13**] On February 10, 2017, the jury returned a unanimous verdict finding that the Asserted Claims were infringed and not invalid. (Dkt. No. 259). As to invalidity, the jury found that Google did not prove by clear and convincing evidence: (1) invalidity of Claim 67 of the '528 Patent as anticipated, as violating the rule against recapture, or as violating the original patent requirement; (2) invalidity of Claim 43 of the '500 Patent as obvious, as violating the rule against recapture, or as violating the original patent requirement; (3) invalidity of Claim 5 of the '528 Patent as obvious, or as violating the original patent requirement; or (4) invalidity of Claim 49 of the

'529 Patent as obvious, or as violating the original patent requirement. (*Id.*)

[FF14] On September 15, 2017, the Court entered Final Judgment in accordance with the jury's verdict. (Dkt. No. 308).

3. Rule 50(a) Motions

[FF15] Before the jury was charged, Google filed a Motion for Judgment as a Matter of Law under Fed. R. Civ. P. 50(a). (Dkt. No. 251). Google argued, among other things, that since "[t]wo asserted claims violate the recapture rule[] and all [asserted claims] violate the original-patent requirement[,] [a]ll [Asserted Claims] are thus invalid under § 251." (*Id.* at 4). As to the original patent requirement, Google argued that the Asserted Claims "cover[ed] subject matter that was not disclosed in the '247 patent's specification" on four grounds: (1) "Two of the asserted reissue claims now operate on a single processor or processor core"; (2) "All of the asserted claims require both a first and a second 'web browser process'; (3) "asserted claims require passing network data from the first to the second web browser process"; and (4) "asserted claim 49 of the '529 patent requires the first web browser process to open or initialize the second web browser process." (*Id.* at 6).

[FF16] The Court subsequently provided Google with an opportunity to present its § 251 defenses outside the presence of the jury. (*See* Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 122:9-11, 131:18-134:22 ("Counsel, the Court will now

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entertain motions under Rule 50(a) of the Federal Rules of Civil Procedure . . . .Let me hear anything that falls under Section 251. . . .")); *see also Biscotti Inc. v. Microsoft Corp.*, No. 2:13-cv-01015, Dkt. No. 310 at 1 (E.D. Tex. Oct. 3, 2017) ("After the close of evidence, and while the jury was deliberating, the Court provided the parties an opportunity to present evidence and argument in support of and in opposition to, as appropriate, any equitable defenses urged by Microsoft."); *Eidos Display, LLC v. Chi Mei Innolux Corp.*, No. 6:11-cv-201, Dkt. No. 895, 2017 U.S. Dist. LEXIS 202501, *4 (E.D. Tex. Dec. 28, 2017) ("[A]fter both sides finished presenting evidence to the jury and before the Court submitted to the jury those issues proper for its consideration, the Court conducted a bench trial outside the presence of the jury on [defendant]'s equitable estoppel defense.").

[FF17] However, Google did not offer any evidence or argument related to its third and fourth original patent requirement grounds under § 251. (*Compare* Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 131:17-132:12 ("Google moves for invalidity under 35 U.S.C. Section 251 that Claim 43 of the '500 patent and Claim 67 of the '528 patent are invalid because the Plaintiffs recaptured surrendered claim scope, and these claims are not directed to overlooked aspects . . . .Google also moves for judgment as a matter of law that all asserted claims are invalid under 35 U.S.C. [§ 251] and the original patent requirement, including at least because, number one, for Claim 43 of the '500 patent and Claim 67 of the '528 patent, original '247 patent does not clearly and unequivocally disclose a single-core processor. And number two, the original '247 patent does not clearly and unequivocally disclose a first web browser

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process with access to a network.") *with* Dkt. No. 251 at 6 (identifying four asserted invalidity grounds under the original patent requirement of § 251)).

4. Rule 50(b) Motions

[**FF18**] After acceptance of the verdict and entry of judgment, Google filed a Motion for Post-Trial Relief on Invalidity under 35 U.S.C. §§ 102, 103, and 251, seeking either entry of judgment as a matter of law under Fed. R. Civ. P. 50(b) or a new trial pursuant to Fed. R. Civ. P. 59. (Dkt. No. 292). Google argued, among other things, that a new trial should be granted on all issues because the § 251 issues—that is, invalidity under the rule against recapture and original patent requirement—should not have been presented to and decided by the jury. (*Id.* at 2-20). Specifically, Google argued that Claim 43 of the '500 Patent and Claim 67 of the '528 Patent violated the rule against recapture by improperly recapturing surrendered subject matter of a system with just one processor. (*Id.* at 6-14) Google also argued that the Asserted Claims violated the original patent requirement under § 251 because the '247 Patent specification does not clearly and unequivocally disclose: (1) the limitations of all the Asserted Claims requiring two or more "web browser processes"; (2) the limitations of Claim 43 of the '500 Patent and Claim 67 of the '528 Patent encompassing an embodiment with only one processor; (3) the limitations of Claim 43 of the '500 Patent, Claim 67 of the '528 Patent, and Claim 49 of the '529 Patent requiring that a "first web browser process" pass data to a "second web browser process"; and (4) the limitations of Claim 49 of the '529 Patent requiring a "first

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web browser process" to initialize a "second web browser process." (*Id.* at 14-20).

[FF19] On March 29, 2018, the Court granted-in-part Google's motion for a new trial and ordered that final judgment be vacated, the jury verdict be preserved except as to invalidity under § 251, and that the § 251 invalidity issues be adjudicated before the bench. (Dkt. No. 319).

C. Trial Witnesses

[FF20] The Court finds the witnesses' live testimony in this case credible, including that of Mr. Cioffi, Dr. Aviel Rubin, Dr. Hubert Dunsmore, Dr. William Arbaugh, and Dr. Michael Kogan.

[FF21] Mr. Cioffi testified at trial as a fact witness and was precluded from offering expert opinions. (*See* Dkt. No. 217 (Order on Motions *in Limine*) at 5 ("Exclude fact/lay witnesses from offering opinions regarding whether or not any accused product or asserted prior art reference reads on the asserted claims. To be clear, Mr. Alfonso Cioffi . . . . may not reference any specific patent claims or offer any infringement analysis for specific claims or limitations as part of his testimony")).

[FF22] Google's expert—Dr. Michael Kogan ("Dr. Kogan")—and Plaintiffs' expert—Dr. Hubert Dunsmore ("Dr. Dunsmore")—each testified on, among other things, invalidity under 35 U.S.C. § 251—including both the rule against recapture and the original patent requirement. (*See* Dkt. Nos. 268 (Trial Tr. 2/8/17 pm), 270 (Trial Tr. 2/9/17 am), 271 (Trial Tr. 2/9/17 pm)).

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[FF23] Dr. William Arbaugh ("Dr. Arbaugh") testified on behalf of Google on the issues of invalidity under 35 U.S.C. §§ 102 and 103, including general technical issues. (*See* Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 52:8-18).

[FF24] The Court further finds the experts proffered by the Plaintiffs and by Google were qualified to offer the expert testimony that they provided in this case.

D. Disclosure of the '247 Patent

[FF25] The '247 Patent discloses a security architecture for protecting a computer system from malicious software. *See* PTX-001 at 1:6-7, 2:1-2. The '247 Patent explains that with the growing usage of the Internet and networked services, "malicious software generally known a[s] malware" had emerged as a significant threat to computer users. *Id.* at 3:46-47. When downloaded to a user's computer, malware "interferes with the smooth operation of the computer system, and in the extreme, can lead to the unauthorized disclosure of confidential information stored on the computer system, significant degradation of computer system performance, or the complete collapse of computer system function." *Id.* at 3:57-62.

[FF26] Figure 1 below depicts this architecture in a "computer system 100," which may be a "personal computer (PC) system, a server, a portable computer, such as a notebook computer, or any data processing system, a personal digital assistant (PDA), [or] a communication device such as a cell phone." *Id.* at Fig. 1, 9:30-37.

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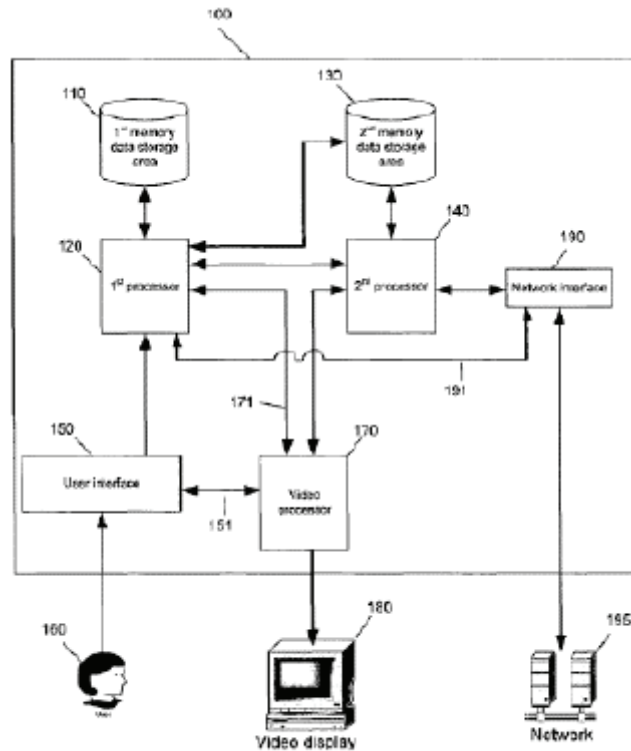
Fig. 1

[FF27] The '247 Patent specification teaches that the computer system 100 includes: (1) "a first processor 120 (P1)" connected to a "first memory and data storage area 110 (M1)" and (2) a "second processor 140 (P2)" connected to a "second memory and data storage area 130 (M2)." *Id.* at 9:37-39, 10:29-37. P1 may be physical hardware processor:

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P1 100 may comprise, for example, a microprocessor, such as a Pentium® 4 processor, manufactured by the Intel Corporation, or a Power PC® processor, manufactured by the IBM Corporation. Other electronic data processors manufactured by other companies, including but not limited to electronic data processors realized in Application Specific Integrated Circuits (ASICs) or in Field Programmable Gate Arrays (FPGAs), are within the spirit and scope of the present invention.

Id. at 9:39-47. Likewise, "second processor 140 (P2) . . . may comprise any electronic data processor, such as the devices previously described as applicable to first processor 120." *Id.* at 10:31-34.

E.   Google's § 251 Invalidity Grounds

[FF28] Google identified 35 U.S.C. § 251 as a defense in its pre-trial statement. (Dkt. No. 18-1 ¶¶ 22, 120).

[FF29] Google alleges four grounds of invalidity under the original patent requirement of § 251. (*See* Dkt. No. 292 at 15-20). *See also* FF ¶ 15.

[FF30] Google also alleges one invalidity ground under the rule against recapture of § 251. (*See* Dkt. No. 292 at 6-14). *See also* FF ¶ 15.

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1. Facts Relevant to Google's Original Patent Requirement Defense

a. *Two or More "Web Browser Processes" Limitation of the Asserted Claims*

[FF31] The originally issued claims of the '247 Patent recited two "logical processes": (1) a "first logical process," and (2) a "second logical process." PTX-001 at Claims 1-20.

[FF32] All four Asserted Claims replace the two "logical processes" limitations as claimed in the '247 Patent with limitations requiring two "web browser processes." *See* PTX-003 at Claim 41; PTX-004 at Claim 1; PTX-002 at Claim 36. In particular, each Asserted Claim recites a "first web browser process" and a "second web browser process." PTX-003 at Claim 41; PTX-004 at Claim 1; PTX-002 at Claim 36.

[FF33] Asserted Claim 43 of the '500 Patent depends from independent Claim 41, which recites:

> 41. A computer program product comprising a program code stored in a non-transitory computer readable medium operable on a portable computer and communication device capable of executing instructions using a common operating system and having at least one electronic data processor communicatively coupled to a first memory space with at least one system file and a second memory space, the portable computer and communication device including a network interface device configured

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to exchange data across a network of one or more computers using a wireless connection, and an intelligent cellular telephone capability with a secure web browser including ***a first web browser process and a second web browser process***, configured to:

open the ***first web browser process*** within the common operating system, wherein the first web browser process is capable of accessing data of a website via the network and accessing data contained in the first memory space;

open the ***second web browser process*** within the common operating system on command from the ***first web browser process***, wherein the ***second web browser process*** is capable of accessing data contained in the second memory space and is further capable of generating data;

pass data from the ***first web browser process*** to the ***second web browser process***; and process data from the ***second web browser process***;

wherein the at least one system file residing on the first memory space is protected from corruption by a malware process downloaded from the network and executing as part of the ***second web browser process***.

PTX-003 at Claim 41 (emphasis added).

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[FF34] Asserted Claim 5 of the '528 Patent depends from independent Claim 1, which recites:

1. A method of operating a computer system capable of exchanging data across a network of one or more computers and having at least a first and second electronic data processor capable of executing instructions using a common operating system, comprising:

executing a ***first web browser process***, capable of accessing data of a website via the network, in a first logical process within the common operating system using the first electronic data processor, wherein the first logical process is capable of accessing data contained in a first memory space;

executing a ***second web browser process*** in a second logical process within the common operating system using the second electronic data processor, wherein the second logical process is capable of accessing data contained in the second memory space; and

displaying data from the first logical process and the second logical process, wherein a video processor is adapted to combine data from the first and second logical processes and transmit the combined data to a display;

wherein the computer system is configured such that the second electronic data processor is

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operating in a protected mode and data residing on the first memory space is protected from corruption by a malware process downloaded from the network and executing as part of the ***second web browser process***.

PTX-004 at Claim 1 (emphasis added).

[FF35] Claim 67 of the '528 Patent depends from independent Claim 64, which recites:

64. A computer program product comprising a program code stored in a non-transitory computer readable medium operable on computer capable of executing instructions using a common operating system and having at least one electronic data processor communicatively coupled to a first and second memory space and to a network interface device configured to exchange data across a network of one or more computers and access at least one website, configured to:

store at least one system file within the first memory space;

open a ***first web browser process***, capable of accessing data of the at least one website via the network, in a first logical process, the first logical process being configured to access data contained in the first memory space;

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open a ***second web browser process*** in a second logical process, the second logical process being configured to access data contained in the second memory space; and

pass data from the ***first web browser process*** to the ***second web browser process***, wherein the at least one system file residing on the first memory space is protected from corruption by a malware process downloaded from the network and executing as part of the ***second web browser process***.

Id. at Claim 64 (emphasis added).

[FF36] Asserted Claim 49 of the '529 Patent depends from independent Claim 36, which recites:

36. A method of operating a portable computer based system employing a common operating system and configured with a first memory space and a second protected memory space and at least one electronic data processor, comprising:

storing at least one system file within the first memory space;

downloading website content potentially containing malware from a network of one or more computers using a secure web browser process, wherein the secure web browser

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process is configured to execute on the at least one electronic data processor, and comprises *a first web browser process* and at least *one second protected web browser process*, the *first web browser process* and the at least one *second protected web browser process* being configured to access the website content via the network of one or more computers;

executing instructions in the *first web browser process*, wherein the *first web browser process* is configured to access data contained in the first memory space and to initialize the at least one *second protected web browser process*; passing data from the *first web browser process* to the at least one *second protected web browser process*;

passing data from the *first web browser process* to the at least one *second protected web browser process*;

executing instructions in the at least one *second protected web browser process*, wherein the at least one *second protected web browser process* is configured to access data contained in the second protected memory space and to execute instructions from the downloaded website content, wherein the downloaded website content is capable of accessing the second protected memory space but is denied access to the first memory space;

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displaying digital content generated by the secure web browser process;

wherein the secure web browser process is configured such that the at least one system file residing on the first memory space is protected from corruption by website content potentially containing malware downloaded from the network and executing as part of the at least one ***second protected web browser process***.

PTX-002 at Claim 36 (emphasis added).

[FF37] The '247 Patent specification discloses the use of "logical processes." *See, e.g.*, PTX-001 at 16:34-43. The specification identifies a number of exemplary functions carried out by such logical processes: "executing instructions," PTX-001 at 7:64-65, 8:2-3; "accessing data contained in a first memory space and a second memory space," PTX-001 at 7:65-67; "exchanging data across a network of one or more computers," PTX-001 at 8:5-6; providing data for display, PTX-001 at 8:8-10; "a malware program" executing as part of a logical process, PTX-001 at 8:15-17; "executing instructions necessary to carry out the functions of an operating system," PTX-001 at 16:25-27; "executing instructions necessary to carry out a first computer program, including but not limited to a word processor," PTX-001 at 16:27-30; "executing instructions necessary to carry out the functions of a web browser program," PTX-001 at 16:30-32; and "executing instructions necessary to carry out the functions of an instant messenger program," PTX-001 at 16:32-34.

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[FF38] nctions carried out by processors 920 and 940 may comprise separate, secure logical processes executing on the same physical processor." PTX-001 at 16:22-24. The specification teaches that "[a] computer system 100 constructed in accordance with the principles of the present invention would be capable of disallowing a secure logical process, such as the ***second logical process*** described above, access to certain memory spaces, and/or disallowing a secure logical process from initiating access to another logical process." PTX-001 at 16:34-39 (emphasis added). The specification continues: "For example, the functions carried out by P2 140 (FIG. 1) may comprise a secure logical process, which may be configured to be unable to automatically initiate access to either M1 110 or another ***logical process performing the functions of P1*** 120." PTX-001 at 16:39-43.

[FF39] Additionally, Processors P1 and P2 described in Column 14 of the '247 Patent specification refer back to elements 120 and 140 of Figure 1. *See* FF ¶¶ 25-27. (*See also* Dkt. No 292 at 19 (Google's JMOL Motion) (arguing that "both P1 and P2 refer back to elements 120 and 140 in Figure 1"); Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 145:5-10 (Testimony of Dr. Kogan) ("Figure 6 is a different thing. As we can see in the text that's blocked here, Figure 6 is about online gaming carried out on computer system 100. Now, the computer system 100, that's the two processor/ two memory space thing we keep seeing in Figure 1."); Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 37:23-25 (Testimony of Dr. Dunsmore) ("Q: So Figure 6 describes using the processors 120 and 140 of Figure 1, right? A: Yes.")).

