UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD.,
Petitioner,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

IPR2023-01462
Patent 9,277,445 B2

PETITIONER'S REQUEST FOR REHEARING

I. INTRODUCTION AND STATEMENT OF RELIEF REQUESTED

Petitioner hereby requests rehearing under 37 CFR § 42.71(d), in response to the Decision Denying Institution of *Inter Partes* Review ("Decision") in proceeding IPR2023-01462. In denying institution, the Decision relies on an improperly narrow interpretation of the feature "block the Internet service access request" that requires a request be blocked "before a connection [to the Internet] is open." Pap. 9, 10. In arriving at this interpretation, the Decision conflates the claimed access to an "Internet service" with a connection to the Internet, and overlooks the '445 patent's disclosure speaking to the meaning of "Internet service" as broadly encompassing services offered over the Internet:

> and core networks **220**. For example, devices **100** can communicate via the central provider access and core networks **220** to the Internet **120** for access to various Internet sites/services **240** (e.g., Google sites/services, Yahoo sites/services, Blackberry services, Apple iTunes and AppStore, Amazon.com, FaceBook, and/or any other Internet service or other network facilitated service).

SAMSUNG-1001, 39:24-30[1]. Such disclosure counsels for a broad interpretation of "Internet service" that is not limited only to services to connect to the Internet itself. Instead, "Internet services" include content, streaming, and e-mail services offered over the Internet that only become available for receiving access requests after an Internet connection is already open. *Id.,* 39:4-39, FIGS. 2-3. Indeed, the figures of the '445 patent confirm this, depicting Internet services as only being

[1] All emphasis herein is added, unless stated otherwise.

accessible through an established Internet connection:

FIG. 3

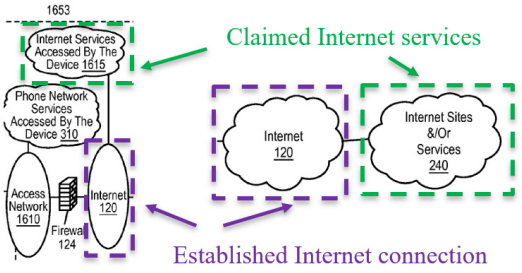


FIG. 2

SAMSUNG-1001, FIG. 3 (excerpt, annotated), FIG. 2 (excerpt, annotated).

The Decision also overlooks aspects of the claims of the '445 patent that counsel against a narrow interpretation. In particular, the Decision overlooks claim 16 of the '445 patent, which "block[s] the Internet service access request by intercepting open, connect, and/or write requests by the particular application to a network stack." Intercepting a write request is not blocking an attempt to connect to the Internet. SAMSUNG-1001, 91:1-2 ("implementing traffic control for network capacity controlled services is provided by intercepting opens/connects/writes"). Claim 1 of U.S. Pat. No. 9,271,184 B2 ("the '184 patent") from the same patent family and sharing the same specification also states that its "one or more processors" are configured to block the Internet service access request "for a time when data communication for Internet service activities is provided by the WWAN modem" (IPR2023-1361, SAMSUNG-1001, 105:56-58), which confirms that Internet service access request can be blocked when the WWAN modem is already connected to the Internet. *NTP, Inc. v. Research in*

Motion, Ltd., 418 F.3d 1282, 1293 (Fed. Cir. 2005) (where multiple patents "derive from the same parent application and share many common terms, [the courts] must interpret the claims consistently across all asserted patents").

Led astray by the Preliminary Response, the Decision improperly focused on the '445 patent's disclosure related to "network access" (11:27–32; 91:41-54)—a term that is not claimed. With this focus, the Decision overlooked the relevant disclosure related to the claimed "Internet service access" discussed above. Consideration of that disclosure compels a broad interpretation that is not limited to blocking requests "before a connection [to the Internet] is open." Nor does the common meaning of blocking "access" require that the blocked request be the very first access request sent to the service (i.e., the "*initial* access"). Instead, an interim access request sent after initial access was already granted could be blocked, thereby blocking "*further* access" to the Internet service.

For these reasons, proper consideration of the full record compels a conclusion that the Decision adopted an overly narrow construction of "block[ing] the Internet service access request," which served as the basis for denying the Petition. Under a proper construction, Rao's disclosure is sufficient and Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition.

II. LEGAL STANDARD

A request for rehearing "must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply." 37 CFR § 42.71(d). "When rehearing a decision on petition, a panel will review the decision for an abuse of discretion." 37 CFR § 42.71(c). "An abuse of discretion is found if the decision: (1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact finding; or (4) involves a record that contains no evidence on which the Board could rationally base its decision." *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016); *Koninklijke Philips Electronics N.V. v. Cardiac Science Operating Co.*, 590 F.3d 1326, 1334 (Fed. Cir. 2010).

