

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC and
LENOVO (UNITED STATES) INC.,
Petitioners,

v.

ERICSSON AB,
Patent Owner.

Case No. IPR2025-00003
Patent No. 9,313,178

**PETITIONERS' AUTHORIZED REPLY¹ TO PATENT OWNER'S
PRELIMINARY RESPONSE**

¹ Petitioners reply to Paper 9 as authorized in EX-3002.

LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 9,313,178 (“178 Patent”)
1002	Prosecution History of U.S. Patent No. 9,313,178 (“178 FH”)
1003	Declaration of Anthony J. Wechselberger (“Wechselberger”)
1004	Curriculum Vitae of Anthony J. Wechselberger (“Wechselberger-CV”)
1005	U.S. Patent Publication No. 2002/0172368 (“Peterka”)
1006	Certified Translation of Japanese Published Patent Application No. 2004-166153 (“Suzuki”)
1007	U.S. Patent Publication No. 2010/0235528 (“Bocharov”)
1008	U.S. Patent Publication No. 2008/0270308 (“Peterka308”)
1009	European Patent Publication No. 1,418,756 A2 (“Chen”)
1010	U.S. Patent Publication No. 2005/0138362 (“Kelly”)
1011	U.S. Patent No. 8,677,428 (“Lewis”)
1012	U.S. Patent No. 8,789,196 (“Pestoni”)
1013	International Publication No. WO 2010/107625 A2 (“Sood”)
1014	U.S. Patent No. 8,806,050 (“Chen050”)
1015	T. Stockhammer, “Dynamic adaptive streaming over HTTP: Standards and design principles,” in Proc. ACM MMSys’11, San Jose, CA, USA, Feb. 23–25, 2011, pp. 133–144 (“Stockhammer”)
1016	W. Van Lancker, D. Van Deursen, E. Mannens and R. Van de Walle, “HTTP adaptive streaming with Media Fragment URIs,” 2011 IEEE International Conference on Multimedia and Expo, Barcelona, Spain, 2011, pp. 1-6, doi: 10.1109/ICME.2011.6012149 (“Van Lancker”)
1017	3GPP TS 26.234 version 9.3.0 Release 9 (2010-06), Technical Specification, “Universal Mobile Telecommunications Systems (UMTS); LTE; Transparent end-to-end Packet Streaming Services (PSS); Protocols and codecs,” Reference RTS/TSGS-0426234v930 (June 2010) (“3GPP-AHS”)
1018	R. Pantos (Ed.), HTTP Live Streaming, draft-pantos-http-live-streaming-06 (Mar. 31, 2011) (“Pantos”)
1019	RFC793: Transmission Control Protocol (September 1981) (“RFC793”)
1020	RFC2616: Hypertext Transfer Protocol – HTTP/1.1 (June 1999) (“RFC2616”)

1021	The Secure Sockets Layer Protocol, V. 3.0, <i>available at</i> https://web.archive.org/web/19970614041044/http://home.netscape.com/eng/ssl3/ssl-toc.html and https://web.archive.org/web/19970617034012/http://home.netscape.com/eng/ssl3/3-SPEC.HTM#1 (“SSL-Standard”)
1022	U.S. Patent No. 8,756,673 (“Barrus”)
1023	Yuan et al., “Layered access control for MPEG-4 FGS video,” Proceedings 2003 International Conference on Image Processing (Cat. No. 03CH37429), Barcelona, Spain, doi: 10.1109/ICIP.2003.1247012 (“Yuan”)
1024	U.S. Patent App. Pub. No. 2005/0060316 (“Kamath”)
1025	RESERVED
1026	<i>Apple Inc. v. Ericsson AB</i> , IPR2022-00618, Paper 2 (Feb. 25, 2022)
1027	<i>Apple Inc. v. Ericsson AB</i> , IPR2022-00618, Paper 9 (July 8, 2022)
1028	<i>Apple Inc. v. Ericsson AB</i> , IPR2022-00618, Paper 11 (Sept. 1, 2022)
1029	<i>Apple Inc. v. Ericsson AB</i> , IPR2022-00618, Paper 13 (Nov. 28, 2022)
1030	<i>Apple Inc. v. Ericsson AB</i> , IPR2022-00618, Paper 14 (Nov. 28, 2022)
1031	<i>Apple Inc. v. Ericsson AB</i> , IPR2022-00618, Paper 17 (Dec. 30, 2022)
1032	<i>In the Matter of Certain Electronic Devices, Including Mobile Phones, Tablets, Laptops, Components Thereof, and Products Containing the Same</i> , Inv. No. 337-TA-1376, Order No. 25 (Mar. 13, 2024)
1033	<i>In the Matter of Certain Electronic Devices, Including Mobile Phones, Tablets, Laptops, Components Thereof, and Products Containing the Same</i> , Inv. No. 337-TA-1376, Complaint, Exhibit 24 (October 12, 2023)
1034	<i>Telefonaktiebolaget LM Ericsson et al. v. Lenovo</i> , 5:23-cv-00570, Order Granting Motion to Stay (E.D.N.C. Feb. 9, 2024)
1035	USPTO Binding Interim Guidance Addressing PTAB’s Approach to Discretionary Denials, June 21, 2022, <i>available at</i> https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf .
1036	<i>In the Matter of Certain Electronic Devices, Including Mobile Phones, Tablets, Laptops, Components Thereof, and Products Containing the Same</i> , Inv. No. 337-TA-1376, Final Initial Determination (Nov. 15, 2024)
1037	<i>In the Matter of Certain Electronic Devices, Including Mobile Phones, Tablets, Laptops, Components Thereof, and Products Containing the Same</i> , Inv. No. 337-TA-1376, Commission’s Determination Affirming ALJ’s Final Initial Determination (Jan. 16, 2025)