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[FF40] Figure 1 of the '247 Patent discloses a first processor P1 120 with direct access to the network interface via item 191:
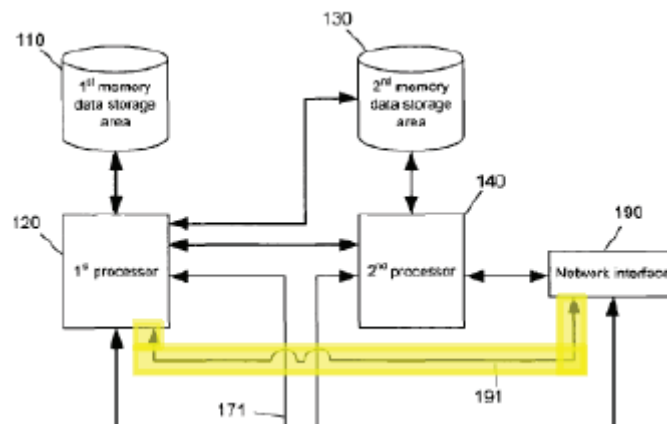
PTX-001, Fig. 1 (highlighting added).

[FF41] Further, Google concedes that "web browser processes" are a narrower subspecies of "logical processes" as described throughout the specification. (*See* Dkt. No. 292 at 11 (arguing that "by broadly reciting 'logical processes,' the originally filed '247 Patent claims indisputably encompassed web browser processes, including a first web browser process"); *id.* at 12 (arguing that "[c]hanging the originally filed claims of the '247 Patent to recite a 'first web browser process' requires revising only one term, 'first logical process,' to a 'first web browser process.' This change is minor given that *a 'web browser process' is a type of 'logical process.'*") (emphasis added)).

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[FF42] Google's invalidity expert also explained that logical processes encompass web browser processes. (*See* Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 67:21-68:4 ("Q: What about the first logical process. . . . Where is that? A: It's the same as the first web browser process. . . . A web browser process is going to be a logical process. . . . It's the way the computer works. It starts processes. And a web browser process would be a logical process.") (Testimony of Dr. Arbaugh)).

[FF43] Dr. Dunsmore testified, consistent with Dr. Arbaugh's explanation, that "a logical process could be just about anything. It could be a process that was running, working with a gaming system. It could be a process that's running working with email. It could be a ***process working with web browsers***." (Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 12:16-13:2 (Testimony of Dr. Dunsmore)). When asked about the types of programs that would be included as "secure logical processes," Dr. Dunsmore testified that Column 16 of the '247 Patent specification discloses to a person of ordinary skill in the art "that there could be . . . a number of things that could be done by these processes. And among those would be . . . processes that are part of a web browser. So the specification specifically talks about . . . a web browser program and processes that work with that." (Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 6:24-9:1).

[FF44] As such, Dr. Dunsmore explained that those skilled in the art reading Column 14 would understand that P1 and P2 can refer to two processes, both of which are accessing data from the Internet, which thus meet the Court's construction of "web browser process"—*i.e.*,

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a process that can access data on websites. (*See id.* at 9:21-10:21 ("Here we have two processes, P1 and P2. And both of them are retrieving data from the network, and that's exactly what needs to be done by the processes of a web browser. Q: And does P1 and P2 accessing website data meet . . . the Court's definition of what a web browser process is? A: Yes, it does.")).

[FF45] Dr. Dunsmore also explained that Column 16 of the '247 Patent specification would disclose to a person of skill in the art the various types of processes that could be executed in a secure logical process, including the "functions of a web browser program." (*Id.* at 7:14-8:9 ("Q: Professor Dunsmore, how would a person of ordinary skill understand or interpret these disclosures that we've just looked at in column 16? A: Well, a person of ordinary skill would realize that there could be . . . a number of things that could be done by these process [*sic*]. And among those would be . . . processes that are part of a web browser.")).

[FF46] However, Dr. Dunsmore also noted at trial that the term "web browser process" is never used in the '247 Patent specification to describe Figure 6. (*Id.* at 38:1-6). Although the '247 Patent specification does not expressly refer to two instances of "web browser" or "browser" programs in describing the claimed invention, the Court notes that the '247 Patent specification explains that prior art solutions "could significantly slow or preclude the ***interactive nature of many applications such as*** gaming, messaging, and ***browsing***." PTX-001 at 6:16-20.

[FF47] As further stated in the '247 Patent specification, the "interactive network process" embodiment describes

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P1 120 connecting to the "network," PTX 001 at 14:23-24, which is defined as the "Internet, a LAN, WAN, VPN, etc.," *id.* at 10:5-7.

[FF48] Google's expert, Dr. Kogan, disputed Dr. Dunsmore's opinion and testified that the embodiment disclosed in Figure 6 and Column 14 of the '247 Patent was limited to "online gaming." (Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 145:1-23). Dr. Kogan's opinion was that there was no disclosure of web browser processes in the '247 Patent specification:

> A: . . . Well, Figure 6 kind of goes along with some text that's in the specification. There's a bunch of text that talks all about that Figure 1, and you've heard people talking about that. And that ***Figure 1 is about browsing the Internet. Figure 6 is a different thing. As we can see in the text that's blocked here, Figure 6 is about online gaming carried out on computer system 100***. Now, the computer system 100, that's the two processor/two memory space thing we keep seeing in Figure 1. So this is just a use case of how that works with respect to running games. So, you know, you're — I'm sure you've had kids or grandkids or — they're all playing Call of Duty and games with their friends, and you can't get the headphones off their heads.

> Q: How does Figure 6 relate to web browsers?

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A: Well, ***Figure 6 doesn't relate to web browsers because games deal with game servers on the Internet***. There's a lot of stuff on the Internet, and everything on the Internet is not a website. And everything that comes and goes on the Internet is not website data. So when you have a game running on your computer, your game is talking to a specific game server, and that game server is providing you game data, not website data.

(*Id.*). Dr. Kogan testified that many types of data are exchanged over the Internet, not just website data for web browsing. Thus, Dr. Kogan's expert opinion was that processes that access "interactive network process status data" from a network are not accessing "website data" and cannot fit the Court's definition of "web browser process." (*Id.*).

[FF49] Figure 6 refers to the broader "interactive network process" and denotes "interactive network process status data" being received from the network connection (step 620), the first process on P1 receiving the "interactive network process status data" from P2 (step 640), and that the "updated interactive network process status data" is passed back to the network via the network connection (step 660). PTX-001, Figure 6. Online gaming is never mentioned in Figure 6, which instead refers more broadly to an "interactive network process." *Id.* The specification also makes clear that online gaming is just one example of an "interactive network process" described in Figure 6. (*Id.*, at 14:3-4, 14:28-30).

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b. *"One Processor" Limitation of Claim 43 of the '500 Patent and Claim 67 of the '528 Patent*

[FF50] Asserted Claim 43 of the '500 Patent depends from independent Claim 41, which recites in relevant part: "A computer program product . . . having ***at least one electronic data processor*** communicatively coupled to a first memory space with at least one system file and a second memory space. . . ." FF ¶ 33 (emphasis added).

[FF51] Asserted Claim 67 of the '528 Patent depends from independent Claim 64 which recites in relevant part: "A computer program product . . . having ***at least one electronic data processor*** communicatively coupled to a first and second memory space. . . ." FF ¶ 35 (emphasis added).

[FF52] Both parties' experts testified at trial that these two Asserted Claims require only one processor. (Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 148:2-22 (Testimony of Dr. Kogan); Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 33:8-25 (Testimony of Dr. Dunsmore)).

[FF53] The parties' experts also agreed that although two processor cores may be on a single processor chip, each processor core still constitutes a separate processor. (Dkt. No. 264 (Trial Tr. 2/7/17 am) at 51:5-16; Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 148:2-10).

[FF54] Although Figure 1 of the '247 Patent specification depicts the first processor P1 120 and second

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processor P2 140 as physically separate data processors, PTX-001 at Fig. 1, Figure 9 depicts an alternative embodiment using a single, physical processor chip:
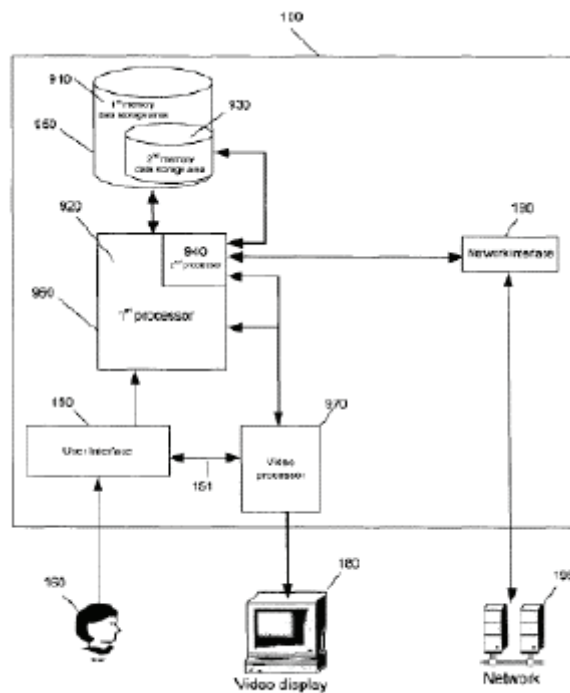
Fig. 9

PTX-001 at Fig. 9.

[FF55] Column 16 of the '247 Patent specification explains: "In accordance with a preferred embodiment of the present invention, an alternate configuration for computer system 100 is illustrated in FIG. 9. Computer system 100 comprises a video processor 970, ***processor 960***, and a memory data storage area 950." PTX-001 at 16:8-10 (emphasis added).

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[FF56] Column 16 of the '247 Patent specification further discloses: "Processor 960 *may further* comprise multiple processor cores, illustrated by 1st processor 920 and 2nd processor 940." *Id.* at 16:10-12. (emphasis added). Since "[m]icroprocessors manufactured with multiple processor cores are becoming common in the industry, and such multi-core processors may be particularly advantageous when used in accordance with the present teachings," the '247 Patent explains that "[i]t is understood that processor 960 may contain more than 2 processor cores." *See id.* at 16:12-17.

[FF57] Additionally, the '247 Patent specification teaches that "the functions carried out by processors 920 and 940 may comprise separate, secure logical processes executing on *the same physical processor*." PTX-001 at 16:22-24 (emphasis added). The specification continues immediately thereafter with examples of embodiments of the invention implemented using two logical processes:

> For example, a first logical process may comprise *executing instructions* necessary to carry out the functions of an operating system, or the first logical process may comprise *executing instructions* necessary to carry out the functions of a first computer program, including but not limited to a word processor. A second logical process may comprise *executing instructions* necessary to carry out the functions of a web browser program, or may comprise executing instructions necessary to carry out the functions of an instant messenger

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program, for example. A computer system 100 constructed in accordance with the principles of the present invention would be capable of disallowing a secure logical process, such as the second logical process described above, access to certain memory spaces, and/or disallowing a secure logical process from initiating access to another logical process. For example, the functions carried out by P2 140 (FIG. 1) may comprise a secure logical process, which may be configured to be unable to automatically initiate access to either M1 110 or another logical process **performing the functions of P1 120**.

PTX-001 at 16:24-34 (emphasis added).

[FF58] However, Dr. Dunsmore testified that the '247 Patent specification's teaching that "[p]rocessor 960 may further comprise multiple processor cores," FF ¶ 56, signals to those skilled in the art that the invention may be executed on multiple processor cores, but could also be executed on a single processor. (Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 6:24-7:11, 8:2-15 (opining that the "specification in the patent says that, in fact, instead of being separate processors, these can simply be separate processes that are executing on the same physical processor, a single processor . . . .[and that] the patent specification speaks to . . . both doing this on a single processor or on a multi-core processor")).

[FF59] Moreover, the Summary of the Invention never refers to physical processors, but instead notes that an

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"object of the present invention" is to provide a computer system capable of executing instructions in a "first logical process" and "second logical process," and that malware "downloaded from the network and executing as part of the second logical process is incapable of initiating access to the first memory space." PTX-001 at 7:63-8:19. This is described in column 16, which makes clear that the functions carried out by the processors "may comprise separate, secure logical processes." *Id.* at 16:23-24.

[FF60] The '247 Patent specification notes specifically that the functions of P1 120 in Figure 1 may be carried out by a first logical process, and the functions of P2 140 may be carried out by a second logical process:

> [a] computer system 100 constructed in accordance with the principles of the present invention would be capable of disallowing a secure logical process, such as the second logical process described above, access to certain memory spaces, and/or disallowing a secure logical process from initiating access to another logical process. For example, the functions carried out by P2 140 (FIG. 1) may comprise a secure logical process, which may be configured to be unable to automatically initiate access to either M1 110 or another logical process performing the functions of P1 120.

Id. at 16:34-43.

[FF61] Google's expert, Dr. Kogan, provided conclusory testimony—without reference to any portion of the intrinsic

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record of the '247 Patent—that the single processor limitation is not disclosed by the '247 Patent specification:

> Q. And finally, have you heard of something called the original patent rule?
>
> A. Yes, I have.
>
> Q. And have you reached any conclusions regarding that rule?
>
> A. Yes, I have. The original patent rule, as a result of it, the — the patents that the ***claims with one single processor are not supported by the specification***, and, therefore, by the original patent rule, they are invalid. ***Trust me***, the original patent rule is big and ugly, and I can't remember all the legal standards specifically, but it speaks to if the specification doesn't call out exactly what's being asked for, you can't have it. And so the original patent rule is — renders the two claims with a single processor invalid. . . .

(Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 150:15-151:6). In post-trial briefing, Google argues that Figure 9 of the '247 Patent, which depicts two processors, informs the disclosure of Column 16 of the '247 Patent's specification and indicates that Column 16 does not clearly disclose a single processor embodiment. (Dkt. No. 292 at 17-19).

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    c.   *A First Web Browser Process Passing Data to a Second Web Browser Process Limitation of Claim 43 of the '500 Patent, Claim 67 of the '528 Patent, and Claim 49 of the '529 Patent*

[FF62] Claim 43 of the '500 Patent depends from Claim 41, which recites in relevant part: "pass data from the first web browser process to the second web browser process." FF ¶ 33.

[FF63] Claim 49 of the '529 Patent depends from Claim 36, which recites in relevant part: "passing data from the first web browser process to the at least one second protected web browser process." FF ¶ 36.

[FF64] Claim 67 of the '528 Patent depends from Claim 64, which recites in relevant part: "pass data from the first web browser process to the second web browser process." FF ¶ 35.

[FF65] Google contends that Claim 43 of the '500 Patent, Claim 49 of the '529 Patent, and Claim 67 of the '528 Patent are invalid under § 251 for failure to disclose a first web browser process that passes and/or exchanges website data with the second web browser process. (Dkt. No. 292 at 23).

[FF66] Google submitted this § 251 invalidity ground in its Rule 50(a) motion on the papers and did not present oral argument to the Court. FF ¶¶ 15-17.

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[FF67] Plaintiffs argue that Google waived this argument because it failed to offer evidence at trial on the question of whether a person of ordinary skill in the art would consider the "passing" or "exchanging" of website data between the first and second web browser processes as adequately disclosed. (Dkt. No. 295 at 12). Google admits that it did not present any expert testimony regarding this argument at trial. (Dkt. No. 320 at 3-4 (acknowledging that "[t]he record from the jury trial provides an incomplete record of extrinsic evidence on Google's § 251 invalidity defenses" and recognizing that "neither party presented separate extrinsic evidence on th[is original patent] defense[]")).

[FF68] Although Google "request[ed] that the parties be permitted to present evidence and live witness testimony at the bench trial to provide the Court with a complete record on which to decide § 251 invalidity" (Dkt. No. 320), the Court clarified that it did "not intend to conduct a new evidentiary hearing in this regard" because Google already had an opportunity to provide such evidence before the jury and the Court. (*See* Dkt. No. 327). *See also* FF ¶¶ 16-17.

[FF69] The Court finds that Figure 6 of the '247 Patent is a flow chart that discloses: (1) processor P2 retrieving "interactive network process" status data, (2) processor P2 passing the data to processor P1, and (3) then processor P1 passing the updated "interactive network process status data" back to processor P2:

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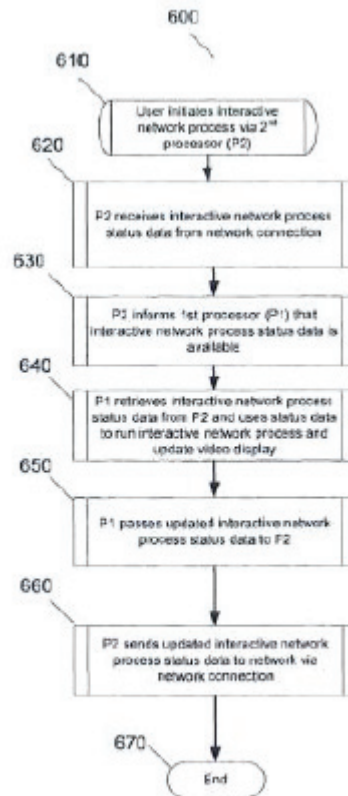
Fig. 6

PTX-001 at Fig. 6.

[**FF70**] When describing Figure 6, the '247 Patent specification notes that a "interactive network process" could be an "interactive game" but does not limits an "interactive network process" to online games. PTX-001 at 14:3-4 ("Interactive network process *such as* interactive gaming") (emphasis added); *id.* at 14:30-31 "allows an interactive network process, *such as* online gaming")

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(emphasis added).

[FF71] The '247 Patent specification makes a similar distinction between "interactive network process status data" and "game status data" or "game status information," signifying that "interactive network process status data" is broader than just "game status data." *See* PTX-001 at 14:49-51 ("By using *exemplary* process 600 (or an equivalent) . . . .The 120-120 system *may* be advantageously configured to *only* accept game status information. . . .") (emphases added); *see also id.* at 14:28-31 ("In accordance with a preferred embodiment of the present invention, an *exemplary* process flow 600, illustrated in FIG. 6, allows an interactive network process, *such as* online gaming, to be carried out on computer system 100.") (emphasis added).

