

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PELOTON INTERACTIVE, INC.,
Petitioner,

v.

NEC CORPORATION,
Patent Owner.

Case IPR2023-01240
U.S. Patent No. 9,769,427

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 9,769,427 to Taniguchi et al. (“the ’427 Patent”)
1002	Prosecution history of the ’427 Patent (U.S. Patent Application No. 13/129,756) ¹
1003	U.S. Patent Application Publication No. 2009/0094321 A1 to Ueda et al. (“Ueda”)
1004	J. Rosenberg et al., <i>SIP: Session Initiation Protocol</i> (RFC 3261, Network Working Group, Internet Engineering Task Force, June 2002) (the “SIP Standard”)
1005	M. Handley et al., <i>SDP: Session Description Protocol</i> (RFC 4566, Network Working Group, Internet Engineering Task Force, July 2006) (the “SDP Standard”)
1006	U.S. Patent Application Publication No. 2009/0100496 A1 to Bechtolsheim et al. (“Bechtolsheim”)
1007	U.S. Patent Application Publication No. 2010/0010884 A1 to Cohee et al. (“Cohee”)
1008	Declaration of Cliff Reader, Ph.D.
1009	Scheduling Order filed on March 20, 2023 in <i>NEC Corp. v. Peloton Interactive, Inc.</i> , No. 1:22-cv-00987-CFC (U.S. District Court, District of Delaware, filed July 28, 2022)
1010	S. Bradner, <i>The Internet Standards Process – Revision 3</i> (RFC 2026, Network Working Group, October 1996) (the “Standards Process”)
1011	O. Levin, <i>The Session Description Protocol (SDP) Label Attribute</i> (RFC 4574, Network Working Group, Internet Engineering Task Force, August 2006)
1012	A. Melnikov et al., <i>Media Types</i> (Internet Assigned Numbers Authority, July 2019) (accessed at https://www.iana.org/assignments/media-types/media-types.xhtml)

¹ Foreign references cited during the prosecution of the ’427 Patent have been omitted due to size considerations of the prosecution history.

Exhibit No.	Description
1013	P. Saint-Andre, <i>Deprecating the "X-" Prefix and Similar Constructs in Application Protocols</i> (RFC 6648, Internet Engineering Task Force, June 2012)
1014	A. Makin et al., <i>Change Process for the Session Initiation Protocol (SIP)</i> (RFC 3427, Network Working Group, December 2002)
1015	U.S. Patent Application Publication No. 2008/0005348 A1 to Kosiba et al.
1016	Curriculum Vitae of Cliff Reader, Ph.D.
1017	Deposition Transcript of Jeremy Cooperstock, taken on July 9, 2024

I. INTRODUCTION

In its Response, NEC does not address whether the disputed claims are unpatentable over the disputed combinations. Instead, NEC (1) rehashes previously-rejected arguments, (2) fails to swear behind Ueda, (3) continues misinterpreting Peloton’s bandwidth guarantee argument, (4) improperly adds requirements to the guarantee term, and (5) relies upon an incorrect obviousness standard. The Board should reject each of these arguments and find the challenged claims unpatentable.

II. CLAIM CONSTRUCTION

A. “the one or more connection control servers executes a process for guaranteeing a communication bandwidth . . . as a process for establishing the connection” (“bandwidth limitation”)

NEC’s bandwidth limitation arguments misinterpret Peloton’s proposal. First, Peloton proposed that the term should necessarily *include* the embodiment described at 8:64-9:4 and 15:35-40. Pet. 10. Peloton did not suggest limiting the term to the phrase “a standard process performed by SIP servers using SIP messages,” as NEC incorrectly asserts. POR 4.

