

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FREEWHEEL MEDIA, INC.,

Petitioner,

v.

INTENT IQ, LLC,

Patent Owner.

IPR2024-00419

Patent 11,564,015 B2

PATENT OWNER'S RESPONSE

Table of Contents

I.	Introduction	1
II.	Background of the '015 Patent.....	2
III.	Claim Construction.....	5
IV.	The Petition’s Ground A fails because the system determining the association uses the “common IP address.”	5
V.	The Petition’s Ground D theory fails because the Petition cannot show that using a combination of IP address / port number as the claimed “device identifiers” would have been obvious.	9
VI.	The failure of the Petition’s Grounds A and D is fatal to the Petition.	18
VII.	Conclusion.....	18

Table of Authorities

Cases

<i>Apple Inc. v. Uniloc Luxembourg S.A.</i> , IPR2018-00420, Paper 7 (PTAB, Aug. 6, 2018)	5
<i>Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.</i> , 200 F.3d 795 (Fed. Cir. 1999)	5

Patent Owner's Exhibit List for IPR2024-00419

Pursuant to 37 C.F.R. § 42.63(e), Patent Owner Intent IQ, LLC hereby submits its exhibit list associated with the above-captioned *inter partes* review of U.S. Patent No. 11,564,015.

Exhibit No.	Description
2001	Declaration of Erik de la Iglesia in support of Patent Owner's Response
2002	<i>Curriculum vitae</i> of Erik de la Iglesia
2003	Keith W. Ross and James F. Kurose, The World Wide Web: HTTP (excerpted from Computer Networking: A Top-Down Approach Featuring the Internet) (2000), available at https://userpages.umbc.edu/~dgorin1/451/OSI7/dcomm/Contents2.htm and https://userpages.umbc.edu/~dgorin1/451/OSI7/dcomm/http.htm
2004	Ari Luotonen, Web Proxy Servers (Prentice-Hall 1998) (excerpts)
2005	James F. Kurose & Keith W. Ross, Computer Networking: A Top-Down Approach (6th ed. 2013) (excerpts), available at https://broman.dev/download/Computer%20Networking:%20A%20Top-Down%20Approach%206th%20Edition.pdf
2006	Kozierok, C., TCP/IP Guide, http://www.tcpipguide.com/free/t_TCPIPApplicationAssignmentsandServerPortNumberRang-2.htm#google_vignette (ver. 3.0 Sept. 20, 2005)
2007	Rosenberg et al., RFC 3261, "SIP: Session Initiation Protocol" (June 2002), available at https://www.hjp.at/doc/rfc/rfc3261.html

I. Introduction

Only two grounds of the Petition, Grounds A and D, challenge the only independent claims (claims 1 and 14). Both challenges fail.

Regarding the Petition's Ground A, the claims all require that "the computer system determining the associations accesses the Internet without using any of the common IP addresses" that are used to generate the associations of device identifiers. However, the Petition is explicit in mapping "Baig's modified system," **including** Baig's access point and mobile devices, to the "computer system determining the associations." Pet. 25. And the Petition does not even attempt to dispute that Baig's modified system, defined in the way the Petition explicitly defines it, **does** access the Internet through the IP addresses used to generate the associations of device identifiers, contrary to the express claim requirements.

Regarding the Petition's Ground D, the Petition asserts that a POSITA would have used a combination of IP address and port number as an identifier of a device, and would have created an electronic database indicating a multitude of associations between these IP address / port number combinations for the purpose of cross-device targeting (i.e., using profile information associated with one device to cause content targeting with respect to a different device). This theory, however, neglects the fact that in the context of access points contemplated by the Petition's Ground D theory, port numbers would be recycled very rapidly (on the order of only a few seconds).

The Petition and the corresponding expert declaration do not address the fact that the rapid recycling of port numbers would have made an IP address / port number completely unsuitable for use as a device identifier consistent with the challenged claims of the '015 patent, and that the rapid turnover in port assignments would have caused a POSITA to avoid using port numbers as part of a device identifier in the manner the Petition alleges. As such, the Petition cannot show that its proposed combination for Ground D would have been obvious.

Accordingly, all challenged claims should be found not unpatentable.