[FF72] Therefore, the Court views the specification of the '247 Patent as clearly disclosing the first and second processes, P1 and P2, exchanging "interactive network process status data" (PTX-001 at 14:28-45). The term "interactive network process" on its face includes web browser processes, which by definition interact with the network. The Court finds that, consistent with Figure 6, Column 14 of the '247 Patent specification discloses passing "interactive network process status data" from processor P1 to processor P2 and back to processor P1. *See* PTX-001 at 14:32-45; *see also* FF ¶ 69.

[FF73] Additionally, Plaintiffs' expert Dr. Dunsmore testified at trial with respect to Claim 43 of the '500 Patent, Claim 67 of the '528 Patent, and Claim 49 of the '529 Patent, that the "data" passed from the "first web

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browser process" to the "second web browser process" must be "website data." (Dkt. No. 270 (Trial Tr. 2/9/17 am) at 119:2-23). He testified that a POSITA would interpret P1 and P2 as "web browser processes" because both are capable of accessing website data. (Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 7:14-8:9, 9:21-10:21, 12:16-24, 67:21-68:4).

[FF74] This is consistent with Figure 1, which discloses a two-way communication arrow between P1 and P2. *Compare* FF ¶¶ 61-63 *with* PTX-001 at Fig. 1.
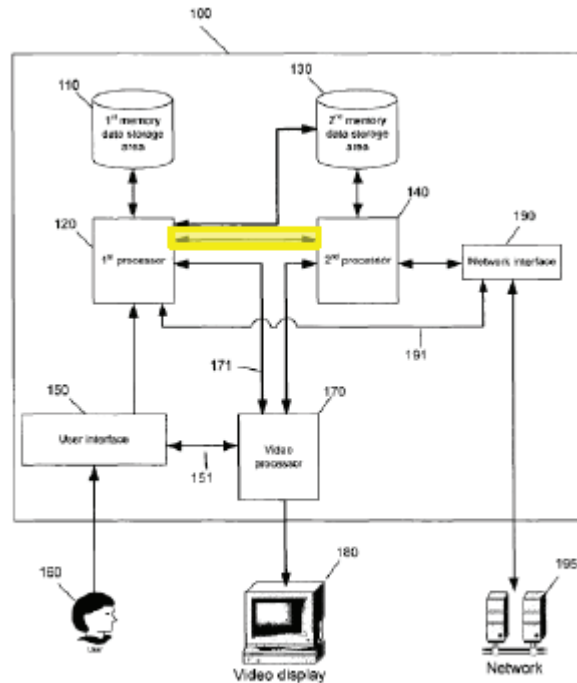
Fig. 1

PTX-001 at Fig. 1 (highlighting added).

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[FF75] Dr. Dunsmore testified that a person of ordinary skill in the art would interpret P1 and P2 as "web browser processes" because both are capable of accessing website data. *See* FF ¶¶ 43-46.

> d. *A First Web Browser Process Initializing a Second Web Browser Process Limitation of Claim 49 of the '529 Patent*

[FF76] Claim 49 of the '529 Patent recites an additional feature of the two "web browser processes," requiring that the "first web browser" "initialize" the "second web browser process." Specifically, Claim 49 depends from Claim 36 of the '529 Patent, which recites in relevant part: "executing instructions in the first web browser process, wherein the first web browser process is configured to access data contained in the first memory space and ***to initialize the at least one second protected web browser process***." FF ¶ 36.

[FF77] Google submitted this § 251 invalidity ground in its Rule 50(a) motion on the papers and did not present oral argument to the Court. FF ¶¶ 15-17.

[FF78] Plaintiffs argue that Google waived this argument because it failed to offer evidence at trial on this issue. (Dkt. No. 295 at 13). Google admits that it did not present any expert testimony regarding this argument at trial. (Dkt. No. 320 at 3-4 (acknowledging that "[t]he record from the jury trial provides an incomplete record of extrinsic evidence on Google's § 251 invalidity defenses"

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and recognizing that "neither party presented separate extrinsic evidence on th[is original patent] defense[]")).

[FF79] Although Google "request[ed] that the parties be permitted to present evidence and live witness testimony at the bench trial to provide the Court with a complete record on which to decide § 251 invalidity" (Dkt. No. 320), the Court clarified that it did "not intend to conduct a new evidentiary hearing in this regard" because Google already had an opportunity to provide such evidence before the jury and the Court. (*See* Dkt. No. 327). *See also* FF ¶¶ 16-17.

[FF80] Figure 2 of the '247 Patent specification describes "(P1)" instructing "(P2)" to initiate a "protected process" and open one or more process windows (step 220). PTX-001 at Fig 2. The discussion of Figure 2 discloses the user launching of a "protected process" such as Internet Explorer or Netscape Navigator. *Id.* at 10:64-11:2. A user inputs commands to launch the overall program. *Id.* at 11:2-4; *see also id.* at Fig. 2, step 210. The '247 Patent specification then describes "1st processor 120" (P1) instructing the "2nd processor 140" (P2) to initiate the protected process and open one or more process windows. *Id.* at 11:4-6. The specification further explains that the protected process may be "browsing the internet." *Id.* at 11:6-10.

[FF81] Figure 10 of the '247 Patent specification further discloses "1st processor (P1) instruct[ing] 2nd processor (P2) to initiate protected process and open process window." PTX-001, Fig. 10. The '247 Patent specification then describes Figure 10 as disclosing

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"processor P1 120 instruct[ing] processor P2 140 to initiate a protected process and open a process window." *Id.* at 17:16-18. The specification also explains that that the "method of operating a computer system involving data encryption" prior to sending data to processor P2 " as set forth in Figure 10 and described in Column 17 is "[i]n accordance with the present teachings" and "[i]n accordance with a preferred embodiment of the present invention." *See id.* at 17:11-13, 33-35.

[FF82] The Court finds that the '247 Patent specification (in the figures and in multiple places throughout the detailed description) discloses that processor P1 is capable of opening and/or initializing processes on processor P2. The specification further discloses that the functions carried out by processor P1 and processor P2 can also be carried out by, and referred to as, "logical processes." *See* FF ¶ 59-60. It is undisputed that "logical processes" can be any number of computer program processes including "web browser processes." *See* FF ¶¶ 37, 41-47. Additionally, the '247 Patent specification discloses a user opening a web browser program, followed by P1 instructing P2 to open one or more protected process windows for web browsing. FF ¶ 80-81.

2. Facts Relevant to Google's Recapture Defense

[FF83] At trial, Plaintiffs' expert Dr. Dunsmore agreed that the Claim 43 of the '500 Patent and Claim 67 of the '528 Patent encompass a single processor system, whereas the '247 Patent's issued claims do not. (Dkt. No.

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271 (Trial Tr. 2/9/17 pm) at 33:8-25.) Google's expert Dr. Kogan testified that the first step of the recapture is met. (Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 148:2-22). Plaintiffs did not dispute the first step of the recapture test in post-trial briefing. (*See* Dkt. No. 295 at 14-23).

> a. *Threshold Inquiry Regarding Overlooked Aspects of the '247 Patent*

[FF84] While the '247 Patent describes a system that includes two processors, the original claims of the '247 Patent were not so limited. Originally filed Claim 1 of the '609 Application recited a method of operating a computer system with "a first logical process" and "a second logical process," but it did not specify how many *processors* the system included:

> 1. A method of operating a computer system, comprising the steps of:
>
> executing instructions in ***a first logical process***, wherein the first logical process is capable of accessing data contained in a first memory space and a second memory space;
>
> executing instructions in ***a second logical process***, wherein the second logical process is capable of accessing data contained in the second memory space, the ***second logical process being further capable of exchanging data across a network*** of one or more computers;

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. . .

wherein the computer system is configured such that malware program downloaded from the network and executing as part of the ***second logical process*** is incapable of initiating access to the first memory space.

See PTX-007 at R00000587 (emphasis added).

[FF85] Similarly, originally filed Claim 15 of the '609 Application, reproduced in part below, recited executing a "first logical process" and "second logical process" on "at least one electronic data processor":

15. A computer system, comprising:

at least one electronic data processor capable of executing instructions;

. . .

wherein the electronic data processor, first and second memory space, and video processor are configured for performing the steps of:

executing instructions in a ***first logical process***, wherein the ***first logical process*** is capable of accessing data contained in the first memory space and the second memory space;

executing instructions in a ***second logical process***, wherein the ***second logical process*** is

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capable of accessing data contained in the second memory space, the ***second logical process being further capable of exchanging data across a network*** of one or more computers;

. . . .

Id. at R00000591 (emphasis added).

[FF86] Although the originally filed Claims 1 and 15 of the '609 Application recited a first logical process with access only to the first memory space and second memory space, the claims further recited a second logical process with access to the second memory space *and* that was capable of exchanging data across a network of computers. *See* FF ¶¶ 84, 85. Accordingly, the originally filed Claims 1 and 15 of the '247 Patent set forth a first and second logical process where only the second logical process had access to the network. (*See id.*)

[FF87] In contrast, the challenged reissue claims (Claim 43 of the '500 Patent and Claim 67 of the '528 Patent) contain a first and second *web browser* processes (not merely *logical* processes of any type), and thus by definition ***both*** processes require access to the network. *See* FF ¶¶ 33, 35; *see also* FF ¶¶ 7-9, 40-47.

[FF88] Google's expert, Dr. Arbaugh, opined that the original '247 Patent required a second processor to isolate the computer system from the network. (Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 112:10-113:7). Additionally, Dr. Kogan, another Google expert, testified that the Asserted

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Patents (*i.e.*, the reissue patents) disclosed a different invention from the '247 Patent (the original patent), albeit he inconsistently couched his opinion as applying only for the original patent rule and not the rule against recapture. (Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 30:5-31:5).

[FF89] Google argues that Dr. Dunsmore essentially conceded on cross-examination that, were the original filed-for claims read broadly enough, they could encompass a first logical process with access to the network (*i.e.*, a "web browser process"). (*E.g.*, Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 41:6-23). Such a reading, however, would eschew any reliance on the intrinsic record and the critical context it provides—essentially reading the '247 Patent's claim language in a vacuum.

[FF90] Furthermore, the Court previously determined that "the essence of the invention claimed in the '247 Patent was isolation—only the second logical process could access the network the rest of the system could not." (Dkt. No. 212 at 8 (Magistrate Judge's Report and Recommendation); *see also* Dkt. No. 226 (Order Adopting)). In contrast, the Court found that the Asserted Claims of the reissue patents are "directed to processes that occur on web browsers and thus are not related to isolation." (Dkt. No. 212 at 8; *see also* Dkt. No. 226). This conclusion is consistent with the Inventors' representations to the PTO to advance prosecution on the '609 Application. (*See* PTX-007 at R00000681 ("[T]he physical hardware separation or partitioning of instruction execution on physically separate processors (or processor cores), as taught by the Applicants, allows malicious instructions to be executed within the second logical process, using the

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second electronic data processor operating in a protected mode.").

[FF91] The Court also noted that determination of whether a reissue claim was patentably distinct over the original claims required consideration of whether the reissue claims were obvious in light of the original claims. (Dkt. No. 212 at 9). Neither party at summary judgment presented evidence on the issue of obviousness, and the Court denied Google's motion because of unresolved issues of fact. (*Id.* at 10). Notwithstanding the opportunity to present evidence on obviousness at trial, Google failed to do so.

[FF92] Additionally, the Court finds that Google's argument (for its original patent requirement challenge under § 251) to be a concession that reinforces the Court's prior conclusion that the Asserted Patents are in essence directed to a different invention than the original claims of the '247 Patent. (Dkt. No. 251 at 5-6 (Google's Rule 50(a) Motion) (arguing that "the invention disclosed in the reissue patents is ***entirely different*** from the one disclosed in the original '247 Patent . . . [The] first logical process ran on the first processor and a second logical process ran on the second processor, and ***only the second process*** . . . ***was a network-interface program or browser***.") (emphasis added)).

b.   *Facts Relevant to the Recapture Test*

[FF93] Originally filed Claim 1 of the '609 Application claimed a "first logical process" and "second logical process." FF ¶ 84.

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[FF94] Originally filed Claim 15 of the '609 Application claimed "at least one electronic data processor" executing a "first logical process" and "second logical process." FF ¶ 85.

[FF95] During prosecution of the '609 Application, the PTO examiner rejected originally filed Claim 1 as anticipated by U.S. Patent No. 6,192,477 ("Corthell"). PTX-007 at R00000651-52. With respect to originally filed Claim 1, the examiner did not discuss whether Corthell discloses multiple processors, presumably because Claim 1 was not limited to a particular number of processors. *Id.* at R00000651; *see also* FF ¶ 84.

[FF96] During prosecution of the '609 Application, the PTO examiner also rejected the originally filed Claim 15 as obvious in view of U.S. Patent Nos. 6,578,140 ("Policard") and 5,673,403 ("Brown"). (PTX-007 at R00000656.) With respect to originally filed Claim 15, the examiner reasoned that since the claim could be interpreted to encompass a multiprocessor system executing on multiple operating systems, Claim 15 was obvious over Policard in view of Brown because Policard describes a system in which two processors operated in "dual, separate operating systems." *See id.* at R00000650, 656.

[FF97] On April 29, 2008, Plaintiffs responded by amending Claims 1 and 15 to recite at least two processors. Specifically, Plaintiffs amended Claim 1 of the '609 Application, reproduced in part below, to require "having at least a first and second electronic data processor":

> 1. (Currently Amended) A method of operating a computer system ***having at least a first and***

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second electronic data processor capable of executing instructions using a common ~~***running an***~~ operating system, comprising the steps of:

executing instructions in a first logical process within the ***common*** operating system ***using the first electronic data processor***, wherein the first logical process is capable of accessing data contained in a first ~~*electronic*~~ memory space ***and a second memory space***;

executing instructions in a second logical process within the common operating system ***using the second electronic data processor*** , wherein the second logical process is capable of accessing data contained in ~~*a*~~ ***the*** second ~~*electronic*~~ memory space, the second logical process being further capable of exchanging data across a network of one or more computers;

. . .

wherein the computer system is configured such that ***the second electronic data processor is operating in a protected mode and*** data residing on the first ~~*electronic*~~ memory space is protected from corruption by a malware process downloaded from the network and executing ~~*on*~~ ***as part of*** the second logical process.

PTX-007 at R00000672 (amendments indicated).

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Likewise, Claim 15 of the '609 Application, reproduced in part below, was amended to require a "multi-processor" system with "a first and second electronic data processor":

15. (Currently Amended) A ***multi-processor*** computer system ***using a common operating system***, comprising:

at least ***a first and second*** ~~one~~ electronic data processor capable of executing instructions ***using the common operating system***;

. . .

wherein the ***first and second*** electronic data ~~processor~~ ***processors***, first and second memory space, and video processor are configured for performing the steps of:

executing instructions in a first logical process ***with the first electronic data processor***, wherein the first logical process is executing within ***the common*** ~~an~~ operating system and is capable of accessing data contained in the first memory space and the second memory space;

executing instructions in a second logical process ***with the second electronic data processor***, wherein the second logical process is executing within the ***common*** operating system and is capable of accessing data contained in the second memory space, the second logical

process being further capable of exchanging data across a network of one or more computers;

. . . .

Id. at R00000675-76 (4/29/2008 Amendment at 5-6); *see also id.* at R00000672.

[FF99] The Inventors relied on these amendments to traverse Corthell, Policard, and Brown. To distinguish Corthell, the Inventors argued that adding a "second electronic data processor" provides "physical isolation" between the first and second logical processes:

> As per claim 1, Examiner believes that Corthell discloses the Applicant's claimed invention. . . . ***Corthell teaches the use of a computer system using a single electronic data processor*** (Figure 1, [block 102]), utilizing a redirector (Figure 2, [block 214]) and filter (Figure 2, [block 216]) mechanism to protect against attacks by malware. ***Corthell, therefore, teaches the use of a single electronic data processor that is necessarily executing all instructions***. . . . While Corthell does teach partitioning of the memory space into a primary partition (Figure 2, [block 204]) and a protected partition (Figure 2, [block 206]), ***he does not teach or suggest the partitioning of "<u>secure</u>" and "<u>unsecure</u>" instruction execution onto separate electronic data processors***.

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In stark contrast, Applicants teach the use of a multi-processor computer having at least a first and second electronic data processor capable of executing instructions using a common operating system. . . . Such a configuration allows for a physical hardware separation or partitioning of instruction execution on physically separate processors (or processor cores), in contrast to Corthell's teaching of executing all instructions on a single electronic data processor. ***By physically separating the execution of <u>trusted</u> instructions*** (the operating system running on the first electronic data processor, for example) ***from <u>untrusted</u> network process instructions*** (a Java script downloaded for the internet, for example), a higher level of security may be achieved.

Id. at R00000679-80 (4/29/2008 Amendments/Remarks at 9-10) (emphasis added); *compare with* FF ¶¶ 84, 93.

[FF100] The Inventors made similar arguments as to the Policard and Brown references:

Applicants understand the Examiners suggestion regarding independent claims 10 and 15, and have amended the claims to specify a computer system having at least a first and second electronic data processor capable of executing instructions ***using a common operating system***. Additionally, Applicants have incorporated elements of amended independent

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claim 1 . . . into the amended claims 10 and 15, further patentably distinguishing claims 10 and 15 from the teachings of Policard and Brown.

Id. at R00000685 (4/29/2008 Amendments/Remarks at 15) (emphasis added); *compare with* FF ¶¶ 85, 94.

[FF101] In issuing the Notice of Allowance for the '609 Application, the examiner accepted "the Applicant's argument that the prior art does not show a single operating system that executes on multiprocessors such that *one processor handles processes from the Internet* and other potentially malicious data in order *to protect the file system on the other processors*." *Id.* at R00000709 (emphasis added). Thus, in order for the '247 Patent to issue, the Inventors added the second processor limitation—which added physical isolation of the first logical process—to distinguish the isolated and non-isolated processes of Corthell, Policard, and Brown, which execute on the same processor. The '609 Application—reciting at least two processors—issued as the '247 Patent on January 27, 2009. PTX-001 at 1.