Second, NEC creates a strawman by insisting that *SIP messages themselves* “execute[] a process for guaranteeing a communication bandwidth.” POR 35; *see also id.* at 5-6, 34-38. But the Board already corrected NEC’s misconception: SIP messages convey information which may be used to affirm the needed bandwidth

is available before continuing or aborting the session connection process. Paper 16 (“DI”) 41. Moreover, when discussing Figure 1 from SIP Standard, Dr. Cooperstock admitted that “using” a SIP message to perform a process does not mean that SIP messages themselves execute the function:

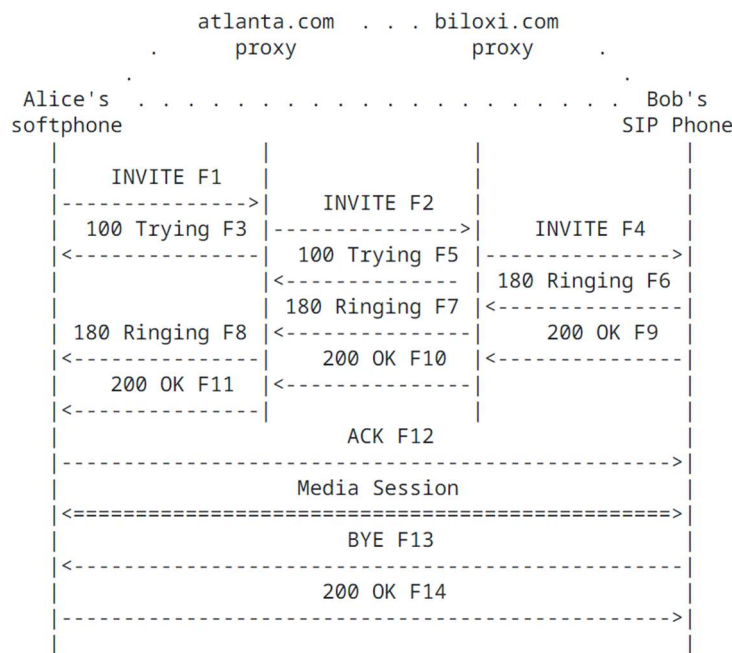


Figure 1: SIP session setup example with SIP trapezoid

He concurred that the biloxi.com SIP proxy server “is *using* the destination address, that destination named recipient device [from the SIP INVITE message], to carry out the lookup in its database” to determine where to forward Alice’s message. Ex-1017 (Cooperstock Tr.) 54:14-22. Thus, a SIP server *uses the information* conveyed in SIP messages to perform a process.

NEC’s argument that Peloton’s proposal would exclude the disclosure at 15:29-40 rests on its misconception regarding SIP messages. POR 4-6. Rather, Dr.

Reader’s opinion on this claim term explicitly contemplated this embodiment. *See* Ex-1008 ¶64. NEC further argues that the patent *does* “elaborate further” in column 15 on what is meant by “a process to guarantee a communication bandwidth” by stating that the “transport functions part 80” executes this process. POR 5-6. But this only indicates a part of a server in this embodiment where the bandwidth guarantee process “takes place,” DI 19; there is no further detail about *what* takes place or *how*. In any event, the “transport functions part” or “transport function” is not a requirement in the claims. Despite the Board’s request that the parties further “elaborate” on what this term means, DI 20, NEC fails to do so.

Because the patent lacks detail on how the bandwidth limitation is performed, DI 20, the claims should be understood to at least cover “a standard process performed by SIP servers using SIP messages.” If the term does indeed require something further, as NEC suggests, then this is not taught in the patent.

B. “at a same time . . . transmit[ting] the play-list information . . . to the user equipment which has transmitted the content delivery request.” (“playlist limitation”)

NEC’s arguments regarding this claim term have no bearing on the Petition. As the Board explained, DI 21 n.14, NEC’s construction is in fact broader than Peloton’s, and thus Peloton’s invalidity arguments remain unaffected.

III. UEDA IS PRIOR ART TO THE '427 PATENT

NEC argues that Ueda is not prior art because (1) the claimed invention was conceived on August 6, 2008, as evidenced by a slide deck (the “August Presentation”); and (2) Mr. Taniguchi worked diligently to reduce the invention to practice through the filing of JP’270. POR 8-19. The burden for supporting these assertions lies with NEC. *See Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1378-79 (Fed. Cir. 2015). NEC fails in meeting its burden.