II. Background of the '015 Patent

The challenged claims of the '015 patent (claims 1-26) are directed to a novel “computer system” for performing a method of, e.g., “creating an electronic database containing a multitude of associations, each indicating an association between device identifiers of two or more Internet-accessing electronic devices,” wherein associations are determined by “determin[ing] that both of the at least two devices have accessed the Internet via a common IP address,” and wherein “the computer system determining the associations accesses the Internet without using any of the common IP addresses [used to generate the associations stored in the database].” Ex. 1001, claim 1. Furthermore, the association between a first device and a second device, as well as profile information associated with an identifier of the second

device, are used to “cause an automatic action to be taken (e.g., targeting personalized content) with respect to the first device.” Ex. 1001, Claim 1(b).

The ’015 patent’s specification discloses two primary types of systems, a first in which a “common service provider that acts as both an internet service provider and a television provider” (ISP/TVP) provides data to associate devices (Ex. 1001 at 9:31-13:3 and Figs. 1-6), and a second in which “the user need not receive both television service and Internet access from a common service provider” and the devices are associated instead via common IP address (*id.* 13:4 et seq. and Figs. 7-12). The claims of this continuation patent concern the “common IP address” embodiments, and the type of device (e.g., STB) is introduced only in dependent claims.

Claim 1 is generally representative of both independent claims (claims 1 and 14) challenged in the Petition. Claim 1 recites:

1. A computer system comprising at least one hardware server computer, wherein the computer system is programmed and connected to perform a method of using common IP addresses to identify associations among multiple electronic devices and using an identified association to cause cross-device action, the method comprising:

(a) with the computer system, creating an electronic database containing a multitude of associations, each indicating an association between device identifiers of two or more Internet-accessing electronic

devices of a multitude of Internet-accessing electronic devices, wherein:

(i) each of the associations is determined using stored data relating to Internet access by various of the multitude of devices, the stored data comprising (A) a device identifier of one of the Internet-accessing devices,

(B) an IP address through which the one of the devices accessed the Internet, and (C) a timestamp identifying when the one of the devices accessed the Internet;

(ii) at least some of the associations indicate association between at least two devices of the two or more Internet-accessing electronic devices, which association is determined by using the stored data to determine that both of the at least two devices have accessed the Internet via a common IP address at respective times satisfying a predetermined time-relation criterion;

(iii) at least some of the associations indicate association between at least two devices of the two or more Internet-accessing electronic devices, which association is determined without use of personally identifiable information; and

(iv) the computer system determining the associations accesses the Internet without using any of the common IP addresses of the associations identified in part (ii); and

(b) when the computer system and a first device identified in a first association are in communication with one another, with the computer system using a device identifier of the first device and user profile information associated with a device identifier of a second

device identified in the first association to cause an automatic action to be taken with respect to the first device, wherein:

(i) the first association is one of the associations identified in part (a)(ii); and

(ii) the first association was stored in the electronic database described in part (a) prior to the computer system and the first device being in communication with one another as described in part (b).

Ex. 1001 at claim 1.

III. Claim Construction

The Federal Circuit has held that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). This principle applies equally to IPR proceedings. *See, e.g., Apple Inc. v. Uniloc Luxembourg S.A.*, IPR2018-00420, Paper 7 at 8 (PTAB, Aug. 6, 2018).

The Petition does not propose an express construction of any terms. *See* Pet. 9. Patent Owner does not contend that any terms in the challenged claims require express construction for purposes of evaluating the Petition’s invalidity grounds.

IV. The Petition’s Ground A fails because the system determining the association uses the “common IP address.”

Claim 1 recites “A computer system... programmed and connected to perform a method of using common IP addresses to identify associations among multiple electronic devices and using an identified association to cause cross-device action,

the method comprising: (a) with the computer system, creating an electronic database containing a multitude of associations..., wherein (i) each of the associations is determined using stored data [and] (ii) at least some of the associations indicate association between at least two devices..., which association is determined by using the stored data to determine that both of the at least two devices have accessed the Internet via a common IP address at respective times.”

Ex. 1001, claim 1; *see also* claim 14 (reciting the same, other than the preamble reciting “[a]n article comprising a tangible data storage medium... encoding computer-readable instructions that, when applied to a computer system comprising at least one hardware server computer, instruct the computer system to perform a method comprising...”). Both challenged independent claims **also** require that “the computer system determining the associations accesses the Internet without using any of the common IP addresses of the associations identified in part (ii).” Ex. 1001, claim 1(a)(iv); claim 14(a)(iv).