[FF102] As to prosecution of the Asserted Claims (*e.g.*, of the reissue patents), Mr. Cioffi testified at trial that the Inventors intended to cover unclaimed embodiments that were originally disclosed in the '247 Patent specification. (Dkt. No. 263 at 97:24-98:6, 122:15-124:19.) In particular, the Inventors claimed "browser processes," whereby the first logical process was no longer isolated from the network. PTX-010 at R00001550 (Claim 1), R00001557 (Claim 21). The Inventors also eliminated the requirement

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of a second electronic data processor for many of the reissue claims. (*See id.*).

[FF103] Dr. Dunsmore also testified at trial that the Inventors added the second electronic data processor requirement to the original '247 Patent claims to physically isolate the first logical process from the network. (Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 13:8-20). Since the first logical process in the reissued Asserted Patents was now a "browser process" with access to the network (*i.e.* non-isolated), there was no longer a need for the physical isolation from the network afforded by the previously claimed the second electronic data processor. (*Id.*). Dr. Dunsmore agreed that these amendments surrendered all single-processor embodiments in the '247 Patent and were made for the purpose of distinguishing prior art. (*Id.* at 27:8-21, 30:5-18).

[FF104] Dr. Kogan similarly opined that Inventors' amendment was made to distinguish prior art and had the effect of surrendering single-processor embodiments. (Dkt. No. 268 (Trial Tr. 2/8/17 pm) at 147:1-148:1).

[FF105] The issue of § 251 recapture was raised by the PTO during the prosecution of the challenged reissue claims on two occasions. PTX-010 at R00001657-59, ¶¶ 4-8; PTX-11 at R00002194-95, ¶¶ 4-5. The PTO withdrew both recapture rejections in response to the Inventors' explanatory remarks. PTX-010 at R00001660-65, 1657-59, 1747-50, 1786-1805.

[FF106] In the first office action for the '528 Patent, the PTO examiner raised rejections under recapture and

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anticipation, noting that the Inventors had "removed the limitation that the 'second logical process executing on the second electronic data processor is' capable of exchanging data across a network of one more computers" and that "the reissue claims were not materially narrowed in other respects, and therefore recapture exists." PTX-010 at R00001657-59. The examiner explained that the claims of the '247 Patent were interpreted "as having a processor dedicated to network communications and the claimed system to display the data from both processors in a windowed format. This interpretation was supported by the Applicant's final amendment prior to allowance, which further specified that the system comprised two processors, one of which was capable of exchanging data across a network." *Id.* at R00001659. However, the examiner did not re-raise Corthell as an anticipating prior art reference. *See id.* at R00001660-65.

[FF107] The Inventors explained that "the claims of [the '247 Patent] do not include a limitation wherein a processor is dedicated to communicating across a network [and t]hus[] recapture cannot apply . . . inasmuch as the claims of the ['247 Patent] do not recite a dedicated processor for communicating across the network." *Id.* at R00001747. In response to the Inventors' argument, the PTO withdrew its rejection, finding the Inventors' arguments "persuasive." *Id.* at R00001786.

[FF108] However, the examiner subsequently raised a new anticipatory reference, U.S. Patent Application Publication No. 2002/0002673 ("Narin"), against all the reissue claims because, among other reasons, Narin

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disclosed two "browser processes." *See* PTX-009 ('500 Patent File History) at R00001389-90 (11/17/2011 Final Rejection at 2-3); PTX-010 ('528 Patent File History) at R00001911-12 (11/14/2011 Final Rejection at 2-3); PTX-011 ('529 File History) at R00002314-15 (11/8/2011 Final Rejection at 2-3).

[FF109] The Inventors attempted to traverse Narin by explaining that Narin's "closed [first] process" was not the same "first browser process" found in the reissue patents because Narin's closed first process did not have access to the network. *Id.* at R00001866-871. The examiner acknowledged the Inventors' argument that their "first browser process is a web process," but noted the claims did not specify the "claimed browsers are actually *web* browsers." *Id.* at R00001911-12.

[FF110] Based on the examiner's remarks, the Inventors subsequently narrowed the term "browser process" to "web browser process" and specified that the "first browser process" is "capable of accessing data of a website via the network." *Id.* at R00001973, 1979, 1990-91. As a result, the reissue claims were allowed. *Id.* at 2025.

[FF111] Dr. Dunsmore explained at trial that the Inventors, in claiming "web browser processes" in the reissue claims rather than the broader species of "logical processes," materially narrowed the reissue claims by excluding all types of processes other than "web browser processes." (Dkt. No. 271 (Trial Tr. 2/9/17 pm) at 12:1-13:2). He further explained that this narrowing related directly to the surrendered subject matter: a single-processor

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embodiment where the first logical process was isolated from the network but the second process was not. (Dkt. No. 263 (Trial Tr. 2/6/17 am) at 13:3-20, 14:12-19, 14:21-15:22). This is consistent with Mr. Cioffi's testimony on the subject. (*Id.* at 181:3-9).

[FF112] Google argues that Asserted Claims 43 and 67 are not materially narrowed with respect to the surrendered subject matter because a single processor has been added back into the claims. This argument assumes that the surrendered subject matter in its totality was the single-processor embodiment. As the Court has noted, however, the surrendered subject matter was not merely a single-processor embodiment, but also the first process being isolated from the network and the second process not being isolated. *See, e.g.*, FF ¶ 90.

II. CONCLUSIONS OF LAW

A. Legal Standard

1. Issues Tried to the Bench

[CL1] "In an action tried on the facts without a jury or with an advisory jury, the court must find the facts specially and state its conclusions of law separately." Fed. R. Civ. P. 51(a)(1). "If a party has been fully heard on an issue . . . the court may enter judgment against the party on a claim or defense that, under the controlling law, can be maintained or defeated only with a favorable finding on that issue." Fed. R. Civ. P. 52(c). Such a judgment "must be supported by findings of fact and conclusions of law." *Id.*

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[CL2] The purpose of these findings is to "afford[] . . . a clear understanding of the ground or basis of the decision of the trial court." *S. S. Silberblatt, Inc. v. U.S. for Use & Benefit of Lambert Corp.*, 353 F.2d 545, 549 (5th Cir. 1965) (internal quotation marks omitted); *see also Schlesinger v. Herzog*, 2 F.3d 135, 139 (5th Cir. 1993) (explaining that trial courts need not "recite every piece of evidence" or "sort through the testimony of . . . dozen[s] [of] witnesses").

[CL3] In making a particular finding, the district court "does not . . . draw any inferences in favor of the non-moving party and . . . [instead] make[s] a determination in accordance with its own view of the evidence." *Fairchild v. All Am. Check Cashing, Inc.*, 815 F.3d 959, 964 n.1 (5th Cir. 2016) (internal quotation marks omitted). However, a district court must still arrive at each of its factual determinations based on the applicable burden of proof. *In re Medrano*, 956 F.2d 101, 102 (5th Cir. 1992) (reversing the district court because it applied the preponderance of the evidence standard rather than the clear and convincing standard in making its factual determinations under Rule 52).

2.   Reissue of Patents under 35 U.S.C. § 251

[CL4] The reissue statute provides in relevant part that "[w]henever any patent is, through error, deemed wholly or partly inoperative . . . the Director shall . . . reissue the patent for the invention disclosed in the original patent. . . . No new matter shall be introduced into the application for reissue." 35 U.S.C. § 251. Compliance with the statutory requirements of § 251 is a question of law for the Court

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that may involve underlying determinations of fact. *In re Youman* 679 F.3d 1335, 1343 (Fed. Cir. 2012); *Forest Labs., Inc. v. Ivax Pharms., Inc.*, 501 F.3d 1263, 1270 (Fed. Cir. 2007); *Medtronic, Inc. v. Guidant Corp.*, 465 F.3d 1360, 1373 (Fed. Cir. 2006); *Pannu v. Storz Instruments, Inc.*, 258 F.3d 1366, 1370 (Fed. Cir. 2001); *Hester Indus., Inc. v. Stein, Inc.*, 142 F.3d 1472, 1479 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 1468 (Fed. Cir. 1997).

[CL5] Google's § 251 defenses present questions of law for determination by the Court analogous to claim construction and prosecution history estoppel. *See Hester*, 142 F.3d at 1481. Nonetheless, where a question of law turns on how a person having ordinary skill in the art would interpret disclosures in a specification, it is within the Court's purview to make factual findings. *Cf. Eli Lilly & Co. v. Teva Parenteral Meds., Inc.*, 845 F.3d 1357, 1369 (Fed. Cir. 2017) (noting the question of indefiniteness is a part of claim construction and therefore a question of law, but clarifying that "the district court's underlying determination, based on extrinsic evidence, of what a person of ordinary skill would understand" is a question of fact reviewed for "clear error").

> a.   *Original Patent Requirement Under 35 U.S.C. § 251*

[CL6] The original patent requirement derives from the reissue statute's language stating that a reissue patent must be "for the invention disclosed in the original patent." 35 U.S.C. § 251(a) (emphasis added). The Federal Circuit has applied this language to require that the reissue

claims be for the "same invention" as the original patent. *Antares Pharma, Inc. v. Medac Pharma Inc.*, 771 F.3d 1354, 1358-59 (Fed. Cir. 2014).

[CL7] A "reissue claim is for the 'same invention' if the original patent specification fully describes the claimed inventions." *Id.* at 1359 (citing *U.S. Indus. Chems., Inc. v. Carbide & Carbon Chems. Corp.*, 315 U.S. 668, 676, 62 S. Ct. 839, 86 L. Ed. 1105 (1942)). However, "for broadening reissue claims, the specification of the original patent must do more than merely suggest or indicate the invention recited in reissue claims; '[i]t must appear *from the face of the instrument* that what is covered by the reissue was intended to have been covered and secured by the original." *Forum US, Inc. v. Flow Valve, LLC*, 926 F.3d 1346, at 1351-52 (Fed. Cir. 2019) (quoting *U.S. Indus. Chems.*, 315 U.S. at 676) (emphasis in original). Thus, "the essential inquiry under the 'original patent' clause of § 251 . . . is whether one skilled in the art, reading the specification, would identify the subject matter of the new claims as invented and disclosed by the patentees." *In re Amos*, 953 F.2d 613, 618 (Fed. Cir. 1991).

[CL8] As the original patent requirement of § 251 compares the reissue claims to the disclosure of the original patent specification, it is "analogous to the written description requirement" of 35 U.S.C. § 112. *See Antares*, 771 F.3d at 1362 (Fed. Cir. 2014); *see also In re Depomed Patent Litig.*, No. 13-4507, 2016 U.S. Dist. LEXIS 166077, 2016 WL 7163647 at *28 (D.N.J. Sept. 30, 2016) ("'[A] reissue application must find support in the original patent's description such that the original description 'clearly allow[s] persons of ordinary skill in the art to

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recognize that the inventor invented what is claimed.'" (quoting *Antares*, 771 F.3d at 1362)). However, unlike the written description requirement of § 112, to satisfy the original patent requirement of § 251, the reissue claims' subject matter must be "clearly and unequivocally" disclosed—i.e., the "exact embodiment claimed on reissue" must be "expressly disclosed in the [original patent] specification." *See Antares*, 771 F.3d at 1362-63; *see also Depomed*, 2016 U.S. Dist. LEXIS 166077, 2016 WL 7163647 at *28 ("The original patent rule requires that reissue claims must be to matter 'explicitly disclosed and taught rather' than merely 'suggested or indicated in the specification.'" (quoting *Antares*, 771 F.3d 1354, 1361)).

b. *Rule Against Recapture Under 35 U.S.C. § 251*

[CL9] "The recapture rule bars a patentee from recapturing subject matter, through reissue, that the patentee intentionally surrendered during the original prosecution in order to overcome prior art and obtain a valid patent." *Youman*, 679 F.3d at 1343. "Under this rule, claims that are 'broader than the ***original patent claims*** in a manner directly pertinent to the subject matter surrendered during prosecution' are impermissible." *Clement*, 131 F.3d at 1468 (emphasis added).

[CL10] "Whether the claims of a reissue patent violate" the recapture rule under "35 U.S.C. § 251, and thus are invalid, is a question of law." *In re Mostafazadeh*, 643 F.3d 1353, 1358 (Fed. Cir. 2011). Recapture is assessed using the following three-step inquiry:

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(1) whether and in what respect the reissue claims are broader in scope than the original patent claims;

(2) whether the broader aspects of the reissue claims relate to subject-matter surrendered in an original application; and

(3) whether the reissue claims were materially narrowed in other respects, so that the claims may not have been enlarged.

Greenliant Sys., Inc. v. Xicor LLC, 692 F.3d 1261, 1267 (Fed. Cir. 2012). If the answer to the first two questions is yes, and the last is no, "the surrendered subject matter has crept into the reissue claims and they are barred under the recapture rule." *Youman*, 679 F.3d at 1345.

[CL11] However, the recapture rule is not triggered if the reissued claims are directed to "overlooked aspects" of the invention, such as "patentably distinct (1) inventions; (2) embodiments; or (3) species not originally claimed— not mere incidental features of the originally claimed invention." *Mostafazadeh*, 643 F.3d at 1360.

B.   Analysis

[CL12] The Court first considers whether Google has met its burden to show by clear and convincing evidence that the Asserted Claims are invalid under the original patent requirement of 35 U.S.C. § 251. *See U.S. Indus. Chems.*, 315 U.S. at 678 ("[I]t is the duty of a court to

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determine for itself, by examination of the original and the reissue, whether they are for the same invention."); *cf. Fisher-Price, Inc. v. Safety 1st, Inc.*, 109 F. App'x 387, 393 (Fed. Cir. 2004) (explaining that the accused infringer has "the burden of proving by clear and convincing evidence that the written description requirement [i]s not met").

1.   Original Patent Requirement of § 251

a.   Two or More "Web Browser Processes" Limitation of the Asserted Claims

[CL13] Each of Asserted Claims require two or more "web browser processes." FF ¶¶ 32-36. A "web browser process" as set forth in the Asserted Claims is a "process that can [directly or indirectly] access data on websites." *See* FF ¶ 7-9. Accordingly, for the Asserted Claims to satisfy the original patent requirement of § 251, the '247 Patent specification must "clearly and unequivocally" disclose an "exact embodiment" with two or more "process[es] that can [directly or indirectly] access data on websites." *See Antares*, 771 F.3d at 1362-63; *see also* FF ¶¶ 7-9.

[CL14] Google argues that "[t]here is no clear and unequivocal disclosure in the '247 Patent specification" of the term "first web browser process." (Dkt. No. 292 at 15). Specifically, Google contends that the '247 Patent specification only discloses a second logical process capable of accessing website data, and thus there is no disclosure of a first process that can access data on websites (*i.e.*, a "first web browser process"). (*Id.* at 19). Google relies on Dr. Kogan's opinion that Figure 6 and Column 14 of the

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'247 Patent specification are limited to online gaming such that "interactive network process status data" is not "website data," and therefore Figure 6 and Column 14 cannot refer to "web browser processes." FF ¶ 48.

[CL15] Plaintiffs counter that Dr. Kogan's opinions narrowly interpret the embodiment disclosed at Figure 6 and Column 14 of the '247 Patent specification. They assert that Column 14 describes "online gaming" as an *example* of an "interactive network process." (Dkt. No. 295 at 56.) They further contend that Figure 6 of the '247 Patent identifies the broader "interactive network process" embodiment and specifies (1) that "interactive network process status data" is received from the network connection (step 620); (2) the first process on P1 receiving the "interactive network process status data" from P2 (step 640), and (3) the "updated interactive network process status data" being passed back to the network via the network connection (step 660). FF ¶¶ 49. Moreover, Plaintiffs note Dr. Dunsmore's disagreement with Dr. Kogan's narrow interpretation of Figure 6 and Column 14. Dr. Dunsmore instead opined that a skilled artisan would recognize these portions of the specification as disclosing two processes executing on two processors, both accessing data from the network—and therefore, disclosing first and second web browser processes. FF ¶¶ 44, 58.

[CL16] Google also argues that P1 and P2 in Column 14 refer to *physical* processors, not processes. (Dkt. No. 292 at 15). Plaintiffs respond that Google's interpretation contradicts the clear language of the '247 Patent specification when read as a whole. (Dkt. No. 295 at 6).

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Plaintiffs assert that the specification specifically notes (1) the functions of P1 120 in Figure 1 may be carried out by a first logical process, and (2) the functions of P2 140 may be carried out by a second logical process. (*Id.* at 67). The Court addresses this below in relation to the parties' dispute over whether the "one processor" claim limitations violate § 251. *See* CL ¶¶ 31-38. In short, the Court agrees that the specification teaches an embodiment with two processes on a single processor. *Id.*

[**CL17**] On balance, the Court is persuaded that Google has not shown by clear and convincing evidence that the Asserted Claims violate the original patent rule. Despite Google's arguments to the contrary, the Court finds that the '247 Patent specification clearly and unequivocally discloses both first and second web browser processes.

[**CL18**] First, "interactive network process" is not limited online gaming processes. Google's interpretation of the "interactive network process" embodiment of Column 14 of the '247 Patent is unduly narrow and is not supported by the specification's express teachings. Figure 6 refers more broadly to an "interactive network process" and is not limited to online gaming. FF ¶¶ 69-71. Column 16 of the '247 Patent corresponds to Figure 6 and clearly indicates that online gaming is just one example of the "interactive network process" described in Figure 6. *Id.* Accordingly, the Court is persuaded that the '247 Patent specification discloses online gaming as an *example* of an interactive network process. *See, e.g.*, *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346-47 (Fed. Cir. 2015) ("This court has repeatedly 'cautioned against

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limiting the claimed invention to preferred embodiments or specific examples in the specification.'").

[CL19] Second, the "interactive network process status data" disclosed in Column 14 of the '247 Patent is likewise not limited to "game status data." Although the '247 Patent specification teaches that an "interactive network process" ***may be used***, for online "gaming," the specification teaches that "messaging[] and browsing" are also applications that have an "interactive nature." *See* FF ¶ 46. Furthermore, the "interactive network process" embodiment describes P1 120 connecting to the "network," which is defined in the '247 Patent specification as the "Internet, a LAN, WAN, VPN, etc." FF ¶ 47. Accordingly, the Court is persuaded that "interactive network process status data" includes "website data."