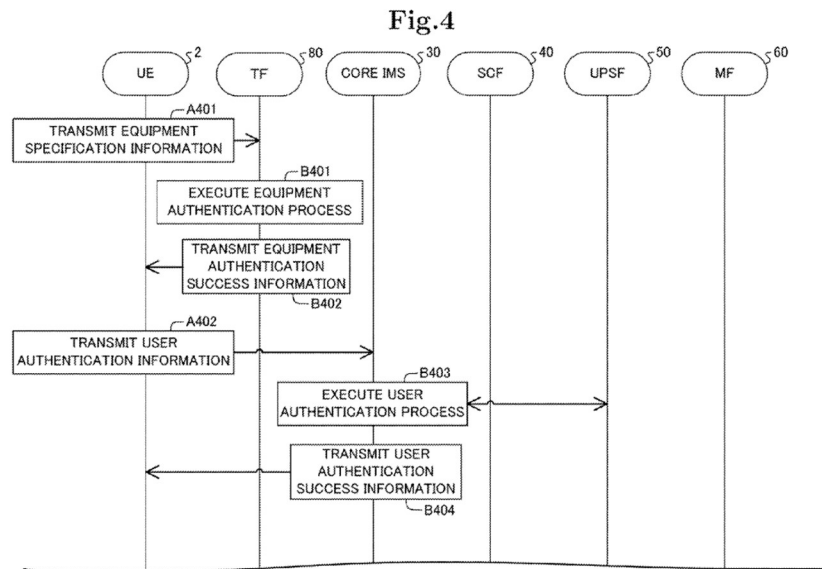
A. The August Presentation Does Not Establish Conception.

To support its argument of an earlier conception date, NEC relies upon two tables mapping the August Presentation to the claims: (1) one addressing claim 1 of the ’427 Patent, and (2) one addressing dependent claims 2-9 and 15-17. Because the August Presentation does not “encompass all limitations of the claimed invention,” NEC fails to establish earlier conception of the claims. *Singh v. Brake*, 222 F.3d 1362, 1367 (Fed. Cir. 2000).

1. The August Presentation Does Not Disclose Claim 1’s “one or more connection control servers . . . based on the received equipment specification information.” (“equipment specification information limitation”).

NEC claims that slides 3, 9-12, and 21 of the August Presentation disclose the equipment specification information limitation. POR 10. However, none of these slides exhibit “a definite and permanent idea of the complete and operative invention” that includes these patented features. *REG Synthetic Fuels, LLC v.*

Neste Oil Oyj, 841 F.3d 954, 962 (Fed. Cir. 2016) (internal citation and emphasis omitted). The '427 Patent describes the process of using “equipment specification information” as part of an authentication process to validate the user equipment. '427 Patent 7:59-8:10; *see also id.* 12:36-41. The process, outlined in Figure 4, is incorporated in the claims:



But, this feature is missing entirely from the August Presentation. None of the cited slides make any reference to equipment specification information, much less such information sent between user equipment and a connection control server, or that a connection is established based on that information. At best, some of the slides depict messages sent related to “content selection,” which NEC itself compares to the operation in the '427 Patent shown in Figure 5, not the equipment specification information operations of Figure 4. POR 13-15. Notably, slides 12 and 21 do not even relate to information sent by a user equipment, but (per

accompanying slides 10-11 and 19-20) an INVITE message superimposed on transmissions between—per NEC’s mapping—a connection control server and application server system.

Because conception must include every limitation of the claimed invention, the August Presentation cannot establish conception of claim 1.

2. The August Presentation Does Not Establish Conception of Claims 2-9 and 15-17.

The August Presentation fails to establish conception of the dependent claims for the reasons stated in Section III.A.1. NEC also improperly supplements its evidence of conception of the challenged dependent claims by relying upon what “would have been obvious to a POSA at the time of the invention” (identified simply as “Knowledge of a POSA,” which is recited verbatim by Dr. Cooperstock without more, Ex-2010 ¶21). POR 12. That “is, however, irrelevant” to conception. *Burroughs Wellcome Co. v. Barr Lab’ys, Inc.*, 40 F.3d 1223, 1232 (Fed. Cir. 1994). “For conception, we look not to whether one skilled in the art could have thought of the invention, but whether the alleged inventors actually had in their minds the required definite and permanent idea.” *Id.* NEC cannot rely on its expert’s conclusory statements parroting the POR to establish conception. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022) (precedential).

B. NEC does not establish that Mr. Taniguchi was diligent in reducing to practice the purported invention of the '427 Patent.