For limitation 1(a)(iv), the Petition is explicit in identifying “the computer system determining the associations” as “Baig’s modified system [discussed in the Petition’s analysis of limitation [1A]].” Pet. 25. Specifically, the Petition explicitly identifies the entirety of “Baig’s modified system” (**not** merely the proposed content relationship, or “CR” server), as constituting “the computer system determining the associations”:

As shown for [1A], in Baig’s modified system (“the computer system determining the associations”), the CR server would not have connected to the Internet via the AP and thus would have used a different IP address than the AP that provides devices 102 with Internet access (“accesses the Internet without using any of the common IP addresses of the associations identified in part (ii)”). Ex. 1007, ¶43 FIG. 1; Ex. 1015, FIG. 2; Ex. 1002, ¶205; §V.A.1.a.

Pet. 25 (highlighting added).

The Petition is *also* clear that “Baig’s modified system” is equivalent to the “computer system” of the preamble, and includes not only the CR server, but also “multiple devices (‘a multitude of Internet-accessing electronic devices’) connected to the Internet via a shared AP.” Pet. 17; *id.* 15 (alleging that the Baig-Banga507-Banga690-McFarland combination “yields a system ‘computer system’) with CR server... mobile devices... and AP”); *see also* Pet. 27 (alleging that the individual user devices are “in Baig’s modified system”); Pet. 39-40 (alleging that a POSITA would “include a [set-top box] as one of the devices connected to the AP in Baig’s modified system,” which “would have enabled Baig’s modified system to advantageously display, at a TV, targeted advertisements to the collective audience”).

However, despite clearly and explicitly mapping “the computer system determining the associations” to “Baig’s modified system” which includes Baig’s user devices 102 as well as Baig’s access point 106, the Petition does not even

attempt to show that these components of Baig’s modified system “accesses the Internet without using any of the common IP addresses of the associations identified in part (ii),” as required by claim 1(a)(iv) and 14(b)(iv). Instead, the Petition at most alleges that a *portion* of that system (the CR server) uses a *different* IP address to connect to the Internet. See Pet. 25 (alleging that “[t]he CR server would not have connected to the Internet via the AP and thus would *have used a different IP address* than the AP that provides devices 102 with Internet access”) (emphasis added).

Fatally to the Petition’s Ground A theory, a system that accesses the Internet using an IP address **additional to** the claimed common IP addresses (which is what the Petition alleges) is not the same as a system that accesses the Internet **without** using the claimed common IP addresses. Indeed, the Petition acknowledges that the “common IP addresses” are those IP addresses that “the AP that provides devices 102 with Internet access” uses. Pet. 25. But under the Petition’s theory, the AP is **part of** “Baig’s modified system” (and is thus part of “the computer system determining the associations”), such that there can be no plausible dispute that under the Petition’s Ground A theory, “the computer system determining the associations” **would have** accessed the Internet using the common IP addresses, contrary to the explicit claim requirement.¹

¹ The user devices 102 connected to the access point **also** use the common IP address to access the Internet. See Pet. 46 (“Outgoing traffic from the AP carries [the AP’s] IP address as the source IP address for all devices.”).

In sum, because the Petition maps the IP address used by Baig’s access point (which access point is part of the alleged “computer system determining the associations”) as the common IP address, the Petition cannot show that its Ground A theory satisfies the claim requirement that “the computer system determining the associations accesses the Internet without using any of the common IP addresses of the associations identified in part (ii)” as required by all challenged claims. Accordingly, the Petition’s Ground A theory cannot succeed.

V. The Petition’s Ground D theory fails because the Petition cannot show that using a combination of IP address / port number as the claimed “device identifiers” would have been obvious.

The Petition identifies only a single type of device identifier for its Ground D theory: “the combination of: (i) the AP’s IP address, and (ii) a TCP/IP port number associated with device 102 connected to the AP.” Pet. 46. However, as explained in further detail below, a POSITA would not have found it obvious to use the combination of an IP address and TCP/IP port number as the device identifier in the claimed manner, because port numbers in the proposed combination would change rapidly such that they would be extremely unreliable for use as device identifiers, such that a POSITA would not have been motivated to pursue such an implementation. *See* Ex. 2001, ¶¶30-44.