III. BASIS FOR RELIEF REQUESTED

As explained below, the Decision arrives at an overly narrow claim construction of the feature "block the Internet service access request" by (i) mistaking the '445 patent's disclosure related to "**network** access" with disclosure related to "**Internet service** access;" (ii) overlooking or misapprehending the '445 patent's disclosure relating to "Internet service," (iii) overlooking or misapprehending the claims of the '445 patent, and (iv) overlooking or misapprehending the '445 patent's disclosure regarding alternative ways of

blocking a request to access an Internet service. *See* Pap. 9, 6-10. Thus, the Decision abuses its discretion because it "is clearly ... unreasonable," "rests on clearly erroneous fact finding," and/or "involves a record that contains no evidence on which the Board could rationally base its decision." *Intelligent Bio-Systems, Inc.,* F.3d at 1367.

According to Federal Circuit jurisprudence, "[i]n determining the meaning of the disputed claim limitation, [the Court] look[s] principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips v. AWH Corp*, 415 F.3d 1303, 1312–17). However, claim construction does not mean importing limitations into the claims in the name of construction, if the limitations are not otherwise there. Instead, claim terms are given their ordinary and customary meaning, as understood by one with ordinary skill in the art when read in the context of the specification and prosecution history, with two exceptions to this rule: (1) when patentee acts as their own lexicographer; and (2) when patentee disavows the full scope of the claim term either in the specification or during prosecution. *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1313).

Further, if the words of the claim are clear, and absent the exceptions above,

the claims should be interpreted as written and not rewritten in the name of claim construction. *SRAM Corp. v. AD-II Engineering Inc*., 465 F.3d 1351, 1359 (Fed. Cir. 2006).

A. The '445 Patent's "Network Access" Disclosure Does Not Inform Interpretation of the Claimed "Internet Service Access," Much Less Rise to the High Standard Required for Redefinition, Disclaimer, or Disavowal

In arriving at its interpretation of "block[ing] the Internet service access request," the Decision heavily relies on Patent Owner selected disclosure in the '445 patent specification regarding controlling "**network** access requests" and "**network** access attempts" and uses that disclosure to impose additional limitations (related to the timing of opening network connections) onto the common meaning of "block[ing] the Internet service access request." Pap. 9, 9-10. In doing so, the Decision conflates disclosure related to requests for "**network** access" (which are not claimed, and in at least some embodiments occur before a network connection is open) with disclosure related to requests for "**Internet service** access." *Id.* As described below, these requests are **not** the same, and the '445 patent's disclosure related to "network access" cannot justify departure from the common meaning of "Internet service access" through redefinition, disclaimer, or disavowal. The terms are different, and the '445 patent does not clearly disavow requests for Internet service access that occur after a connection is open. In fact, overlooked portions of the '445 patent's disclosure, which properly inform

the meaning of "block[ing] the Internet service access request," demonstrate coverage of access requests that occur after a connection to the Internet is established, and reinforce the propriety of applying common meaning, rather than the improperly narrow construction advanced in the Decision.

i. The Decision Overlooks or Misapprehends The '445 Patent's Disclosure Related To "Internet Service"

The Decision's interpretation of "block[ing] the Internet service access request" overlooks the relevant portions of the '445 patent's disclosure related to "Internet service." In particular, the '445 patent expressly provides examples of an "Internet service":

> and core networks **220**. For example, devices **100** can communicate via the central provider access and core networks **220** to the Internet **120** for access to various Internet sites/services **240** (e.g., Google sites/services, Yahoo sites/services, Blackberry services, Apple iTunes and AppStore, Amazon.com, FaceBook, and/or any other Internet service or other network facilitated service).

SAMSUNG-1001, 39:24-30.

Notably, the '445 patent contemplates an "Internet service" broadly encompassing a wide variety of services offered over the Internet, and where at least some of these "Internet services" do not provide access to the Internet itself and would only be available for access after an Internet connection is open. For example, "Apple iTunes and AppStore" are Internet services that provide content to users, and "Amazon.com" is an Internet service that provides a website to a user. However, neither of these Internet services act as an Internet service provider (ISP)

for providing access to the Internet itself. Instead, the '445 patent contemplates that Internet connectivity is provided separately from an "Internet service." *See, e.g.,* SAMSUNG-1001, 39:4-39, FIGS. 2-3; §I. Accordingly, as contemplated by the '445 patent, an "Internet service access request" encompasses requests to access services such as content streaming and websites, after an Internet connection has already been established.[2] Thus, by conflating an "**Internet service** access request" with a "**network** access request," the Decision fails to interpret the claims as written and instead rewrites the claims in the name of claim construction. *SRAM Corp,* 465 F.3d at 1359.