Mr. Taniguchi's activities from August 6 to November 6 in 2008 do not constitute diligence in reducing the purported invention to practice. NEC must establish that diligence (i) was "reasonably continuous," *Arctic Cat Inc. v. GEP Power Products, Inc.*, 919 F.3d 1320, 1331 (Fed. Cir. 2019); (ii) is corroborated, *see In re Jolley*, 308 F.3d 1317, 1328 (Fed. Cir. 2002), and (iii) is related to actually reducing the invention to practice. *See, e.g., Arctic Cat*, 919 F.3d at 1332.

Mr. Taniguchi offers a general statement that he "draft[ed] a technical specification document" for the '270 JP priority application. POR 17. "An inventor must provide specific details on activity during the critical period. General testimony that the inventor worked continuously and diligently will not suffice." *Loral Fairchild Corp. v. Victor Co. of Japan, Ltd.*, 931 F. Supp. 1014, 1030 (E.D.N.Y. 1996). But "general testimony" of diligence is all that NEC offers. Mr. Taniguchi does not offer any evidence that he began work on the draft in "mid-August 2008," and does not refer to particular dates or activities related to the drafting process until its supposed completion in November 2008. The Federal Circuit has rejected such arguments relying on generic assertions of working on a draft patent specification. *See Shu-Hui Chen v. Bouchard*, 347 F.3d 1299 (Fed. Cir. 2003) (finding no diligence where plaintiff provided no evidence of who worked on what applications on which days in the 3-month critical period). Moreover,

NEC also provides *no corroboration whatsoever* of any activities related to drafting the specification. *See Tesla, Inc. v. Charge Fusion Techs.*, Paper 35 at 10 (P.T.A.B. Apr. 16, 2024) (finding no diligence where PO provided no evidence corroborating inventor testimony of work on draft patent application during one-month critical period).

Mr. Taniguchi's work on "additional or related research projects for IPTV," POR 17, does not support NEC's claim for an earlier priority date because "the work relied on must ordinarily be directly related to reduction to practice of the invention." *See Naber v. Cricchi*, 567 F.2d 382, 385-86 (C.C.P.A. 1977) (finding no diligence because work performed was generally applicable to all broader MNOS devices, and not directed specifically to the type of device relevant to the invention); *see also LG Elecs. v. ATI Techs.*, IPR2015-00325, Paper 62 at 39-43 (P.T.A.B. Apr. 14, 2016) (work on general project rather than activities directed to claimed invention not evidence of diligence). NEC makes no claim that Mr. Taniguchi's general work in the IPTV space bears any relation to the claimed invention. In Mr. Taniguchi's own words, the claimed invention involved superimposing a playlist on an INVITE message while a core IMS executes a bandwidth guarantee process. Ex-2011 ¶9. Mr. Taniguchi's general work regarding IPTV fails to establish diligence as to the *actually claimed invention*, nor does the single paper cited as "corroboration." POR 17-18.

In short, Mr. Taniguchi’s uncorroborated declaration lacking any detail regarding drafting of the JP’270 specification is insufficient to establish the required diligence.

IV. CLAIMS 1, 4-9, 14, 16, 18, 20, 22, 32, AND 34-36 WOULD HAVE BEEN OBVIOUS IN VIEW OF UEDA, SIP STANDARD, AND SDP STANDARD

A. A POSA Would Have Been Motivated to Combine Ueda and SIP Standard.

Largely repeating its arguments already rejected by the Board, NEC wrongly asserts that there is no motivation to combine Ueda and SIP Standard because Ueda already provides certain “advantages” that are available in SIP Standard. POR 21-29. Ueda “does not explicitly describe the intermediate servers that would necessarily and inherently intermediate between and connect the content providing 150 and the server 191.” Ex-1008 ¶103; *see also* Ex-2029 (Reader Tr.) 87:5-14, 94:19-95:10, 114:12-115:2. A POSA would have been motivated to look to widely accepted standards such as SIP and SDP to “provide [these] intermediating resources.” Pet. 22; Ex-1008 ¶¶104-05. The supposed “deficien[cies]” identified by NEC regarding the motivation to combine Ueda and SIP Standard do not warrant a different result.