[CL20] The specification does not use the terms "interactive network process" and "online game" interchangeably, but instead describes an online game as one example of an interactive network process. The Court finds that Figure 6 and Column 14 of the '247 Patent specification are not limited to online gaming and game status data as Dr. Kogan suggests.

[CL21] Having rejected Google's argument that the "interactive network process" embodiment of the '247 Patent is limited to gaming processes and gaming data, the Court finds that Dr. Dunmore's and Dr. Arbaugh's trial testimonies are helpful in aiding the Court to understand what the '247 Patent specification

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"actually say[s]."[1] *See U.S. Indus. Chems.*, 315 U.S. at 678 ("[I]t is permissible, and often necessary, to receive expert evidence to ascertain the meaning of a technical or scientific term or term of art so that the court may be aided in understanding not what the instruments mean but what they actually say."). Their testimonies indicate that those skilled in the art would understand that web browser processes are *narrower* members of the broader class of "interactive network processes"— a class that also includes gaming applications. *Cf. U.S. Indus. Chems.*, 315 U.S. at 678 ("It is inadmissible to *enlarge* the scope of the original patent by recourse to expert testimony to the effect that a process described and claimed in the reissue, different from that described and claimed in the original patent, is, because equally efficacious, in substance that claimed originally.") (emphasis added) (footnotes omitted).

[CL22] The Federal Circuit's decision in *Forum US, Inc. v. Flow Valve, LLC*, outlines how expert testimony may be properly used to resolve the factual questions raised by Google's "original patent" defense. *See* 926 F.3d at 1352 ("We apply the standard set forth in *Industrial Chemicals* and *Antares* to this case."). In *Forum*, the

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1. Since Mr. Cioffi testified as a *fact witness* and *inventor*, his testimony is not helpful in determining what those skilled in the art would recognize as being disclosed by the '247 Patent specification. FF ¶¶ 1, 21; *see also Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1454 (Fed. Cir. 1984) ("It should be clear that that hypothetical person is not the inventor, but an imaginary being possessing 'ordinary skill in the art' created by Congress to provide a *standard of patentability* . . . .Realistically, courts never have judged patentability by what the real inventor/applicant/patentee could or would do.").

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specification disclosed, and all the original claims claimed, use of "arbors" in all embodiments of the invention. *Id.* at 1348-50. Although the plaintiff conceded there was no disclosure of an "arbor-less" embodiment of the invention, the plaintiff's expert testified that a person of ordinary skill in the art would recognize an arbor-less embodiment was possible based on "boilerplate language [in the specification] that modifications can be made to the original disclosed invention." *Id.* at 1352.

[CL23] The Federal Circuit affirmed summary judgment of invalidity and rejected the patentee's reliance on a a person of ordinary skill's understanding, stating that "[e]ven if a person of ordinary skill in the art would understand that the newly claimed, arbor-less invention would be possible, that is insufficient to comply with the" original patent requirement. *Id.* at 1353. The court specifically rejected the plaintiff's expert declaration because it "d[id] not aid the court in understanding what the 'instruments . . . actually say,' but instead assert[ed] what a person of ordinary skill in the art would purportedly understand *in the absence* of the disclosure of an arbor-less embodiment." *Id* at 1352 (emphasis added).

[CL24] Here, in contrast to *Forum*, Plaintiffs have not conceded that the '247 Patent specification fails to disclose the challenged limitations of the Asserted Claims. Instead of relying on a POSITA's understanding that "modifications to the invention are possible," Plaintiffs identify specific portions of the '247 Patent specification corresponding to each challenged limitation and provide expert testimony explaining what such disclosures convey

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to a person of ordinary skill in the art. Simply put, the parties' disputes here focus on whether such as skilled person would understand such portions of the '247 Patent specification as clearly and unequivocally disclosing the Asserted Claims.

[CL25] Dr. Dunsmore testified that a person of skill in the art would recognize that (1) "interactive network process" encompasses web browser processes, and (2) "interactive network process status data" encompasses "website data." FF ¶¶ 69-75. Dr. Dunsmore also opined that a logical process could be just about any process, including a "process working with web browsers." FF ¶ 43. Indeed, the parties agree that a "logical process" includes a "web browser process." Google concedes that "web browser processes" are a narrower subspecies of "logical processes" described throughout the specification. FF ¶ 41. Moreover, Google's invalidity expert, Dr. Arbaugh, called the "first logical process" the "same as the first web browser process." FF ¶¶ 42.

[CL26] Accordingly, substantial evidence indicates that the '247 Patent specification clearly and unequivocally discloses both a first process capable of accessing website data (*i.e.*, a "first web browser process") and a second web browser process, in satisfaction of § 251. *Antares*, 771 F.3d at 1362; *see also Revolution Eyewear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358, 1367 (Fed. Cir. 2009) (explaining that the § 251 "inquiry is analogous to the written description requirement under § 112, ¶ 1."); *cf. In re Wilder*, 736 F.2d 1516, 1520 (Fed. Cir. 1984) (explaining in the context of the analogous § 112 analysis that

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"[i]t is not necessary that the claimed subject matter be described identically, but the disclosure originally filed must convey to those skilled in the art that applicant had invented the subject matter later claimed").

[CL27] Moreover, Google's § 251 arguments regarding web browser processes are contradictory. Google contends that the '247 Patent specification does not clearly disclose a first "web browser process" for purposes of the *original patent requirement* because the specification's disclosure of a first "logical process" is not specific enough and that "logical processes" could refer to a number of different software processes besides "web browser processes" (Dkt. No. 292 at 19.) However, when alleging *improper recapture*, Google contends that the patents'"first logical process" includes a process that "could 'access website data,'" which is the precise definition of a "web browser process." (*Id.* at 14-15). If a person of ordinary skill would recognize that the '247 Patent specification's disclosure of a "first logical process" encompasses a "web browser process," then narrowing the disclosed "logical process" to directly claim a known subspecies (*i.e.*, the "web browser process" of the Asserted Claims) is clearly and unequivocally within the scope of the original invention disclosed in the '247 Patent specification.

[CL28] Furthermore, the '247 Patent's Summary of the Invention never refers to physical processors, but instead repeatedly notes that an "object of the present invention" is to provide a computer system capable of executing instructions in a "first logical process" and "second logical process," and that malware "downloaded

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from the network and executing as part of the second logical process is incapable of initiating access to the 'first memory space'." FF ¶¶ 59-60. *See Wireless Agents LLC v. Sony Ericsson Mobile Comm'cns AB*, 189 F. App'x 965, 966 (Fed. Cir. 2006) ("This description is not merely referring to a preferred embodiment; rather, as part of the 'Summary of the Invention,' it is 'commensurate with the invention as claimed.'"). (citing 37 C.F.R. 1.73). This is described in Column 16 of the '247 Patent specification, which discloses that the functions carried out by the processors "may comprise separate, secure logical processes." FF ¶¶ 59-60.

[CL29] While the exact term "web browser process" does not appear in the '247 Patent specification, Google has not presented clear and convincing evidence demonstrating that those skilled in the art would not recognize the first and second "web browser processes" recited in the Asserted Claims as being disclosed by the '247 Patent specification. As such, the Court is persuaded that those skilled in the art would recognize that the '247 Patent specification's "interactive network processes" embodiment encompasses the dual-web-browser process limitations set forth in the Asserted Claims. Such is sufficient to comply with the clear and unequivocal disclosure standard set forth in *U.S. Industrial Chemicals* and *Antares. See Forum*, 926 F.3d at 1352.

[CL30] Accordingly, the Court finds that the '247 Patent specification uses the terms "first" and "second" "logical processes" to refer interchangeably to P1 and P2, and that "logical processes" refer to a number of possible computer processes including "web browser processes."

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See FF ¶¶ 31-47. As a result, the Court is persuaded that Google has not shown by clear and convincing evidence that the dual-web-browser processes of the Asserted Claims violate the original patent requirement of § 251.

> b. *"One Processor" Limitation of Claim 43 of the '500 Patent and Claim 67 of the '528 Patent*

[CL31] Google contends that Claim 43 of the '500 Patent and Claim 67 of the '528 Patent violate the original patent requirement of § 251 for claiming a "single processor." (Dkt. No 292 at 17-19; Dkt. No. 297 at 7).

[CL32] Google argues that Dr. Dunsmore misreads the '247 Patent specification because Column 16—which discloses that "the functions carried out by processors 920 and 940 may comprise separate, secure logical processes executing on the same physical processor," FF ¶¶ 38, 56-57—should be interpreted as describing "processes running on two processors, not one." (Dkt. No. 292 at 18). Plaintiffs argue that processor 960 depicted in Figure 9 and described in Column 16 of the '247 Patent specification teaches a single processor embodiment. (*See* Dkt. No. 295 at 10-11).

[CL33] The '247 Patent specification supports Plaintiffs' position. "In accordance with a preferred embodiment of the present invention . . . Computer system 100 comprises a video processor 970, ***processor 960***, and a memory data storage area 950. Processor 960 ***may further*** comprise multiple processor ***cores***, illustrated by 1st processor 920 and 2nd processor 940." FF ¶ 55-56

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(emphasis added). The first sentence discloses processor 960 in isolation; the second sentence *further* discloses that processor 960 *may* comprise two processor *cores*. *Id.*

[CL34] As to this particular disclosure, Google argues that the word "may," in context, indicates that the disclosed embodiment has only two or more processor cores but excludes the possibility of having only one core. (Dkt. No. 292 at 18). However, such an interpretation reads out the word "further." FF ¶ 56. "Every word has consequences." *See* Arthur Hirsh, THE FRENCH LEFT: A HISTORY & OVERVIEW 41 (Black Rose Books 1982) (quoting and translating Jean-Paul Sartre, *Présentation*, 1 LES TEMPS MODERNES: REVUE MENSUELLE, Oct. 1945, at 1, 5). Giving meaning to every word of Column 16, dual-and multi-processor configurations are disclosed as additive to the initial disclosure of singular processor 960. *See* FF ¶ 54-60 *see also U.S. Indus. Chems.*, 315 U.S. at 678 (explaining that although "it is permissible, and often necessary, to receive expert evidence to ascertain the meaning of a technical or scientific term or term of art," "it is the duty of a court to determine ***for itself***, by examination of the original and the reissue, whether they are for the same invention.") (emphasis added).

[CL35] The Court's conclusion is also confirmed by the subsequent disclosure of Column 16: "[T]he functions carried out by processors 920 and 940 may comprise separate, secure logical processes executing on ***the same physical processor***." FF ¶ 38, 57.

[CL36] Google argues that this passage discloses only that "logical processes" and related "functions" are

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"carried out" or executed on two different processors (P1 and P2) and does not disclose that processors P1 or P2 are themselves software processes. (Dkt. No. 292 at 18)

[CL37] However, the '247 Patent specification explains that the "first logical process may comprise *executing instructions* necessary to carry out the functions of a first computer program" and the "second logical process may comprise *executing instructions* necessary to carry out the functions of a web browser program." FF ¶ 57. The first and second logical processes therefore are not instructions or functions executing *on* processors P1 or P2. Instead, the first and second logical processes—"executing on *the same physical processor*"—*actually execute* instructions to "carry out the functions of a first computer program" or "the functions of a web browser program," respectively, that would have been executed by the physical processors P1 and P2 of the alternative Figure 1 embodiment. This reading is confirmed by the '247 Patent specification explaining that "*the functions carried* out by P2 140 (FIG. 1) may comprise a secure logical process, which may be configured to be able to automatically initiate access to either M1 110 or *another logical process performing the functions of P1 120*." FF ¶¶ 38, 57.

[CL38] In summary, Column 16 of the '247 Patent specification clearly and unequivocally discloses a single processor embodiment. Accordingly, Google has failed to prove by clear and convincing evidence that the single processor claim limitations of Claim 43 of the '500 Patent and Claim 67 of the '528 Patent violate the original patent requirement of § 251.

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c. *A First Web Browser Process Passing Data to a Second Web Browser Process Limitation of Claim 43 of the '500 Patent, Claim 67 of the '528 Patent, and Claim 49 of the '529 Patent*

[CL39] Google next contends that Claim 43 of the '500 Patent, Claim 49 of the '529 Patent, and Claim 67 of the '528 Patent are invalid under the original patent rule for failure to disclose a first web browser process that passes and/or exchanges website data with the second web browser process. (Dkt. No. 292 at 23).

[CL40] Although Google did not present any expert testimony or offer oral argument on this § 251 defense at trial, *see* FF ¶¶ 16-17, 78, the Court finds that Google has not waived this § 251 defense. Google identified § 251 as defense in its pre-trial statement and specifically identified this defense in its Rule 50(a) motion. *See* FF ¶¶ 15, 28.

[CL41] The Court has already determined that (1) the '247 Patent specification clearly and unequivocally discloses an "interactive network process" embodiment that includes two web browser processes; and (2) "interactive network process data" encompasses "website data." CL ¶¶ 13-30.

[CL42] Moreover, the '247 Patent specification clearly and unequivocally discloses the passing of website data from a first web browser process to a second web browser process by disclosing the passing and exchange of "interactive network process status data" between the two processes. *See* FF ¶ 72. As discussed above,

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Column 14 discloses passing "interactive network process status data" from the network between P1 and P2. *Id.* "Interactive network processes" on its face would include "web browser processes" and would be understood by a person of ordinary skill in the art to include "web browser processes" because both are capable of accessing website data. FF ¶¶ 72, 73. "Interactive network process data" exchanged between P1 and P2 would include website data. FF ¶¶ 72, 73. Finally, Figure 1 discloses a first process (P1 120) and second process (P2 140) with two-way communication arrows between each other, which further supports the exchange of data between the first and second web browser processes. FF ¶ 74.

[CL43] As a result, Google has not met its burden of clear and convincing evidence to prove that the '247 Patent specification does not clearly and unequivocally disclose a first web browser process passing website data to or exchanging website data with a second web browser process.

> d. *A First Web Browser Process Initializing a Second Web Browser Process Limitation of Claim 49 of the '529 Patent*

[CL44] Google's last argument under the original patent requirement is that the specification does not disclose the "first web browser process initializing a second web browser process," as recited by of Claim 49.

[CL45] Although Google did not present any expert testimony or offer oral argument on this § 251 defense at

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trial, *see* FF ¶¶ 16-17, 78, the Court finds that Google has not waived this § 251 defense. Google identified § 251 as defense in its pre-trial statement and specifically identified this defense in its Rule 50(a) motion. *See* FF ¶¶ 15, 28.

[CL46] The Court has already determined that (1) the '247 Patent specification clearly and unequivocally discloses "interactive network process" embodiment that includes two web browser processes; and (2) "interactive network process data" encompasses "website data." CL ¶¶ 13-30.

[CL47] The '247 Patent specification provides specific language that clearly and unequivocally discloses a "first web browser process initializing a second web browser process." Specifically, the figures and written description disclose in several instances that processor P1 is capable of opening and/or initializing the processes on processor P2. FF ¶¶ 80, 82. For example, Figure 2 of the '247 Patent describes processor P1 instructing processor P2 to initiate a "protected process" and open a process window (step 220). *Id.* The specification's description of Figure 2 notes the "1st processor 120 instruct[ing] 2nd processor 140 to initiate the protected process and open one or more process windows." *Id.* The specification further explains that the protected process may be "browsing the internet." *Id.*

[CL48] In another embodiment, the '247 Patent specification again discloses "processor P1 120 instruct[ing] processor P2 140 to initiate a protected process and open a process window." FF ¶¶ 81, 82. This embodiment discloses a user opening a web browser program, followed by

processor P1 instructing processor P2 to open one or more protected process windows for web browsing. *Id.* Although this particular disclosure involves a Figure 10 of the '247 Patent, the specification explains that the disclosure is "[i]n accordance with the present teachings"—*i.e.*, the disclosure of Figure 2—and "[i]n accordance with a preferred embodiment of the present invention." *See id.*

[CL49] Since P1 and P2 also refer to "logical processes" and not just processors, the Court is persuaded that the '247 Patent specification clearly and unequivocally discloses in multiple places a first web browser process (P1) capable of initializing a second web browser process (P2). Accordingly, Google has not met its burden to prove that the '247 Patent specification does not clearly and unequivocally disclose "first web browser process initializing a second web browser process."

2. The Rule Against Recapture Under § 251

a. *Threshold Inquiry Regarding Overlooked Aspects*

[CL50] The Federal Circuit has explained that the recapture rule is not triggered if the reissue claims are directed to "overlooked aspects" of the invention, which are "patentably distinct (1) inventions; (2) embodiments; or (3) species not originally claimed—not mere incidental features of the originally claimed invention." *Mostafazadeh*, 643 F.3d at 1360. "The purpose of this exception to the recapture rule is to allow the patentee to obtain through reissue a scope of protection to which he is rightfully entitled for such overlooked aspects." *Hester*, 142 F.3d at 1483.

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[CL51] Google raises three arguments why the challenged reissue claims were not directed towards overlooked aspects of the original '247 Patent claims. (Dkt. No. 292 at 9-13).

[CL52] Google first argues that the originally filed claims of the '609 Application were broad enough to encompass "web browser processes" and therefore "web browser processes" were originally "claimed." (*See* Dkt. No. 292 at 9-11 (citing *Hester*, 142 F.3d at 1483)). The original '247 Patent claimed first and second "logical processes" where the reissue patents claim first and second "web browser processes." *See* FF ¶ 32; *compare also, e.g.*, FF ¶¶ 84-85, 93-94 *with* FF ¶¶ 33-36. Google argues that since the embodiments set forth in Claim 43 of the '500 Patent and Claim 67 of the '528 Patent were "potentially" covered by the originally filed claims of the '609 Application, the challenged reissue claims cannot be considered "overlooked." (Dkt. No. 292 at 10).

[CL53] However, *Hester* is not applicable to the facts of this case. In *Hester*, the allegedly overlooked claim features were *not narrower* than the original claims or were *explicitly* recited in the originally filed patent claims, and thus the claimed features could not be considered "overlooked." *See* 142 F.3d at 1483 ("Hester argues that the claims are materially narrower by the additional of the 'spiral conveyance path' and 'high humidity stream' limitations. . . . However, the term 'high humidity stream' is actually *the same as or broader* than the limitation in [the] original claim. . . . [and] Hester concedes that the term 'high humidity steam' is not narrower. . . .