As explained by Patent Owner’s expert Mr. Erik de la Iglesia, a POSITA would not have recognized the combination of an IP address and a port number as being a suitable device identifier that could be used for the claimed associations recited by the ’015 patent. A POSITA at the relevant time would have been both unable to use the IP address / port number combination in the manner the Petition alleges, and would have further been dis-incentivized from attempting to do so because of the unworkability and extreme unreliability of this combination of data as a device identifier forming the basis of the claimed associations. Ex. 2001, ¶¶30-31.

In the Wi-Fi access point configuration applicable to the Petition’s combination involving Baig, originating IP address that Baig’s content server would see is the public-facing IP address of the Wi-Fi access point, not any local IP address of that user’s individual device. Network address translation (or “NAT”), which the Petition contends would be performed by the Wi-Fi access points described in Baig under the Petition’s proposed combination, do not assign each individual *device* a port number; they instead assign each individual *TCP connection* an ephemeral port number as connections are created. *Id.*, ¶¶32. A given port number is used only for data transferred during that specific connection and must be quickly recycled to support other users/devices after use. The lifetime of ephemeral ports is further restricted by the security settings of the system performing the network address

translation and/or upstream firewalls as an active port allows return packets to cross the firewall boundary which should only be allowed when part of an active content transfer. *Id.* ¶32.

As Mr. de la Iglesia explains, a POSITA would have recognized that assigning ports to individual devices (rather than to individual connections, the method that is and was routinely used by Wi-Fi access points) would have been impractical because the access point does not know how many devices will be accessing the Internet through a given access point and would be unable to allocate port numbers to devices ahead of time in a way that could accommodate for all of the parallel TCP connections that might be initiated by each of the numerous individual devices that might be connecting to the Internet via the access point. Ex. 2001, ¶¶33.

Each user's browser accessing a system such as Baig's (via a public Wi-Fi access point) would have opened a plurality of parallel HTTP connections to obtain content from the servers hosting Baig's website. Ex. 2001, ¶33. For instance, a browser would have initiated on the order of 10 different HTTP connections to obtain information from a domain hosting the Baig website. *See* Ex. 2003 at 4 ("In their default modes, most browsers open five to ten parallel TCP connections, and each of these connections handles one request-response transaction."); Ex. 2004 at 6 (original page 50) ("Many Web clients, such as Netscape Navigator, open up several connections simultaneously, so that the document text (HTML) and its

inlined images can be loaded simultaneously to improve the received response time,” so that “[m]ultiple images can be rendered simultaneously, instead of having to wait for the previous one to finish before starting the next one.”). As explained by Mr. de la Iglesia, a browser’s opening of plural connections, typically simultaneously, i.e., in parallel, was prevalent in the period between Baig’s earliest apparent priority date (Nov. 10, 2006, *see* Ex. 1008, the Baig provisional) and the effective filing date of the ’015 patent (Apr. 17, 2007). Ex. 2001 ¶33; Ex. 2004 at 6 (Fig. 4.2 showing “[m]ultiple simultaneous connections [by a single client] to increase speed and provide better perceived performance”). That same approach was prevalent both before and after that period as well. *See* Ex. 2001, ¶33 (quoting Ex. 2005 at 45 (original page 101)).

In the context of any given public WiFi access point (such as contemplated by the Petition’s Baig combination), connections coming from a given user device would have been assigned to a large number of public-facing WiFi Access Point source ports. Any given port in use would have been typically assigned only seconds earlier and persist only for so long as needed to complete data transfer during a given connection. A given port would also be reassigned quickly, likely only a few seconds after the original assignment, and with a high probability, a given port would have been assigned to a ***different*** device accessing Baig’s content server from the same WiFi access point. Ex. 2001, ¶34.