Further, in view of the disclosure of the '445 patent, the common meaning of blocking "access" does ***not*** require that the blocked request be the very first request to access that service (i.e., the "***initial*** access"). Rather, the blocked request could be an interim access request generated after initial access was already granted, thereby blocking "***further*** access" to the Internet service. Indeed, given the

[2] Notably, the '445 patent discloses that "service usage measures" include "access requests," which demonstrates that "access requests" can occur simply by using a service, and not solely by requesting to establish a connection with a service. SAMSUNG-1001, 81:13-23 ("compare two different service usage measures ... based on ... access requests").

breadth of the common meaning of the claim language and in light of no redefinition/disclaimer/disavowal of claim scope, blocking any request to access any aspect of that service even after initial access is granted suffices (e.g., blocking a request for the latest contents of a mailbox or to play another music track).

The proper breadth of "block the Internet service access request" was implied in and is consistent with the Petition's mapping of Rao's teachings to the claimed feature. For example, Rao describes that applications can communicate with one or more servers on the network, such as "an application server providing email services such as Microsoft Exchange," "a web or Internet server," "a desktop sharing server," or "a collaboration server." Pet,, [1e]; SAMSUNG-1005, [0090]. A POSITA would have understood or found it obvious that Rao's applications would be configured to send packetized communications over the Internet to such servers requesting access to their corresponding services to enable such applications to receive mail, Web, and/or other data content. Pet., [1e]; SAMSUNG-1005, [0090]; SAMSUNG-1003, ¶124. Further, a POSITA would have understood or found it obvious that, in selectively discarding such network packets (as described by Rao), the system would block the application's request to access that Internet service (e.g., block the application from requesting access to mail, Web, and/or other data content offered by an Internet server). Pet., [1f]-[1g]; SAMSUNG-1005, [0090]; SAMSUNG-1003, ¶¶152-154.

ii. The Decision Overlooks or Misapprehends Claims of the '445 Patent

The Decision's interpretation of "block[ing] the Internet service access request" overlooks or misapprehends at least claim 16 of the '445 patent and claims 1 and 5 of the '184 patent, the scope of which is inconsistent with the Decision's narrow interpretation.

(1) Claim 16 of the '445 Patent

According to claim 16, "block[ing] the Internet service access request" includes "intercepting ... write requests by the particular application to a network stack." As described in the '445 patent, a system can intercept such messages by replacing or modifying "a network stack interface" to "intercept ... network socket interface messages to applications or OS functions or other functions/software." SAMSUNG-1001, 90:31-35. Example "network socket interface messages" include messages such as "socket( ), connect( ), read( ), write( ), close( ), and other such messages ... that provide for control or management of network service activity service usage behavior." *Id.,* 91:36-41.[3] Further, intercepting a write request is not blocking an attempt to connect to the Internet. SAMSUNG-1001,

[3] As explained by Dr. Butler, these "network socket interface messages" can be used to "open, connect to, and/or write data to a socket (e.g., using the 'secure socket layer')." SAMSUNG-1003, ¶¶[202]-[206].

91:1-2 ("implementing traffic control for network capacity controlled services is provided by intercepting opens/connects/writes").

Claim 16 and the corresponding disclosure of the 445 patent makes clear that "blocking the Internet service access request" can be performed **after** a socket has been open and connected to (e.g., after a "socket ()" message and a "connect ()" message are processed), such as by blocking a data stream that is intended to be transmitted via that socket (e.g., by intercepting "messages to write data to the open socket and/or to close the socket). In doing so, the device would block an application's request to access a particular Internet service, even after an initial connection to the network has been made.

Additionally, this alternative form of "blocking" would necessarily first require that a socket be opened and connected to. Indeed, an application would be unable to transmit a message to "write" to a socket, prior to the system creating and connecting to that socket. As such, contrary to the Decision's construction, claim 16 shows that "block[ing] the Internet service access request" need not occur "before a connection [to a network] is open," but rather can occur after a network connection is open.