In its Preliminary Response (“POPR,” Paper 9), Patent Owner (“PO”) presents attorney argument that (1) attempts to narrow the ’178 Patent’s “detecting”/“detect” limitation (elements [1D]/[16E]) to the “discovery” of “partly hidden”/“not clear” boundaries; and (2) disputes that Peterka (EX-1005) discloses a client device that *both* “detect[s]” boundaries by checking a predetermined bit in a content packet (meeting elements [1D]/[16E]) and “issu[es] requests” for a new key “ahead of a key rotation boundary” (meeting elements [1E]/[16F]). As discussed below, PO’s arguments are flawed and directly contradict PO’s positions during trial in parallel litigation—where PO required no “partly hidden”/“not clear” operation to meet infringement, and conceded that Peterka teaches a client device satisfying both elements [16E] and [16F]. Trial should be instituted.

I. THE CLAIMS ARE NOT LIMITED TO DETECTION OF CONTENT ENCRYPTION KEY ROTATION BOUNDARIES THAT ARE “PARTLY HIDDEN” OR “NOT CLEAR”

The Challenged Claims require “[detect/detecting] content encryption key rotation boundaries between periods of use of different content encryption keys in decrypting retrieved content.” Petition (“Pet.”), x, xii. Petitioners explained that the claimed “detecting” encompasses either (1) checking the expiration time of the current key (normal period-based expiration) or (2) checking for an explicit key change notification/signal. Pet., 31-32; Wechselberger, ¶111; EX-1001, 9:47-49, 10:39-42, 11:2-7, 11:38-45. Petitioners’ support followed the ’178 Patent’s

description of a “process for **detecting** the rotation of content encryption keys” (EX-1001, 9:47-49) that includes “**check[ing]**... to see if a new key should be applied” in either of “two cases—normal period-based expiration, and an explicit key change notification” (*id.*, 11:2-7)—and was confirmed by POSITA testimony.

PO responds with attorney argument that contradicts its specification and contends that **neither** check described in the ’178 Patent is “detecting.” POPR, 10 (“That is false... the specification never equates ‘checking’ the expiration time or ‘checking’ for a notification with ‘**detecting**’ a key rotation boundary.”) (emphasis original). PO says that “detecting” is instead a “**further distinct step**” (*id.*) that requires “discovering” boundaries through “analysis of headers, manifest files and/or file names that may contain at least partly hidden flags signaling a key change.” *Id.*, 14. According to PO, checking key expiration times is not detecting because it “requires no discovery of information that is even **partly hidden** or **not clear**” and checking “a notification from the server to the client” is not detecting unless the boundary it defines “is **not clear** and is at least **partly hidden** in a flag in a manifest file, a header, or a segment file name.” *Id.*, 17. This theory relies on cherry-picking words from a definition of “detect.” *Id.*, 16 (citing EX-2003).