In light of the rapid fluctuation in assignments of TCP/IP port numbers, Mr. de la Iglesia explains that it would not have been feasible to “creat[e] an electronic database containing a multitude of associations... indicating an association between device identifiers” if “device identifiers” refers to IP address / port number combinations (as the Petition’s Ground D theory—in which device identifiers are the IP address / port number combinations—must show to satisfy the claim language). Ex. 2001, ¶34. Mr. de la Iglesia further explains that there was no reason for a POSITA to generate an association between an IP address / port number combinations as device identifiers, particularly where there would be numerous port numbers being used by a single browser on a single device simultaneously, and therefore no motivation to do so as the resulting combination would not be expected to function for the purpose the Petition alleges it would be used for. *Id.*

As Mr. de la Iglesia goes on to explain, the set of port numbers in use in a system such as Baig would change rapidly over time, and would be readjusted and reassigned as new connections are created and old connections are torn down. Ex. 2001, ¶35. At different moments within a same user’s login session, the set of port numbers that Baig’s content server would observe would change and the same port numbers used before the change allocated for a different device. The source port number that Baig’s content server would observe from any given connection will be an ephemeral port (sometimes called a dynamic/private port. See Ex. 2001, ¶35

(citing Ex. 2006 at 1). Baig’s content server would not be able to use the chosen source port of the NAT layer of the Wi-Fi Access Point to determine whether a given communication relates to a specific user or device because of the rapid variability in assignment of such port numbers, and because source ports will be constantly recycled for use among connections of different users and devices. Ex. 2001, ¶35

Mr. de la Iglesia further explains that because a POSITA considering Baig would have understood that a source port from the access point in the proposed combination would be ephemeral (i.e., capable of being reassigned to another connection at any given moment in time, including a connection originating from another user device), a POSITA would have actively avoided attempting to reverse-engineer the constantly changing connection table ports of a Wi-Fi access point. Ex. 2001, ¶36. This is especially the case given that the access point would not be under control of Baig’s servers (especially in the Petition’s Ground D theory, where the access point is not alleged to be part of the claimed “computer system”). *Id.* (citing Ex. 2007 at 141). In other words, a POSITA would understand that Baig’s content server would be unable to assume that the same source port would be re-used by a given device over any given period of time, but would instead need to assume (given the rapid reassignment of port numbers to different devices) the source port number used to contact Baig’s content server from any given device would change from moment to moment depending on the needs of the system performing the NAT

translation (i.e., the Wi-Fi access point). Ex. 2001, ¶36. As such, given the extremely fast recycling of port numbers between devices, IP address / port number combinations would have been terribly unreliable (and undesirable) for use as device identifiers in the manner that the Petition proposes they would be used.

Mr. De la Iglesia goes on to provide even more detail as to why the WiFi access point referenced in the Petition's Ground D combination would have needed to assign and reassign port numbers to numerous different devices on short timeframes. Ex. 2001, ¶¶37-41. For example, Baig's website is relatively complex, involving numerous media elements, such that a user's browser would have tended to open "multiple simultaneous connections" in order to "obtain the requested website information as quickly as possible." *Id.* ¶37. The limited number of ports and bursty nature of access in a system such as contemplated by the Petition's Ground D combination makes such recycling of ephemeral ports especially important for an access point operating in the context the Petition proposes. *Id.*

In the context of the Petition's Baig combination, where a Wi-Fi access point makes use of network address translation, ephemeral ports may have been recycled on the order of just a few seconds (or even faster), and any external knowledge of those port numbers would become stale and incorrect very quickly. Ex. 2001, ¶38. Thus, IP address/port number combinations would have been extremely unreliable for device-identification (and thus device-association) purposes, and could not have

been the claimed “device identifiers.” Thus, a POSITA would have understood that no such identification would have been feasible due to numerous parallel connections and the rapid recycling of port numbers between connections and devices, and would have avoided attempting to pursue such an implementation where IP address / port number combinations are used as the claimed “device identifiers.” See Ex. 2001, ¶¶38-41.

Mr. de la Iglesia further explains that even if Baig’s WiFi access point used NAT (which involves IP address/port number combinations), there would have been no reason for a POSITA to *retain or store* associations between IP address/port number combinations in a database, in a system like Baig’s, as required by Element 1[B] of the ’015 patent. Ex. 2001, ¶42.