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[Accordingly,] these aspects were included in original claim 1. Additionally, with regard to the 'spiral conveyance path' limitation, original dependent claim 12 *explicitly recites* 'a spiral path.'") (emphasis added).

[**CL54**] Here, however, the originally filed Claim 1 of the '609 Application set forth a first logical process with access to the first memory space and second memory space. FF ¶¶ 84. The second logical process was claimed as "being further capable of exchanging data across a network of one or more computers." *Id.*

[**CL55**] Although Google cites Professor Dunsmore's testimony for the proposition that the "logical processes" of the '609 Application's originally filed claims do not *per se* exclude a first web browser process with access to website data, the claims cannot be construed in a vacuum—*i.e.*, without reference to the intrinsic record and how it informs those skilled in the art.[2] FF ¶ 89.

[**CL56**] Google's own experts and the Court have already interpreted the original '247 Patent as excluding the very embodiment Google claims is covered by the original claims. FF ¶¶ 86-90. Google's expert, Dr. Arbaugh, confirmed it was his opinion that the original '247 Patent required a second processor to isolate the computer system from the network. FF ¶ 88. Google's other expert, Dr. Kogan, opined that the reissue patents disclosed a different invention from the original '247 Patent, but inconsistently

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2. *See David Netzer Consulting Eng'r LLC v. Shell Oil Co.*, 824 F.3d 989, 993 (Fed. Cir. 2016) (explaining that patent claims are construed with reference to the intrinsic record).

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couched his opinion as applying only for the original patent rule, not for recapture. FF ¶ 88.

[CL57] Moreover, the Court agrees with the Magistrate Judge's ruling that "the essence of the invention claimed in the '247 Patent was isolation—only the second logical process could access the network; the rest of the system could not." (*See* Dkt. No. 212 at 8).

[CL58] Finally, Google conceded as a part of its original patent rule arguments in its Rule 50(a) motion for JMOL that "the invention disclosed in the reissue patents is entirely different from the one disclosed in the original '247 Patent . . . . [The] first logical process ran on the first processor and a second logical process ran on the second processor, and only the second process . . . was a network-interface program or browser." FF 92 (Dkt. No. 251 at 5-6). *Cf. Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) ("A patent may not, like a 'nose of wax,' be twisted one way . . . and another" (internal quotation marks omitted)).

[CL59] Accordingly, the Court finds that both a first and second "web browser process," though disclosed in the '247 Patent specification, were not originally claimed by the '247 Patent. *Hester* is therefore inapplicable.

[CL60] Google's second argument for why Claim 43 of the '500 Patent and Claim 67 of the '528 Patent are not directed to overlooked aspects similarly falls short. Google argues that the '247 Patent specification does not at all disclose an embodiment with "two web browsers."

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(Dkt. No. 292 at 11). However, this argument is the same as Google's previously considered argument that the '247 Patent specification fails to disclose a first "web browser process" in violation of the original patent rule, and the Court is unpersuaded for the reasons previously discussed. *See* CL ¶¶ 13-30.

[**CL61**] Google's third argument is that the narrowing from first a "logical process" in the '247 Patent to a first "web browser process" in Claim 43 of the '500 Patent and Claim 67 of the '528 Patent was not a patentable distinction because changing "logical" to "web browser" is too minor, given that a "web browser process" is a type of logical process. (Dkt. No. 292 at 12). Google had the opportunity but failed to offer evidence at trial to establish that Claims 43 and 67 were obvious (*e.g.*, not patentably distinct) over the original claims, given the Court's ruling that a genuine dispute of material fact remained as to overlooked aspects that precluded summary judgment. *See* FF ¶ 91.

[**CL62**] The only evidence Google presented at trial as to whether Claims 43 and 67 are patentably distinct over the original '247 Patent claims was the intrinsic record and prosecution history of the reissue patents. FF ¶¶ 91, 93-101, 104-109. However, the Court has already determined that the '247 Patent claims are directed towards a different invention than the challenged reissue claims. FF ¶ 90. The '247 Patent's original claims were directed toward isolation, where only the second process could access the network and the rest of the system could not. *Id.* Claim 43 of the '500 Patent and Claim 67 of the '528 Patent are distinct because they no longer claim an

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isolated first process. *See* FF ¶¶ 33-36, 86, 87, 90, 92. Indeed, Google and its experts have acknowledged on several occasions that the invention disclosed in the '247 Patent claims is materially different than the invention disclosed in the challenged reissue claims. FF ¶ 88. The Court is not persuaded that Claim 43 of the '500 Patent and Claim 67 of the '528 Patent fail to claim inventions patentably distinct from those of in the original '247 Patent.

[CL63] Accordingly, the Court is persuaded that Google has not proven by clear and convincing evidence that a first and a second "web browser process" were originally claimed by the '247 Patent. Google's argument that "web browser processes" were "claimed" in the original patent (1) cannot overcome the intrinsic record and its own admissions and (2) is not supported by the cited case law. As the web browser processes are supported by the specification and have not been shown to be patentably indistinct from those claimed in the '247 Patent, the Court agrees with Plaintiffs that the challenged Asserted Claims are directed t overlooked aspects of the specification.

b. *Test for the Rule Against Recapture*

[CL64] In addition to the Court's findings that Claim 43 of the '500 Patent and Claim 67 of the '528 Patent are directed towards "overlooked aspects" of the '247 Patent, and thus would not trigger the rule against recapture, the Court is independently persuaded that Google could not show by clear and convincing evidence that challenged claims violate the rule against recapture.

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i. *Step 1: Claim 43 of the '500 Patent and Claim 67 of the '528 Patent Are Broader than the '247 Patent's Originally Issued Claims*

[CL65] The first step of the recapture test is to "determine whether and in what 'aspect' the reissue claims are broader than the [original] patent claims." *Mostafazadeh*, 643 F.3d at 1358. "A reissue claim that deletes a limitation or element from the [original] patent claims is broader with respect to the modified limitation." *Id.*

[CL66] The '247 Patent's originally issued claims require two or more physical processors because they each recite having a "first" and a "second" "electronic data processor." FF ¶ 31. By comparison, Claim 43 of the '500 Patent and Claim 67 of the '528 Patent do not require two or more processors because they recite having "at least one electronic data processor." FF ¶¶ 33, 35.

[CL67] The parties agree that the first step of the recapture test is met. Professor Dunsmore and Dr. Kogan agreed on this point, and Plaintiffs did not dispute this in their briefing. FF ¶ 83.

[CL68] Accordingly, the Court is persuaded that Claim 43 of the '500 Patent and Claim 67 of the '528 Patent are broader than the '247 Patent's originally issued claims with respect to the number of required processors. Claims 43 and 67 encompass systems with either a single processor or two or more processors, rather than only encompassing systems with two or more processors,

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as the '247 Patent's originally issued claims required. Indeed, the two reissue claims delete the '247 Patent's claim limitations that require at least a "second electronic data processor." The first step of the recapture test is met with respect to Claim 43 of the '500 Patent and Claim 67 of the '528 Patent.

ii. *Step 2: The Broadened Subject Matter Relates to Surrendered Subject Matter*

[CL69] The second step of the recapture test is to "determine whether the broader aspects of the reissue claims relate to surrendered subject matter." *Mostafazadeh*, 643 F.3d at 1358 (quotations omitted). "To determine whether an applicant surrendered particular subject matter, [courts] look to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection." *Id.*

[CL70] For example, in *North American Container, Inc. v. Plastipak Packaging, Inc.*, reissue claims covering plastic bottle structures were broadened to "no longer require the 'inner walls' to be 'generally convex.'" 415 F.3d 1335, 1350 (Fed. Cir. 2005). The Federal Circuit found that the broadened subject matter was surrendered during prosecution because the applicants had "amended [the claims] to refer to the convex nature of the inner wall portions" and "argued that the 'shape of the base as now defined in the claims differs from those of . . . the [prior art] patent, wherein the corresponding wall portions are slightly concave.'" *Id.*

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[CL71] Here, the second step is met because the broadened subject matter of a single processor system was surrendered during prosecution of the original '247 Patent. To overcome the prior art references Corthell, Policard, and Brown, the Inventors amended the originally filed Claims 1 and 15 of the '609 Application to require at least a "first and second electronic data processor." *Compare* FF ¶¶ 84-85 *with* FF ¶¶ 93-94.

[CL72] In accompanying remarks, the Inventors relied on these amendments to distinguish the prior art, stating: "In stark contrast [to Corthell], ***Applicants teach the use of a multi-processor computer*** having at least a first and second electronic data processor," and "amend[ments to] the claims to specify a computer system ***having at least a first and second electronic data processor*** . . . distinguish[] claims 10 and 15 from the teachings of Policard and Brown." *See* FF ¶¶ 99-101 (emphasis added). Based on these amendments and remarks, the examiner allowed the claims because "the prior art does not show a single operating system that executes on multiprocessors." FF ¶ 101.

[CL73] The parties agree that step two of the recapture test is met. Plaintiffs' expert Dr. Dunsmore confirmed in his jury trial testimony that the Asserted Claims were amended to require two processors to distinguish prior art. FF ¶ 103. Dr. Dunsmore also confirmed that these amendments surrendered all single-processor embodiments in the '247 Patent. *Id.* Additionally, Google's expert Dr. Kogan testified that the second step is met because Plaintiffs surrendered the subject matter of

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a single processor to distinguish prior art. FF ¶ 104. Lastly, Plaintiffs also did not dispute the second step of the recapture test in in post-trial proceedings. (Dkt. No. 295 at 14-23).

[CL74] The Court is persuaded that the second step of the recapture test is met with respect to the Claim 43 of the '500 Patent and Claim 67 of the '528 Patent because the broadened subject matter of a single processor set forth in the aforementioned claims was surrendered during prosecution of the '247 Patent.

> iii. *Step 3: Claim 43 of the '500 Patent and Claim 67 of the '528 Patent Are Materially Narrowed With Respect to Surrendered Subject Matter*

[CL75] The third step of the recapture analysis is to "determine whether the reissue claims were materially narrowed in other respects, so that the claims may not have been enlarged, and hence avoid the recapture rule." *N. Am. Container*, 415 F.3d at 1349. "[T]he recapture rule is violated when a limitation added during prosecution [of the original patent] is eliminated entirely, even if other [unrelated] narrowing limitations are added to the claim." *Mostafazadeh*, 643 F.3d at 1361; *see also Youman*, 679 F.3d at 1345 ("[W]here the patentee eliminates the added limitation in its entirety . . . [,] it is clear that the surrendered subject matter has been recaptured."). The Federal Circuit has also explained the policy motivation underlying the third step: "a limitation that is added

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during prosecution to overcome prior art cannot be entirely eliminated on reissue because doing so would constitute recapture of the surrendered subject matter." *In re Mostafazadeh*, 643 F.3d at 1359.

[CL76] However, a "[v]iolation of the rule against recapture may be avoided . . . if the reissue claims 'materially narrow' the claims relative to the original claims such that full or substantial recapture of the subject matter surrendered during prosecution is avoided." *In re Mostafazadeh*, 643 F.3d at 1358, 1361 ("[T]he narrowing must relate to the subject matter surrendered during the original prosecution (i.e., the applicant cannot recapture the full scope of what was surrendered)."); *see also In re Youman*, 679 F.3d 1335; *N. Am. Container*, 415 F.3d at 1350 (applying recapture rule bar because the narrowing of claims did not relate to the surrendered subject matter).

[CL77] It is undisputed that the reissue claims (*e.g.*, the Asserted Claims) have been narrowed from first and second logical processes to first and second "web browser processes." Google argues that the narrowing does not relate to the surrendered subject matter in violation of the rule against recapture. Plaintiffs respond that narrowing the claims to two "web browser processes" was directly related to the surrendered subject matter. As discussed below, the Court agrees with Plaintiffs, and finds that Google has failed to prove by clear and convincing evidence that the challenged claims violate the rule against recapture.

[CL78] During the prosecution of the original '247 Patent, the examiner rejected the original claims, citing

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Corthell as disclosing every limitation. FF ¶ 95. In response, the Inventors amended the original claims, adding a "second electronic data processor" to provide physical isolation between the first and second logical processes. FF ¶¶ 96-99. The Inventors explained why the pending claims were no longer anticipated by Corthell. FF ¶ 99. To distinguish Corthell's isolated process and non-isolated processes executing on the same processor, the Inventors claimed a physically isolated first processor and a non-isolated second processor. FF ¶¶ 96-99.

[CL79] This distinction between the '247 Patent claims and the Asserted Claims is evident from the Inventors' attempts to traverse a rejection based on Narin when prosecuting the Asserted Patents. FF ¶ 108-09. The Inventors explained that Narin's "closed process" was not the same "first browser process" in the reissue patent claims because Narin's closed process did not have access to the network. FF ¶ 109. The examiner acknowledged the Inventors' argument that their "first browser process is a web process," but noted the claims did not specify the "claimed browsers are actually web browsers." *Id.* In response to this second rejection, the Inventors narrowed the term "browser process" to "web browser process" and specified that the "first browser process" is "capable of accessing data of a website via the network." FF ¶ 110. Physical isolation was no more.

[CL80] Dr. Dunsmore explained to the jury that by claiming "web browser processes" in the reissue claims instead of the original "logical processes," the Inventors materially narrowed the reissue claims because they now

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excluded all types of processes other than "web browser processes." FF ¶ 111. Dr. Dunsmore also explained that this narrowing was directly related to the surrendered subject matter—*i.e.*, a single processor embodiment where the first logical process was isolated from the network but the second logical process was not. *Id.* Thus, the reissue claims, though broader in the sense that they reclaimed a single processor and no longer required isolation, were also materially narrowed from logical processes to web browser processes.

[CL81] Mr. Cioffi also testified that narrowing to web browser processes in reissue was a material narrowing directly related to reclaiming the use of a single processor. FF ¶ 111. Professor Dunsmore also explained that this narrowing was directly related to the surrendered subject matter—a single processor embodiment where the first logical process was isolated from the network, but the second logical process was not. FF ¶ 111.

[CL82] As the Court previously recognized, the invention claimed in the '247 Patent was "isolation" where "the second logical process could access the network [but] the rest of the system could not." FF ¶ 90; CL ¶ 57; (ECF No. 212 at 8). When the Inventors amended the '247 Patent's original claims over Corthell, they added a second electronic processor to provide physical isolation between the first and second logical processes. FF ¶¶ 97, 99. Accordingly, by adding the second physical processor during prosecution of the '247 Patent, the Inventors surrendered the isolation embodiment using a single processor. FF ¶¶ 97, 99.

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[**CL83**] Dr. Dunsmore also explained that the Inventors narrowing of the reissue claims to web browser processes results in the first logical process no longer being isolated because web browser processes must be capable of accessing website data. FF ¶¶ 103, 111. Since the Inventors were no longer claiming isolation of the first logical process from the network, reintroducing single processor claims was not improper recapture because the Inventors directly and materially narrowed the surrendered subject matter to web browser processes.

[**CL84**] Google's argument that the Inventors surrendered all single processor embodiments over Corthell abstracts the language of the '247 Patent's original claims—without acknowledging that the invention set forth in the originally filed claims of the '247 Patent was directed to a first logical process isolated from the network, executing on at least a single processor. FF ¶ 112. Accordingly, when the Inventors surrendered their single processor embodiment, it was with respect to the isolation embodiment of the invention—not with respect to a single processor full stop. FF ¶¶ 103-11. Since (1) the originally filed claims of the '609 Application (i.e., the '247 Patent) were directed to isolation of a first logical process, and (2) the reissue claims are directed toward a first logical process without isolation (i.e., a first "web browser process), the Court finds that Claim 43 of the '500 Patent and Claim 67 of the '528 Patent are materially narrowed with respect to the surrendered subject matter (i.e., a single processor executing a first, isolated logical process and a second, unisolated logical process).

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[**CL85**] Accordingly, the Court finds Google failed to prove by clear and convincing evidence that the challenged claims violate the rule against recapture under 35 U.S.C. § 251.

III. CONCLUSION

For the reasons set forth above, the Court concludes that Defendants have not shown by clear and convincing evidence that the Asserted Claims are invalid under 35 U.S.C. § 251. Accordingly, Google's Motion for Post-Trial Relief on Invalidity under 35 U.S.C. § 251 (Dkt. No. 292) is **DENIED**.

So ORDERED and SIGNED this 26th day of August, 2021.

/s/ Rodney Gilstrap
RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE

**APPENDIX D — OPINION OF THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT,
FILED NOVEMBER 17, 2015**

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2015-1194

ALFONSO CIOFFI, THE ESTATE OF
ALLEN FRANK ROZMAN,

Plaintiffs-Appellants,

v.

GOOGLE, INC.,

Defendant-Appellee.

Appeal from the United States District Court for the
Eastern District of Texas in No. 2:13-cv-00103-JRG-
RSP, Judge J. Rodney Gilstrap.

Decided November 17, 2015

Before O'MALLEY, PLAGER, and BRYSON, *Circuit Judges.*

O'MALLEY, *Circuit Judge.*

Alfonso Cioffi and The Estate of Allen Rozman
(collectively "Appellants" or "Cioffi") filed suit against
Google, Inc. ("Appellee" or "Google") on February 5, 2013
in the Eastern District of Texas alleging that the Google
Chrome web browser (the "Accused Products") infringed

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four reissue patents: U.S. Patent Nos. RE43,103 (the "'103 patent"); RE43,500 (the "'500 patent"); RE43,528 (the "'528 patent"); and RE43,529 (the "'529 patent"). The district court construed several disputed terms of the four patents-at-issue. Based on these constructions, the district court held claim 21 of the '103 patent to be invalid as indefinite, and the parties stipulated to non-infringement of all of the other asserted claims.

On appeal, Cioffi challenges the construction of two terms: (1) "web browser process" and (2) "critical file." Cioffi disputes the district court's construction of the first term as erroneously requiring a "direct" access capability and the second term as erroneously including "critical user files," which renders the term indefinite. Because we agree that the district court erred in construing both of these terms, we reverse the district court's claim construction and remand for further proceedings.