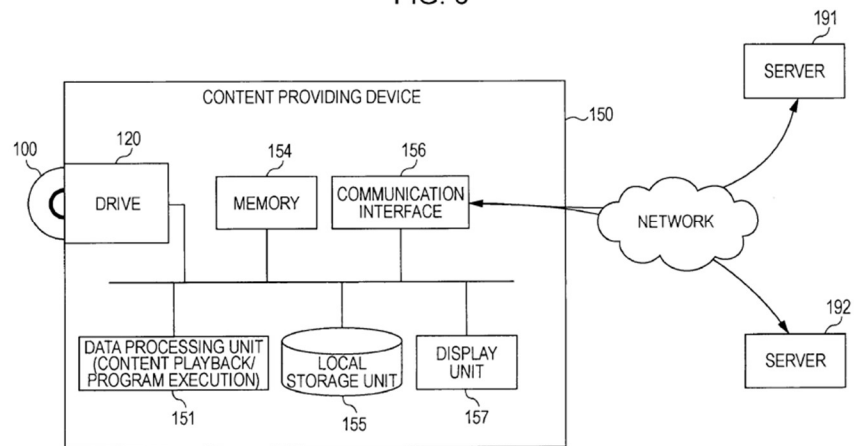
“Locating” a Server

As in its POPR, NEC argues that a POSA would not have combined Ueda with SIP Standard because Ueda purportedly already specifies how to locate a

server. POR 22. NEC argues that because BD-J app 1 completes a process “for providing a URL to be accessed,” Ex-1003 ¶[0132], “the URL (that is, the server location) is located on the disc.” POR 25. This is not correct. Ueda never states that “processing for providing a URL to be accessed” requires pulling a URL from disc memory, as opposed to, e.g., using the network (such as through SIP servers) to obtain that URL. *See* Ex-2029 (Reader Tr.) 94:16-95:10 (Dr. Reader describing Ueda network).

Ueda also never states that the “URL to be accessed” directly links to the location of one specific server. Ueda contemplates a method for responding to requests from multiple “users of the general public,” not one single user with one single disc. Ex-1003 ¶[0357]. As Dr. Cooperstock testified, “[a]s you scale up to large numbers of streams or large numbers of receivers, it generally becomes more cost effective to consider replication of data over multiple machines, multiple transmitters, multiple different locations where the servers can be housed, to position them closer to some of the receiver communities.” Ex-1017 (Cooperstock Tr.) 35:21-36:6. Ueda itself teaches the use of more than one server, as shown in Figure 6. *See* Ex-1003 ¶[0119]; Ex-2029 (Reader Tr.) 87:11-14.

FIG. 6



Thus, a POSA would understand that the “URL to be accessed” need not refer to “one big, super expensive machine that would have the capacity for handling all of that [traffic],” Ex-1017 (Cooperstock Tr.) 35:15-21, but rather the URL may be used to access an “intermediating resource for [providing] media sessions between agents,” such as by using SIP servers. Ex-1008 ¶104.²

Signaling a Desire to Communicate

As in its POPR, NEC also argues that SIP Standard would provide no benefit to Ueda because Ueda already signals the system’s desire to communicate.

² Even if “processing for providing a URL to be accessed” required pulling the URL of a solitary server responsible handling all traffic from local disc memory, Ueda itself teaches the motivation to utilize a more flexible process. Ex-1003 ¶¶[0011], [0144] (describing invention to update fixed content on disc and importance of flexibility).

POR 25. But again, NEC simply ignores—and never disputes—that a POSA would have generally looked to and found benefit in incorporating widely accepted Internet standards, such as SIP. Ex-1008 ¶105.

NEC’s arguments regarding “incompatibilities” between Ueda and SIP are also meritless. POR 26. Proving obviousness does not require the exhaustive level of granularity that NEC demands. “Obviousness is determined based on what the combined teachings of the references would have suggested to those having ordinary skill in the art and does not require an actual, physical substitution of elements.” *Omega Patents, LLC v. BMW of N. Am., LLC*, 2024 WL 227801, at *3 (Fed. Cir. Jan. 22, 2024) (cleaned up). Nevertheless, Peloton addresses these purported “incompatibilities” below.