(2) Claim 1 of the '184 Patent

As discussed in a parallel proceeding with respect to the '184 patent, claim 1 of the '184 patent states that its "one or more processors" are configured to block

the Internet service access request "for a time when data communication for Internet service activities is provided by the WWAN modem." IPR2023-1361, SAMSUNG-1001, 105:56-58; *see also* Abstract. For blocking to occur "when data communication for Internet service activities **is** provided by the WWAN modem," the WWAN modem must already be connected to the Internet. Otherwise, data communication for Internet service activities could not be presently provided by it. Accordingly, the claims from the '184 patent confirm that Internet service access request can be blocked when the WWAN modem is already connected to the Internet. *NTP, Inc.*, 418 F.3d 1282, 1293.

(3) Claim 5 of the '184 patent

In the parallel proceeding with respect to the '184 patent, the Decision refers to claim 5 of the '184 patent as purportedly "distinguishing between an 'Internet service access request' and 'network activity.'" IPR2023-1361, Pap. 8, 8. However, even so, claim 5 is consistent with the ordinary and customary meaning of "block the Internet service access request," which does not require that such a "request" be blocked before a connection to a network is established.

Claim 5 of the '184 patent recites, in part, "when the Internet service access request is blocked in the first state, delay network activity in association with the first Internet access request." Blocking by discarding or delaying an application's request to access an Internet service (e.g., email, web site, etc.) would eliminate or

delay, respectively, any network activity associated with that request (e.g., delivery of the request over the network, as well as delivery of any data that would have been provided over the network by the Internet service in response to the request). That is, claim 5 does not support any requirement that "block[ing] the Internet service access request" solely be performed before a connection to a network is established. *NTP, Inc.*, 418 F.3d 1282, 1293.

iii. The Decision Overlooks or Misapprehends the '445 Patent's Disclosure Regarding Alternative Ways of "Blocking" a Request to Access an Internet Service

Although the Decision finds that blocking an "IP address request" is one form of blocking an "Internet service access request" (Pap. 9, 7), the Decision overlooks or misapprehends the '445 patent's disclosure regarding alternative ways of "blocking" a request to access an Internet service, at least some of which (i) occur after an Internet connection has already been established and (ii) are analogous to those disclosed in Rao.

For example, the '445 patent specification describes that an application's network traffic can be represented as "packets (L3)." SAMSUNG-1001, 101:4-10. Further, the '445 patent specification describes an example system for providing "differential network access control" with respect to application network traffic, in which (i) an application's network traffic is intercepted by an "application traffic cache," and (ii) network traffic is selectively released from the "application traffic

cache" (e.g., into "an output buffer or other standard caching device") for transmission to the intended destinations. *Id.*, 101:63-102:11.

This enables a device to "restrict network access of a particular service usage activity when a condition is satisfied." *Id.*, 102:12-15. That is, an application's request to access an Internet service can be blocked by using an "application traffic cache" to intercept an application's network traffic intended for an Internet service, and selectively "restricting" the transmission of the network traffic from the "application traffic cache" based on certain conditions.

This operation is analogous to the operations described in Rao. As Dr. Butler explained, "a POSITA would have understood or found it obvious that Rao's applications would be configured to send packetized communications over the Internet to such servers requesting access to their corresponding services," which embody initial access requests to establish connections and would be contemplated by Rao's broad disclosure related to any packets. Pet., 28, 31-35; SAMSUNG-1005, [0094] (packets that "contain[] an HTTP header requesting login and registration" or "seek[] TCP/UDP/RAW/OTHER connection establishment"). Further, as set forth in the Petition, Rao's system is configured to intercept packets using a "packet capture mechanism 365," and permanently or temporarily block the transmission of the intercepted packets through filtering in order to (i) selectively allow certain packets to be transmitted to their destinations

(e.g., by allowing such packets to pass to a set of queues), and (ii) selectively discard certain packets such that they are not transmitted to their destinations). Pet., §III.A.1, [1d]-[1h]; SAMSUNG-1005, [0080], [0180]-[0194], [0207]. In doing so, like the system described in the '445 patent, Rao's system intercepts network traffic intended for an Internet service, and selectively blocks the transmission of the intercepted network traffic.

IV. CONCLUSION

For the foregoing reasons, Petitioner requests that the Board reconsider its Decision based upon the full record, and respectfully submits that the Board should find that the Petition demonstrated a reasonable likelihood that it would prove at least one of the challenged claims is unpatentable.

Respectfully submitted,

Dated: 4-26-24

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on April 26, 2024, a complete and entire copy of this Petitioner's Request for Rehearing was provided by email to the Patent Owner by serving the email correspondence addresses of record as follows:

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