I. Background

A. The Reissue Patents

The four patents-at-issue are reissue patents originating from a patent issued as U.S. Patent No. 7,484,247 (the "'247 patent") on January 27, 2009. That patent, entitled "System and Method For Protecting A Computer System From Malicious Software," was directed to a way of protecting a computer from malware by segregating the suspected malware and directing it to execute and reveal itself in a safe, isolated part of the computer. In March 2010, thirteen months after the '247

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patent issued, Cioffi surrendered the patent pursuant to 35 U.S.C. § 251 and sought reissue claims. The resulting four reissue patents-at-issue have the same abstract and, along with the '247 patent, share substantially identical specifications.

The patents-at-issue describe computer processes, separated either logically or physically (using separate processors), into first and second browser processes. Potential malware downloaded from the Internet is directed to execute within the second browser process, but is not allowed to execute outside of the second browser process. Thus, the potential malware is insulated from and cannot damage any other aspect of the computer's systems, including memory space accessible by the first browser process.

Figure 1 of the '528 patent (shown below) illustrates one preferred embodiment, involving two physically separate processors: (1) a first web browser process executed within first processor 120 with access to important files stored in first memory space 110, and (2) a second web browser process executed within second processor 140 with access to its own expendable memory space 130. Untrusted content downloaded from the Internet is executed in the second web browser process running in 140, where it cannot damage important files stored in first memory space 110.

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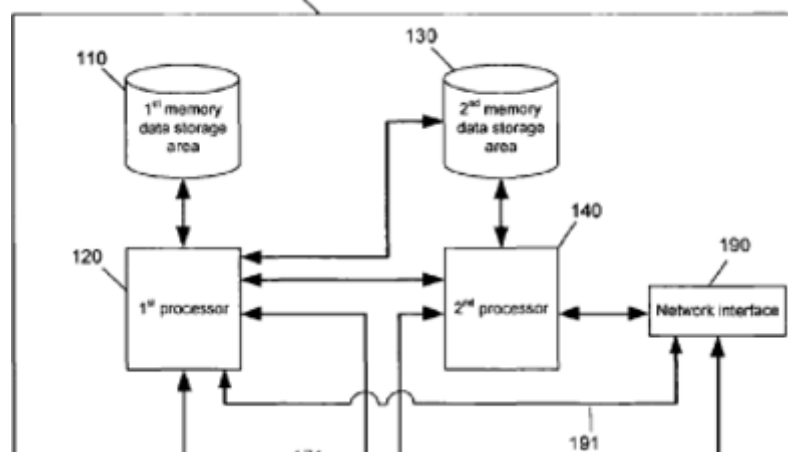
'528 patent fig. 1.

During prosecution, the examiner initially rejected all of the claims of the applications that ultimately issued as the '500, '528, and '529 patents ("the '500, '528, and '529 patent applications") under 35 U.S.C. § 102(b) in view of U.S. Patent Application No. 2002/0002673 ("Narin"). J.A. 212-14. The examiner determined that Narin taught a method of operating a computer system with a first logical process capable of accessing data in a first memory space and a second logical process capable of accessing data in a second memory space. *Id.* The examiner found that the second logical process of Narin hosts non-secure software objects, and the data residing in the first memory space is protected from corruption by malware downloaded from the network and operating as part of the second logical process. *Id.*

Cioffi responded with the argument that "Narin teaches away from the closed process [corresponding

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to the first browser process] being a browser process."
J.A. 256. In other words, Cioffi argued that Narin is
distinguishable from the claimed invention because
Narin does not allow a browser program to be a part of
the secure application, which Cioffi describes as a "first
browser process."

On November 14, 2011, the examiner issued a Final
Rejection Office Action maintaining its rejection of all the
claims of the '500, '528, and '529 patent applications. The,
the examiner stated that:

> Despite the Applicant's arguments that
> the claimed browser is a web browser, the
> specification . . . describe[s] the first logical
> process as being a video game and 'including
> but not [being] limited to a word processor,'
> respectively. According to the Applicant's
> specification, the claimed first logical process
> or first browser process could include a
> web browser, such as Internet Explorer or
> Netscape; a video game; or a word processor.
> At the very least, the prior art's disclosure
> reads on the Applicant's video game and word
> processor interpretations of browser. . . . It is
> noted that features upon which applicant relies,
> such as the first browser process accessing
> Internet sites and/or data, are not recited in
> the rejected claims.

Id. at 285-6 (¶¶6-8).

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In response, Cioffi amended all of the pending claims of the '500, '528, and '529 patent applications to narrow the first and second "browser process" to the first and second "web browser process." J.A. 798-810. Cioffi also added a limitation, "capable of accessing data of a website via the network," to the first web browser process. J.A. 314. Cioffi then explained, "Narin fails to disclose . . . a first web browser process capable of accessing data of a website via a network of one or more computers (e.g., the internet)." J.A. 332. The examiner allowed the claims.

B. Procedural History

On February 5, 2013, Cioffi filed suit against Google asserting infringement of the '500, '528, '529, and '103 reissue patents by the Google Chrome web browser available for the Windows, Mac, Android, and Linux operating systems. The claims originally asserted were:

'500 patent: claims 21, 23, 25, 29, 30, 31, 32, 37, 38, 39, 41, 42, 43, 52, 66, 67 and 70.

'528 patent: claims 1, 2, 5, 21, 23, 25, 30, 44, 46, 52, 53, 55, 57, 58, 64, 65, 66, 67 and 70.

'529 patent: claims 21, 23, 28, 30, 36, 38, 45, and 49.

'103 patent: claim 21.

Cioffi v. Google Inc., 2:13-cv-103, 2014 U.S. Dist. LEXIS 123760, *8 (E.D. Tex. Aug. 28, 2014). Following a *Markman*

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hearing, the district court issued its Claim Construction Order on August 28, 2014. *Id.*

The district court adopted its preliminary construction of "web browser process" as a "process that can access data on websites." 2014 U.S. Dist. LEXIS 123760, [WL] at *21. The court found that Cioffi had distinguished Narin during patent prosecution by arguing that Narin discloses a "secure" or "closed" application that controls a separate process that runs an "open or untrusted application," and that the "secure" application cannot be a web browser. 2014 U.S. Dist. LEXIS 123760, [WL] at *14-15. The court noted that, in response to the examiner's rejection stating that the features relied upon to overcome Narin were not recited in the claims, Cioffi amended the claims to add "web" before "browser" and "capable of accessing data of a website via the network" before "first web browser process." 2014 U.S. Dist. LEXIS 123760, at *17. The court found that the patentees relied on the added "web" limitation to overcome the examiner's rejection, and "that reliance should be given effect by requiring that the 'web browser process' is capable of accessing data on websites." 2014 U.S. Dist. LEXIS 123760, [WL] at *18-19.

The district court then addressed a statement that Google made at the *Markman* hearing that it would agree to the court's preliminary construction with an understanding that the claim term requires "direct" access to website data. While the court did not seek further briefing or argument on this issue, it did address it. The court stated that introducing the word "direct" would confuse rather than clarify the scope of the claims, but continued:

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To be clear, "can" in the Court's construction does not mean "must" and instead refers to a capability. For this capability to be meaningful and consistent with the prosecution history, however, a "web browser process" must be capable of accessing a website without using another web browser process. In other words, although the Court's construction does not preclude a web browser process from accessing websites by using another web browser process, a web browser process's capability of accessing websites must not *require* using another web browser process.

2014 U.S. Dist. LEXIS 123760, [WL] at *20-21 (emphasis in original).

The district court also adopted its preliminary finding that the term "critical file" from the '103 patent is indefinite, and held, therefore, that claim 21 of the '103 patent is invalid. The court found that references to "critical user files" found in the specification and prosecution history suggest that the term "critical file" includes critical "user" files. 2014 U.S. Dist. LEXIS 123760, [WL] at *60. It held that what is critical to a user is "entirely subjective," and that "critical file," therefore, fails to inform a person of skill in the art about the scope of the invention with reasonable certainty under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2122, 189 L. Ed. 2d 37 (2014). 2014 U.S. Dist. LEXIS 123760, [WL] at *61.

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The parties filed objections to aspects of the Claim Construction Order. Cioffi then served its Final Election of Asserted Claims, in which it narrowed the asserted claims to:

’500 patent: claims 21, 30, 32, 39, 43, 66, and 70

’528 patent: claims 5, 21, 23, 30, 44, 64, and 67

’529 patent: claims 23, 30, 36, 38, 45, and 49

See Final Judgment at 2-3, *Cioffi*, 2014 U.S. Dist. LEXIS 123760 (2:13-cv-103), ECF No. 104. The district court overruled the parties’ objections. Order, *Cioffi*, 2014 U.S. Dist. LEXIS 123760 (2:13-cv-103), ECF No. 97.

The parties then agreed that, based on the court’s claim constructions, Cioffi could not prevail on the issue of infringement. Cioffi’s First Amended Infringement Contentions had identified the browser kernel of the Accused Products as reading on the “first web browser process” of the asserted claims and the rendering engine of the Accused Products as reading on the “second web browser process” of the asserted claims. The district court found that the rendering engine of the Accused Products “is not capable of and cannot access data of websites without using the browser kernel in the Accused Products,” and, therefore, the rendering engine cannot meet the “web browser process” limitation under the Claim Construction Order. Final Judgment at 2-3, *Cioffi*, 2014 U.S. Dist. LEXIS 123760 (2:13-cv-103), ECF No. 104. The district court entered a final judgment of non-infringement on December 2, 2014. *Id.*

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Cioffi timely appealed the district court's judgment, and we have jurisdiction under 28 U.S.C. § 1295(a)(1).

II. Discussion

Cioffi challenges the district court's construction of two claim terms: (1) "web browser process" and (2) "critical file." Claim construction is a matter of law, which we review *de novo*, but we review underlying factual findings by the district court for clear error. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837-38, 190 L. Ed. 2d 719 (2015). Generally, claim terms should be given their ordinary and customary meaning from the perspective of a person having ordinary skill in the art at the time of the effective date of the patent application. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). To ascertain the scope and meaning of the asserted claims, we look to the words of the claims themselves, the specification, the prosecution history, and any relevant extrinsic evidence. *Id.* at 1315-17. This inquiry, at times, begins and ends with the intrinsic evidence. In fact, the specification is the single best guide to the meaning of the claim terms; it is often dispositive. *Id.* at 1318 ("[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive . . . .'") (citation omitted).

A. "Web Browser Process"

Cioffi argued in its opening brief on appeal that the district court erred by construing "web browser process" at all, rather than maintaining the term's plain

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and ordinary meaning. Appellant Br. 27. Cioffi has since conceded, however, that the district court's construction of "web browser process" as a "process that can access data on websites" is not reversible error.[1]

Given this concession, the sole remaining dispute with respect to "web browser process" is whether the district court erred by reading into that limitation a "direct" access requirement. Under the district court's construction, a "web browser process" does not *have to* access data on websites without using another "web browser process," but "must be *capable* of accessing a website without using another web browser process." *Cioffi*, 2014 U.S. Dist. LEXIS 123760 at *20-21 (emphasis added). Simply put, the district court held that the "first web browser process" must be capable of accessing the Internet directly without the assistance of the "second web browser process," and the "second web browser process" must be capable of accessing the Internet directly without the assistance of the "first web browser process."

Claim construction starts with the claim language. *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.,*

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1. *See* Appellant Reply Br. 2 ("Had the district court stopped with its preliminary construction of 'web browser process' to mean a 'process that can access data on websites' its error in deciding to construe the term would have been harmless . . . ."); Oral Argument at 1:20-2:03, *available at* http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2015-1194.mp3 ("what's shown [at *21 of the Claim Construction Order] is the court's definition that a 'web browser process' is a 'process that access data on websites.' That definition, as a practical matter, is acceptable to us.").

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Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004). "Differences among claims can [ ] be a useful guide in understanding the meaning of particular claim terms." *Phillips*, 415 F.3d at 1314. "[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Phillips*, 415 F.3d at 1314-15 (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)).

Cioffi asserts that, under these claim differentiation principles, the term "web browser process" alone cannot be read to require a "direct" access capability. Cioffi first points to independent claim 21 of the '528 patent, claiming it demonstrates that the "second web browser process" does not need to be capable of directly accessing data on websites without using another web browser. Claim 21 states that the "first web browser process" needs to be "capable of passing data to the second web browser process." '528 patent col. 21 ll. 12-14. Thus, this claim implies that the "second web browser" can access data on websites indirectly with assistance from the "first web browser process." Nothing in the language of claim 21 requires that either the first or the second web browser process have direct access capability; instead, the claim requires only that the second process: (1) execute website data and (2) retrieve data that it executes. *Id.* In contrast, dependent claim 24 of the '528 patent requires the "second web browser process" to be "capable of directly exchanging data with the network interface and with the first web browser process." '528 patent col. 21 ll.

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26-30.[2] Cioffi asserts that the "directly exchanging data with the network interface" limitation of claim 24 would be superfluous if claim 21 already required direct web access capability.

According to Google, Cioffi's claim differentiation argument fails because the court's construction requiring that the web browser process have the capability to access data on a website directly does not render claims 21 and 24 of the '528 patent identical in scope. Claim differentiation principles do not apply here, according to Google, because claim 24 has *two* additional limitations as compared to claim 21. Dependent claim 24 not only adds a "directly exchanges data with the network interface" limitation, but also a "directly exchanges data with" "the first web browser process" limitation. *Id.* Thus, according to Google, only the first of these limitations would be subsumed by the court's construction.

We are not persuaded by Google's arguments. If claim 21 already required a capability for "direct" access to the network, then the language of claim 24, which recites that the "second web browser process is capable of directly exchanging data with the network interface," would be entirely duplicative. Thus, the language of the claims indicates that only in claim 24 does the second web

---

2. Claims 21 and 24 of the '528 patent are representative. In its Reply Brief and at oral argument, Cioffi clarifies that the same argument applies to claims 36 and 39 of the '529 patent. *See* Appellant Reply Br. 5-7; Oral Argument at 3:23-3:59, *available at* http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2015-1194.mp3. The same argument also applies to claims 21 and 24 of the '500 patent.

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browser have to have a "direct" access capability. While Google is correct that claim 24 adds *another* limitation compared to claim 21, that argument does not change the fact that the "directly exchanges data with a network" limitation would be rendered superfluous. *See Mformation Techs., Inc. v. Research in Motion Ltd.*, 764 F.3d 1392, 1399 (Fed. Cir. 2014) (favoring a construction that does not render another limitation "superfluous"). Thus, we find Cioffi's claim differentiation argument compelling and find that the addition of the direct access capability limitation in claim 24 gives rise to a presumption that claim 21 lacks such a limitation.

We do not find, moreover, that anything in the prosecution history overcomes the presumption created by these claim differentiation principles. Google argues that, during prosecution, Cioffi disclaimed a construction of "web browser process" that is broad enough to cover indirect access to website data in order to overcome anticipation by Narin. And Google is correct that, "[a]lthough claim differentiation is a useful analytic tool, it cannot enlarge the meaning of a claim beyond that which is supported by the patent documents, or relieve any claim of limitations imposed by the prosecution history. *See, e.g., Retractable Techs.*, 653 F.3d at 1305 ('[A]ny presumption created by the doctrine of claim differentiation "will be overcome by a contrary construction dictated by the written description or prosecution history."')." *Fenner Invs., Ltd. v. Cellco P'ship*, 778 F.3d 1320, 1327 (Fed. Cir. 2015). "The doctrine of prosecution disclaimer attaches where an applicant, whether by amendment or by argument, 'unequivocally disavowed a certain meaning

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to obtain his patent.'" *Schindler Elevator Corp. v. Otis Elevator Co.*, 593 F.3d 1275, 1285 (Fed. Cir. 2010) (quoting *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003)).

According to Google, Cioffi would not have been able to distinguish its claims from Narin if its "web browser process" was permitted to indirectly access data on websites through another browser process. Google contends that the examiner rejected Cioffi's initial, unamended claim for a "browser process" because it would encompass prior art video games in which a renderer (i.e., the first process) relies on a second process to receive interactive network data. '247 patent col. 14 ll. 28-45. Google argues that Cioffi thus surrendered indirect access to website data when it amended "browser process" to "web browser process" to exclude video game and word processing applications from the prior art. Appellee Br. 32.

Cioffi responds that it never suggested in the course of amending "browser process" to "web browser process" that the "web browser process" must be capable of "directly" accessing website data without the assistance of another "web browser process." Appellant Reply Br. 14. Instead, Cioffi says the key to overcoming Narin was not that the first "web browser process" could "directly" access website data, but, rather, was that the first "web browser process" could access website data *at all*.

In *Fenner*, on which Google relies, we held that the patent's specification and prosecution history narrowed the meaning of the term "personal identification number"

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beyond the construction proffered by the patentee notwithstanding the patentee's claim differentiation argument. 778 F.3d at 1327. The patentee argued that "personal identification number" should be construed broadly and could be associated with a particular user *or* a particular device. But the court held that the patentee could not walk away from what it had clearly stated during prosecution—that unlike the prior art, "[t]he present invention, on the other hand, is centered around the mobile user, not the mobile telephone. The user is identified by a personal code." *Id.* at 1325. The patentee's main argument on appeal was that the examiner did not rely on these statements, a point which we found to be irrelevant. *Id.*

Unlike *Fenner*, the alleged disavowal of claim scope is far from unequivocal in Cioffi's case. The prosecution history reveals that Cioffi distinguished Narin by arguing that its first browser process was not functionally equivalent to Narin's "secure" or "trusted" application because the first browser process of the reissue claims was capable of accessing untrusted data from websites, which would constitute "executable code from other sources that may not be trusted." J.A. 256-57. The examiner recognized that Cioffi drew this distinction with Narin's "secure" application, but nevertheless rejected Cioffi's claims because "the features upon which applicant relies, such as the first browser process accessing Internet sites and/or data, are not recited in the rejected claims." J.A. 286 (¶8). Rather, the examiner felt that the first logical process described in the specification was broad enough to encompass *non-web* browsers such as a "video game" and a "word processor." *Id.* at ¶6. In response to this rejection,

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Cioffi amended its claims to explicitly state that the "first web browser" needed to be "capable of accessing data on websites." J.A. 314, 332.