According to NEC, Ueda is incompatible with SIP Standard because SIP does not support downloading Ueda’s content management applications. POR 26. But as Dr. Cooperstock himself explains, SDP (which may be used to provide media description details in SIP) expressly contemplates that applications may be sent as part of a session. *See* Ex-1017 (Cooperstock Tr.) 82:11-18.

NEC also argues SIP is incompatible with Ueda because “Ueda’s server determines what content management application to provide to the content providing device,” whereas with SIP “the requestor will *directly* specify the media stream of interest.” POR 26. Even if this level of granularity for physical

substitutions were required (it is not), this does not express any incompatibility between SIP and Ueda. NEC supports this statement by referring to Ueda's description of "select[ing] the content management application (BD-J app 2)." Ex-1003 ¶¶[0148]. This has no bearing on "specify[ing] the media stream of interest," which as the Board correctly noted is nevertheless not required for use of SIP proxy servers and messaging. DI 29-30. BD-J app 2 merely "displays the allowed processing" to the user based on the specification of media content *already* sent to the server ("content ID") and a user ID, for example in the case of requiring payment processing. Ex-1003 ¶¶[0149]-[0150].

Characterizing a Communication Session

As in its POPR, NEC argues SIP is redundant because Ueda already teaches characterizing a communication session. POR 27. SIP Standard provides countless ways to help characterize a communication session, including at least *forty-four* different metadata fields. Ex-1004 159-82. For example, Section 20.26 discloses a "priority" header—indicating the priority level of a request—which is never described in Ueda. NEC cannot credibly argue that SIP Standard provides no

additional benefit in characterizing a communication session over Ueda's meager disclosures of, e.g., including a user ID value.³

Security Services

As in its POPR, NEC also suggests that though Ueda identifies security as an important concern, a POSA would *not* be motivated to enhance that security. POR 28-29. SIP Standard includes twenty pages dedicated to the topic of security considerations alone. Ex-1004 232-52. A POSA would clearly understand that the user authentication processes described in Ueda would benefit from well-established methods of responding to security concerns from globally adopted standards such as SIP Standard. *See* Ex-1008 ¶106.⁴

³ To the extent NEC argues that a “priority” field is not needed in Ueda, Ex-1017 (Cooperstock Tr.) at 123:8-125:10, this misses the point entirely. Teachings from SIP Standard would allow a POSA to include *additional* ways of characterizing the communication session between parties. *See* Ex-1008 ¶104.

⁴ NEC's arguments regarding “reasonable expectation of success” are meritless. POR 29. NEC simply ignores Dr. Reader's explanation of how a POSA would expect to successfully integrate SIP with Ueda, which relies extensively on the references themselves. Ex-1008 ¶¶104-07.

B. A POSA Would Have Been Motivated to Combine Ueda, SIP Standard, and SDP Standard.

As the Board noted, the motivation to combine SDP Standard with Ueda comes hand in hand with SIP, as “the SIP and SDP Standards explicitly teach their mutual interoperability.” DI 33. Nevertheless, Peloton addresses NEC’s arguments regarding SDP Standard below, which largely mirror its SIP arguments.

According to NEC, a POSA would have had no motivation to combine Ueda and SDP because Ueda already conveys “media details, transport addresses, and other session description metadata to participants for initiating multimedia sessions.” POR 30. As with SIP Standard, NEC ignores that SDP Standard provides countless fields for describing the media to be transmitted and for how that media may be transmitted. For example, the “m=” field includes a “proto” sub-field identifying the transport protocol used for a communication. Ex-1005 §5.14. Ueda does not describe a means of conveying protocol information. Whether a POSA reading Ueda may have simply opted to use TCP, Ex-1017 (Cooperstock Tr.) 137:15-138:6, misses the point. SDP Standard is a widely adopted IETF protocol that teaches additional means of “convey[ing] media details, transport addresses, and other session description metadata” for a multimedia session and a POSA would recognize the benefit of leveraging SDP and SIP with Ueda to help characterize a session between parties. *See* Ex-1008 ¶¶109-110.