PO’s “partly hidden”/“not clear” argument bears no relation to its claims and contradicts PO’s infringement argument in the parallel ITC proceeding (Inv. No. 337-TA-1376), where PO alleged that detecting a key rotation boundary required

no more than “encountering” a header in the media stream. *E.g.*, EX-1033, 14 (alleging accused product “detect[s]” a boundary by “encountering” a media stream header). PO did not require anything *more* to infringe, and certainly no “discovery” or “analysis” of information that is “partly hidden” or “not clear.” In the Final Initial Determination, the Administrative Law Judge (“ALJ”) agreed with PO’s assertion that this element was satisfied by the accused products. EX-1036, 52 (“Ericsson argues (correctly)” that the accused product “satisfies the [detect] claim element”), 54 (finding that “a key rotation boundary... happens” when the accused “client ‘encounters’ in the data stream a new header... containing the new key ID” and that the client “detect[s]” the boundary when it “encounters... a signal notifying it of a key rotation boundary”). As discussed *infra* § II, the ITC further found—and **PO did not dispute**—that Peterka teaches such “detecting.” EX-1036, 56; EX-1037, 3 (affirming the ALJ’s invalidity findings). PO’s injection of a new “partly hidden”/“not clear” requirement to try avoiding this holding—despite PO’s earlier positions before the ITC—should be rejected. *See* 35 U.S.C. § 301(a)(2).

First, the claims include no language narrowing the term “detecting” to the “discovery”/“analysis” of information that is “partly hidden”/“not clear.”

Second, nothing in the specification or file history suggests “detecting” is redefined or ever restricted to discovery of information that is “partly hidden”/“not clear”—including in the passages describing implementations where key change

notifications are provided in “manifest files,” “headers,” or “segment file names.” EX-1001, 10:43-58 (cited at POPR, 13-14). Indeed, the specification characterizes its “key change notifications” as “*explicit*” instead of hidden. EX-1001, 11:5.

Third, PO’s attorney argument does not reflect “the ordinary and customary meaning” of limitation [1D]/[16E] “as understood by one of ordinary skill in the art.” 37 C.F.R. 42.100(b). Accepting PO’s attempt to depart from this meaning would credit naked attorney argument (and random dictionary definitions where no ambiguity is alleged) over the patent’s ordinary use of “detecting” (EX-1001, 9:47-49) to include checking for *any* key rotation, hidden or not. *Id.*, 10:39-42, 11:2-7.

In IPR2022-00618, the Board rejected PO’s prior attempt to narrow the “detect” limitation to “non-period-based key rotation” (POPR, 15-16) and to exclude Peterka’s detection where “each client keeps track of the keys and their expiration times and... requests new keys before the current keys expire” (Peterka, [0105]). Pet., 33; EX-1028, 20-23; Wechselberger, ¶114. Now, PO tries to reframe this failed argument by narrowing the term *further* to only detecting boundaries through discovery/analysis of information that is *partly hidden/not clear*. POPR, 14, 16-17. Nothing supports PO’s new version of this failed argument. The Board should adopt Petitioners’ interpretation that encompasses checking for “normal period-based expiration” *or* “an explicit key change notification” (Pet., 31-32) and institute IPR because Peterka detects key rotation boundaries in both ways.

II. PETERKA’S KEY CHANGE SIGNALING IS EXPLICITLY DESCRIBED FOR USE WITH THE PULL KEY METHOD

In view of the Board’s institution decision in IPR2022-00618, which appeared to endorse PO’s misstatements regarding Peterka’s bit signaling (EX-1028, 22 n.6), Petitioners carefully explained why Peterka’s teachings to signal the use of a new key using a predetermined bit is fully compatible with Peterka’s “pull model” for key distribution *and* cited POSITA testimony and corroborating evidence to establish why such an implementation would have been obvious. Pet., 11-12 (citing Wechselberger, ¶49); Pet., 33-34 (citing Wechselberger, ¶¶115-117). Indeed, in paragraph [0121] (cited at Pet., 34), Peterka expressly describes sending clients information for *both* detection operations in one key distribution message—namely, key lifetime (for monitoring key expirations) and a key parity bit (for comparing against key change signals in the stream). The POPR nonetheless argues that “Peterka’s teachings regarding its bit signaling” are “‘exclusive’ to its push model.” POPR, 23. But PO abandoned this position during trial at the ITC. As the ALJ noted when finding claims 16-17 obvious (EX-1036, 59), PO did not dispute (1) that Peterka’s client requests new keys ahead of key rotation boundaries (i.e., monitors expirations and pulls keys) (Peterka, [0106], [0108], [0110]) or (2) that signaling key changes to that client through use of a “predetermined bit in a packet” (Peterka, [0116]-[0117]) qualifies as “detect[ing]” boundaries. EX-1036, 56. PO’s flawed attempt to replay its abandoned argument should also be rejected.

Date: February 6, 2025

Respectfully submitted,

/Scott A. McKeown /

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WOLF, GREENFIELD & SACKS, P.C.

CERTIFICATE OF SERVICE UNDER 37 C.F.R. § 42.6 (E)(4)

I certify that on February 6, 2025, I will cause a copy of the foregoing document, including any exhibits filed therewith, to be served via electronic mail, as previously consented to by Patent Owner, upon the following:

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Date: February 6, 2025

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