Google refers to the following passage from the prosecution history, claiming that it shows that Cioffi disclaimed "indirect" access to website data by the first browser process in order to overcome Narin:

> As an example application 312 [the secure application in Narin] may provide some type of web browsing capability to its user, but rather than performing the actual web browsing functions itself, application 312 may call upon a general-purpose browsing program to perform the web browsing.

J.A. 258, 590. *See also* Oral Argument at 18:01-19:18, *available at* http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2015-1194.mp3. This passage simply confirms that the "secure" process of Narin cannot perform web browsing functions itself, but can call upon the "open" process to perform such functions. Nothing here suggests that the "secure" process thereby gains access to website data. Google further cites this passage:

> Narin provides a technique for allowing an open or untrusted application to provide untrusted or open features for a secure application that are *not directly implemented* within the secure application (or closed application). In accordance there-with, an open or untrusted application

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> is run in a separate auxiliary process from
> the closed or protected application. . . . The
> auxiliary process is started by the closed
> process; the closed process controls the lifetime
> of the auxiliary process and terminates it when
> the open features that it provides are no longer
> necessary.

J.A. 588 (emphasis added). Google focuses on the phrase
"not directly implemented," but nothing contained
in this passage clarifies that the "untrusted or open
features" that the untrusted application provides the
secure application include anything more than general
web browsing capability, as opposed to *website data*.
And even if such "features" included data from websites,
nothing suggests that "are not directly implemented"
equates to "are indirectly accessed." In addition, the third
sentence—stating that the untrusted process is started,
controlled, and stopped by the "closed process"—also
falls short of suggesting that the "closed process" thereby
gains access to website data. Finally, the paragraph
immediately following that passage affirmatively suggests
that whatever the "untrusted features" provided to the
"secure" application might include they *cannot include*
"executable code from unknown sources":

> Narin teaches away from the closed process
> [the first browser process] being a browser
> process. If the application is trusted, running
> a browser inproc may subvert the security
> scheme of the trusted application. If trust is to
> be maintained, *executable code from unknown*
> *sources cannot be given access* to the address

> space of the trusted application and therefore cannot be run in process.

J.A. 256-57 (emphasis added). Thus, nothing from the prosecution history constitutes a clear and unmistakable disavowal of "indirect" access. "There is no 'clear and unmistakable' disclaimer if a prosecution argument is subject to more than one reasonable interpretation, one of which is consistent with a proffered meaning of the disputed term." *Sandisk Corp. v. Memorex Prods.*, 415 F.3d 1278, 1287 (Fed. Cir. 2005). Here, Cioffi has offered a reasonable alternative interpretation—that it differentiated Narin by explaining that its first web browser process, unlike Narin's "secure" process, had access to website data. We find nothing in the prosecution history sufficient to overcome the presumption that "web browser process" alone does not have a "direct" access capability requirement.

B. "Critical File"

We now turn to the dispute over the district court's construction of "critical file" as including "critical user files," which both parties agree would render the term indefinite under *Nautilus*, 134 S. Ct. at 2129. Under *Nautilus*, 35 U.S.C. § 112 ¶ 2 requires that "a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Id.* A claim "must be sufficiently definite to inform the public of the bounds of the protected invention, i.e., what subject matter is covered by the exclusive rights of the patent." *Ancora*

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Techs., Inc. v. Apple, Inc., 744 F.3d 732, 737 (Fed. Cir. 2014) (quoting *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008)).

Google points out three references to "user" files in the specification of the '247 patent:

> With the network interface program constrained in this way, malware programs are rendered unable to automatically corrupt *critical system and user files* located on the main memory storage area.
>
> . . .
>
> It is an object of the present invention to provide a computer system capable of preventing malware programs from automatically *corrupting critical user and system files*.
>
> . . .
>
> It is another object of the present invention to provide a user with an easy and comprehensive method of restoring *critical system and user files* that may have been corrupted by a malware infection.

'247 patent col. 7 ll. 8-11, 40-44, 53-56 (emphasis added). Google also points to the following references to "critical . . . user" files or data in the prosecution history:

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Critical user data residing on the first electronic memory space is thereby protected from corruption by a malicious (malware) process downloaded from the network and executing on the second logical process.

. . .

[M]alware programs are rendered unable to automatically corrupt *critical system and user files* located on the main memory storage area.

J.A. 458-59 (emphasis added).

The question is whether these five references to "user" files or data in the specification and prosecution history are sufficient to require that we read a "user files" limitation into the claim term "critical file." On this point, our recent decision in *Ancora*, 744 F.3d at 732, is instructive. *Ancora* states that "[a] claim term should be given its ordinary meaning in the pertinent context, unless the patentee has made clear its adoption of a different definition or otherwise disclaimed that meaning." *Id.* at 734. There, we upheld the district court's ruling that the terms "volatile memory" and "non-volatile memory" were not indefinite because the parties did not dispute that there were "clear, settled, and objective" meanings for those terms in the art, and three "passing references" in the specification inconsistent with the established meanings were insufficient to overcome the clear ordinary meaning. *Id.* at 738.

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In this case, the experts from both sides agreed that "critical file" had a well-understood and objective definition to one of skill in the art. Cioffi's expert, Mr. H.E. ("Buster") Dunsmore, stated that a person of skill would understand that a "'critical file' refers to files required for the proper operation of the computer's systems." Dunsmore Decl. ¶ 35, Exhibit 24 of Google's Responsive Claim Construction Br., *Cioffi*, 2014 U.S. Dist. LEXIS 123760 (2:13-cv-103), ECF No. 66 ("Dunsmore Decl."). Similarly, Google's expert, Dr. William A. Arbaugh, testified that, "[a] person of ordinary skill in the art knows that 'system files' are *synonymous* with 'critical file' and 'critical system file.'" Arbaugh Decl. at 32, Exhibit 23 of Google's Responsive Claim Construction Br., *Cioffi*, 2014 U.S. Dist. LEXIS 123760 (2:13-cv-103), ECF No. 66 (emphasis added) ("Arbaugh Decl.").[3]

The surrounding text of the experts' declarations does not alter this finding. The experts agreed that "critical *user* file" is entirely subjective. *See* Dunsmore Decl. ¶ 35 ("users may disagree [sic] what is and is not critical to them); Arbaugh Decl. at 32 ("it is my opinion that a 'critical user file' is entirely subjective because what is critical to one person may not be critical to another"). And the experts disagreed about whether "critical file" must be construed to include "critical user files" based on references to such files in the specification. *See* Dunsmore

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3. Based on this language, we disagree with Google's characterization of Dr. Arbaugh's testimony as explaining "that 'system file' can be a 'critical file' or a 'critical system file,' *not* that 'critical file' means 'system file' or only includes 'system file.'" Appellee Br. 37.

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Decl. ¶ 35 ("One of skill would understand that a critical file would not be a user file"); Arbaugh Decl. at 33 (stating that, in light of the specification and prosecution history, a proposed construction of "critical file" that "does not include the concept of 'critical user files' . . . is under-inclusive"). But neither party's expert suggested that "critical file" alone is subjective or indefinite.

Our analysis thus shows that, without taking into consideration the few references to "user files" or "user data" in the intrinsic evidence, both sides' experts agreed on an objective and well-understood meaning for "critical file." *Ancora* teaches that, if there is a well-understood meaning for a term in the art, we do not allow a few inconsistent references in the specification to change this meaning. This is because, if the terms at issue have "so clear an ordinary meaning[,] a skilled artisan would not be looking for clarification in the specification." *Ancora*, 744 F.3d at 738. As in *Ancora*, "[t]here is no facial ambiguity or obscurity in the claim term," and any ambiguity only arises from the specification. *Id.*

Google argues that, unlike *Ancora*, where the "passing references" inconsistent with the ordinary meaning were "perplexing," here, Cioffi deliberately intended to protect critical user data and critical user files from malware as part of its invention. *See id.* While the specification references upon which Google relies do reference the advantage of protecting files with which a particular user might be concerned, we see nothing that indicates that Cioffi intended its invention to do anything other than protect "critical files" as that concept is

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widely understood by those of skill in the art. We, thus, reject Google's argument, and find that the few "passing references" to "user" files or data are insufficient to alter the well-understood, objective meaning of "critical file" agreed upon by the experts. We, therefore, reverse the district court's holding that "critical file" in claim 21 of the '103 patent is indefinite.

III. Conclusion

For the foregoing reasons, we find that that the district court incorrectly construed "web browser process" as requiring a "direct" access capability and incorrectly construed "critical file" as encompassing "critical user files." We, therefore, reverse the district court's claim constructions to the extent they are inconsistent with our findings and reverse the district court's finding that the '103 patent is invalid as indefinite under 35 U.S.C. § 112 ¶ 2. Because the parties stipulated to non-infringement based on the district court's erroneous constructions, we also remand for further findings pursuant to this opinion.

REVERSED AND REMANDED

APPENDIX E — DENIAL OF REHEARING OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, FILED JULY 17, 2023

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2018-1049

ALFONSO CIOFFI, MELANIE ROZMAN,
MEGAN ROZMAN, MORGAN ROZMAN,

Plaintiffs-Appellees,

v.

GOOGLE LLC,

Defendant-Appellant.

Appeal from the United States District Court for the Eastern District of Texas in No. 2:13-cv-00103-JRG, Chief Judge J. Rodney Gilstrap.

ON PETITION FOR PANEL REHEARING

Before REYNA, BRYSON, and TARANTO, *Circuit Judges.*

PER CURIAM.

ORDER

The appellees (collectively, "Cioffi") have petitioned for panel and en banc rehearing of the April 18, 2023, decision

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of this court reversing the district court's determination that the asserted claims were not invalid under 35 U.S.C. § 251.

Cioffi's petition argues, in part, that the standard for validity articulated by this court in *Antares Pharma, Inc. v. Medac Pharma, Inc.*, 771 F.3d 1354 (Fed. Cir. 2014), and *Forum US, Inc. v. Flow Valve, LLC*, 926 F.3d 1346 (Fed. Cir. 2019), does not apply to this case. That is because, in Cioffi's view, the *Antares* standard applies only when "a patentee broadens the claims by removing a limitation that the specification described as an integral part of the invention." Pet. 10.

There are several problems with that argument. To begin with, Cioffi did not make that argument in its briefs on appeal. Because the argument has been raised for the first time in Cioffi's petition for rehearing, it is waived. *See Haas v. Peake*, 544 F.3d 1306, 1308 (Fed. Cir. 2008); *Pentax Corp. v. Robison*, 135 F.3d 760, 762 (Fed. Cir. 1998).

Waiver aside, the argument is unpersuasive for three reasons. First, the express terms of section 251 do not limit the original patent requirement to broadening reissues. *See* 35 U.S.C. § 251. To the contrary, the statute provides that the Patent and Trademark Office may "reissue the patent for the invention disclosed in the original patent" in various situations, including where the patentee "claim[s] more or less than he had a right to claim in the patent." *Id.*

Second, there is no indication in *Antares* or *Forum* that the clear and unequivocal disclosure required to

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comply with the original patent requirement is limited to broadening reissue claims. As we noted in *Antares*, the original patent requirement predated the Supreme Court's decision that held broadening reissue claims to be permissible. 771 F.3d at 1358–59 (citing *Miller v. Bridgeport Brass Co.*, 104 U.S. 350 (1881)). Moreover, "the original patent requirement focuses on the original specification rather than the original claims," because "by definition in reissue the original claims do not disclose the invention claimed on reissue." *Id.* at 1362. And although in the *Forum* case we described the standard of *Antares* as applying "for broadening reissue claims," we did not decide—nor did we need to decide—whether the standard applied to narrowing re-issue claims. *Forum*, 926 F.3d at 1351. For the reasons stated below, we similarly do not need to decide that issue here.

Third, all four of the claims asserted by Cioffi in this case are broadening reissue claims. Cioffi acknowledges in its petition that two of the four claims at issue in this appeal—claim 43 of the '500 patent and claim 67 of the '528 patent—are broader in some respects than the original claims. Cioffi contends, however, that those claims were broadened "in a way unrelated to their challenge under original patent," Pet. 10, suggesting that it is permissible to broaden claims on reissue if the broadening does not re-late to the grounds on which the original patent was "deemed wholly or partly invalid or inoperative." 35 U.S.C. § 251.

That suggestion, however, runs afoul of the well-established principle that a claim of a reissue application

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enlarges the scope of the original patent if it is broader than the original claims in any respect. As this court has explained, "A claim is broadened if it is broader in any respect than the original claim, even though it may be narrower in other respects." *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1283 n.9 (Fed. Cir. 2015) (citing *In re Rogoff*, 261 F.2d 601, 603 (CCPA 1958)); *see also ArcelorMittal France v. AK Steel Co.*, 786 F.3d 885, 889 (Fed. Cir. 2015); PTO, Manual of Patent Examining Procedure § 1412.03(I) (9th ed., Feb. 2023). That is, a claim has been broadened "if it contains within its scope any conceivable apparatus or process which would not have infringed the original patent." *Tillotson, Ltd. v. Walbro Corp.*, 831 F.2d 1033, 1037 n.2 (Fed. Cir. 1987).

Contrary to Cioffi's contention, the other two claims at issue on appeal—claim 5 of the '528 patent and claim 49 of the '529 patent—are also broadening reissue claims. Claim 5 of the reissue '528 patent depends from claim 1 of that patent, and claim 1 recites "displaying data from the first logical process and the second logical process . . . ." '528 patent, cl. 1. That limitation is broader than the corresponding limitation in claim 1 of the original patent, No. 7,484,247, which recites "displaying, *in a windowed format on a display terminal,* data from the first logical process and the second logical process . . . ." '247 patent, cl. 1 (emphasis added).

Claim 49 of the reissue '529 patent, which depends from claim 36 of that patent, similarly broadens the "display" limitation of claim 1 of the '247 patent. In place of the limitation in the original '247 patent requiring "dis-

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playing, in a windowed format on a display terminal, data from the first logical process and the second logical process," Claim 36 of the '529 reissue patent recites "displaying digital content generated by the secure web browser process," '529 patent, cl. 36. The "displaying" limitations of claim 5 of the '528 patent and claim 49 of the '529 patent are thus broader than the corresponding "displaying" limitation of the original '247 patent.

Finally, in the petition for rehearing Cioffi relies on two cases not cited in Cioffi's briefs on appeal, *Revolution Eye-wear, Inc. v. Aspex Eyewear, Inc.*, 563 F.3d 1358 (Fed. Cir. 2009), and *In re Amos*, 953 F.2d 613 (Fed. Cir. 1991). In *Revolution Eyewear*, the court rejected the defendant's argument that the written description requirement was not satisfied and then "similarly" held that the challenged claim complied with section 251. 563 F.3d at 1367. We have subsequently characterized that statement from *Revolution Eyewear* as responding to the way the parties presented the section 251 issue, and we have twice rejected the argument *Revolution Eyewear* stands for the proposition that the test for compliance with the requirements of section 251 is identical to the test for compliance with the written description requirement of section 112. *See An-tares*, 771 F.3d at 1362 & n.8; *In re Float'N'Grill LLC*, No. 2022-1438, at 14 (Fed. Cir. July 12, 2023).

This court's decision in *In re Amos* is also unhelpful to Cioffi. The court in that case declined to address whether the tests for written description under section 112 and for the "same invention" under section 251 are co-extensive.

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953 F.2d at 618. And in *In re Amos*, as we pointed out in *Antares*, 771 F.3d at 1363, "the exact embodiment claimed on reissue was expressly disclosed in the specification," which is not the case here. Contrary to Cioffi's contention, *Revolution Eyewear* and *In re Amos* thus do not support Cioffi's argument in this case and do not serve as prior decisions that must be followed instead of the court's later decisions in *Antares* and *Forum*.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

July 17, 2023
    Date

                  FOR THE COURT

                  /s/ Jarrett B. Perlow
                  Jarrett B. Perlow
                  Clerk of Court

**APPENDIX F — DENIAL OF REHEARING OF
THE UNITED STATES COURT OF APPEALS FOR
THE FEDERAL CIRCUIT, FILED JULY 17, 2023**

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

2018-1049

ALFONSO CIOFFI, MELANIE ROZMAN,
MEGAN ROZMAN, MORGAN ROZMAN,

Plaintiffs-Appellees,

v.

GOOGLE LLC,

Defendant-Appellant.

Appeal from the United States District Court for the
Eastern District of Texas in No. 2:13-cv-00103-JRG,
Chief Judge J. Rodney Gilstrap.

ON PETITION FOR REHEARING EN BANC

Before MOORE, *Chief Judge,* NEWMAN, LOURIE, DYK,
PROST, REYNA, TARANTO, CHEN, HUGHES, STOLL, and STARK,
Circuit Judges.[1]

PER CURIAM.

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1. Circuit Judge Cunningham did not participate.

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ORDER

The appellees (collectively, "Cioffi") have petitioned for panel and en banc rehearing. A response to the petition was invited by the court and filed by Google LLC.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for rehearing en banc is denied.[2]

The mandate of the court will issue July 24, 2023.

July 17, 2023
    Date

                        FOR THE COURT

                        /s/ Jarrett B. Perlow
                        Jarrett B. Perlow
                        Clerk of Court

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    2. The petition for panel rehearing is addressed by separate order.

APPENDIX G — RELEVANT STAUTORY PROVISIONS

35 U.S.C. § 251

Reissue of defective patents

(a) IN GENERAL.—Whenever any patent is, through error, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent, the Director shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.

(b) MULTIPLE REISSUED PATENTS.—The Director may issue several reissued patents for distinct and separate parts of the thing patented, upon demand of the applicant, and upon payment of the required fee for a reissue for each of such reissued patents.

(c) APPLICABILITY OF THIS TITLE.—The provisions of this title relating to applications for patent shall be applicable to applications for reissue of a patent, except that application for reissue may be made and sworn to by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent or the application for the original patent was filed by the assignee of the entire interest.

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(d) Reissue Patent Enlarging Scope of Claims.—No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.