Notably, the Petition contends that “[i]t would have been obvious to implement port translation techniques... as part of NAT performed by Baig’s AP 106, thereby allowing multiple devices to use a single IP address and yet be uniquely identified by port number.” Pet. 49. But as Mr. de la Iglesia explains, while IP address / port number combinations would have allowed for correct **routing** of communications to different devices across extremely short time periods, they would not have allowed for any reasonable **identification** of those devices by remote servers or any device upstream from the NAT boundary for the reasons discussed above. Instead, a POSITA would have recognized that because port numbers are

assigned rapidly and would often be reassigned to other devices connecting to the same WiFi access point, a POSITA would have avoided using the IP address / port number combination as a device identifier in the manner the Petition contends. Ex. 2001, ¶43.

Petitioner's expert bases his opinion on the apparent misunderstanding that "the proposed combination simply entails adapting Baig to use well-known and industry-standard NAT techniques, which were well-known and widely deployed by April 2007." See Ex. 1002 ¶354. Of course, Patent Owner does not dispute that **NAT techniques** were well-known and widely deployed by April 2007. See Ex. 2001, ¶44 (Mr. de la Iglesia: "I agree that NAT techniques were well-known and widely deployed by April 2007."). But the Petition's proposed combination is far more complicate (and far more unworkable) than merely implementing known NAT techniques within Baig's teachings. As Mr. de la Iglesia explains, the use of an IP address / port number combination for device identification purposes in the manner the Petition proposes was neither well-known nor industry standard. To the contrary, it would not have been a practical solution to implement the Petition's proposed solution of using IP address / port number combinations as device identifiers (and creating a database storing associations between these IP address / port number combinations for cross-device targeting purposes), and a POSITA would have actively avoided implementing such a solution because of the extreme unreliability

in using IP address / port number combinations in the proposed manner. Ex. 2001, ¶44.

In sum, because the Petition's Ground D theory is based on an unrealistic and undesirable use of IP address and port number combinations, the Petition cannot show that a POSITA would have found the proposed implementation to have been obvious.

VI. The failure of the Petition's Grounds A and D is fatal to the Petition.

The Petition's Grounds B, C, E, F, G, H, I, J, and K do not provide any additional reasoning as to why the claim requirements of the independent claims (claims 1 and 14) are satisfied. Accordingly, the Petition's failure to show the obviousness of claims 1 and 14 in Grounds A and D is fatal to each invalidity theory presented in the Petition.

VII. Conclusion

For the reasons set forth above, Patent Owner respectfully requests that the Board find all challenged claims not unpatentable.

Date: December 11, 2024

Respectfully submitted,

/James A. Milkey/

James A. Milkey, Reg. No. 79,503
Russ, August & Kabat
12424 Wilshire Blvd., 12th Floor
Los Angeles, CA 90025

Counsel for Patent Owner

CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner hereby certifies, in accordance with and reliance on the word count provided by the word-processing system used to prepare this **PATENT OWNER'S RESPONSE**, that the amount of words in this paper is 4,201. Pursuant to 37 C.F.R. § 42.24, this word count is in compliance with the word limit set forth in 37 C.F.R. § 42.24(b)(2) excluding the portions exempted under 37 C.F.R. § 42.24(a)(1).

Date: December 11, 2024

Respectfully submitted,

/James A. Milkey /
James A. Milkey, Reg. No. 79,503
Russ, August & Kabat
12424 Wilshire Blvd., 12th Floor
Los Angeles, CA 90025

Attorney for Patent Owner

CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on December 11, 2024, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioners:

Frederic M. Meeker (Reg. No. 35,282)
Azuka C. Dike (Reg. No. 68,497)
Brian Emfinger (Reg. No. 64,670)
John R. Hutchins (Reg. No. 43,686)
C. Andy Mu (Reg. No. 58,216)
BANNER & WITCOFF, LTD.
fmeeker@bannerwitcoff.com
adike@bannerwitcoff.com
bemfinger@bannerwitcoff.com
jhutchins@bannerwitcoff.com
amu@bannerwitcoff.com
ComcastIPRService@bannerwitcoff.com

Date: December 11, 2024

/ James A. Milky /

RUSS AUGUST & KABAT
12424 Wilshire Blvd., 12th Fl.
Los Angeles, CA 90025
(310) 826-7474

James A. Milky
Reg. No. 79,503
Attorney for Patent Owner