NEC’s argument that SDP is redundant also misses the point. The Board again correctly notes that nowhere does Peloton suggest any media, transport, or metadata information “would have been conveyed *twice* between content providing device 150 and server 191.” DI 32. As explained in Section IV.A, Ueda does not explicitly describe the intermediate elements between device 150 and server 191 and a POSA would look to SIP Standard and SDP Standard as a means of providing these resources.⁵ A POSA so modifying Ueda would not choose to convey Ueda’s messages twice, and such a suggestion is a redundancy of NEC’s creation.⁶

⁵ NEC also incorrectly suggests that Ueda “clearly contemplates a direct connection between the user’s device 150 and the server 191, without the need for proxy/intermediate servers.” POR at 33. As described in Section IV.A, Ueda teaches the intervening network as a cloud, “which is a common way of illustrating diverse heterogenous networks.” Ex-2029 (Reader Tr.) at 87:11-14.

⁶ NEC’s arguments regarding hindsight are similarly flawed. *See* POR at 48-51. As the Board explained, using SDP to format Ueda’s playlist is merely “[t]he combination of familiar elements according to known methods,” and that kind of combination “is likely to be obvious when it does no more than yield predictable

C. Ueda, SIP Standard, and SDP Standard teach the bandwidth limitation.

NEC presents *no argument* that the combination actually fails to disclose the bandwidth limitation. In fact, NEC directly admits the opposite: that “POSAs understood that a ‘session control server’ could reserve bandwidth ‘on the basis of SIP Session request.’” POR 43.⁷ In short, NEC admits that SIP discloses the guarantee bandwidth limitation to a POSA. NEC’s argument has several infirmities, as shown below.

First, NEC applies the wrong standard for obviousness. The proper test for obviousness is whether a POSITA would understand the *combination*—not the composite references in isolation—would render the invention obvious. *See Bot M8 LLC v. Sony Interactive Ent. LLC*, 66 F.4th 1380, 1386 (Fed. Cir. 2023). NEC argues that SIP Standard alone cannot disclose this limitation because SIP Standard does not “provide any kind of network resources reservation capabilities.” POR 34. But SIP Standard—which is not in and of itself a physical SIP server, but a

results.” DI at 43 (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007)); *see also* Ex-1008 ¶¶203-04.

⁷ As explained below, Peloton disagrees with NEC that “reserving” a bandwidth is included in this limitation, but according to NEC is nevertheless sufficient to satisfy the limitation.

whitepaper describing the protocol for interacting with such servers—does not need to disclose the bandwidth guarantee limitation—it is the *combination* that does so. SIP Standard discloses a set of procedures for facilitating communications using SIP proxy servers and a protocol for interacting with those servers. The proposed combination uses SIP servers for exactly this purpose and discloses the limitation to a POSA.

NEC’s myopic view that SIP messages must execute functions is flawed. *See* Section II.B. The Board correctly identified that Peloton is not arguing that the SIP messages, themselves, constitute the recited process for guaranteeing a communication bandwidth. DI 41. NEC’s insistence that Peloton is *actually* asserting a SIP message must execute functions dooms its arguments.⁸

Second, NEC attempts to improperly import additional requirements into the bandwidth limitation. NEC again argues that ***guaranteeing*** bandwidth necessarily includes ***reserving*** a bandwidth. POR 38-39. But this is pure attorney argument, “and [a]ttorney argument is not evidence and cannot rebut other admitted evidence.” *Elbit Sys. of Am., LLC v. Thales Visionix, Inc.*, 881 F.3d 1354, 1359

⁸ NEC’s argument that Peloton must provide further explanation as to what is “*actually* performing that bandwidth guarantee,” POR at 36, are addressed in Section II.B, as is discussion of transport functions part 80.

(Fed. Cir. 2018) (internal citation and quotations omitted). Even Dr. Cooperstock agrees that the '427 Patent describes reserving as a “preparatory step” and not a part of the bandwidth guarantee. Ex-1017 (Cooperstock Tr.) 151:14-22. The Board correctly pointed out, “[t]he '427 patent discloses that ‘the core IMS part 30 executes a bandwidth reservation process *as preparation for* guaranteeing a communication bandwidth.’” DI 19 (quoting Ex-1001 13:60-62) (emphasis original).⁹

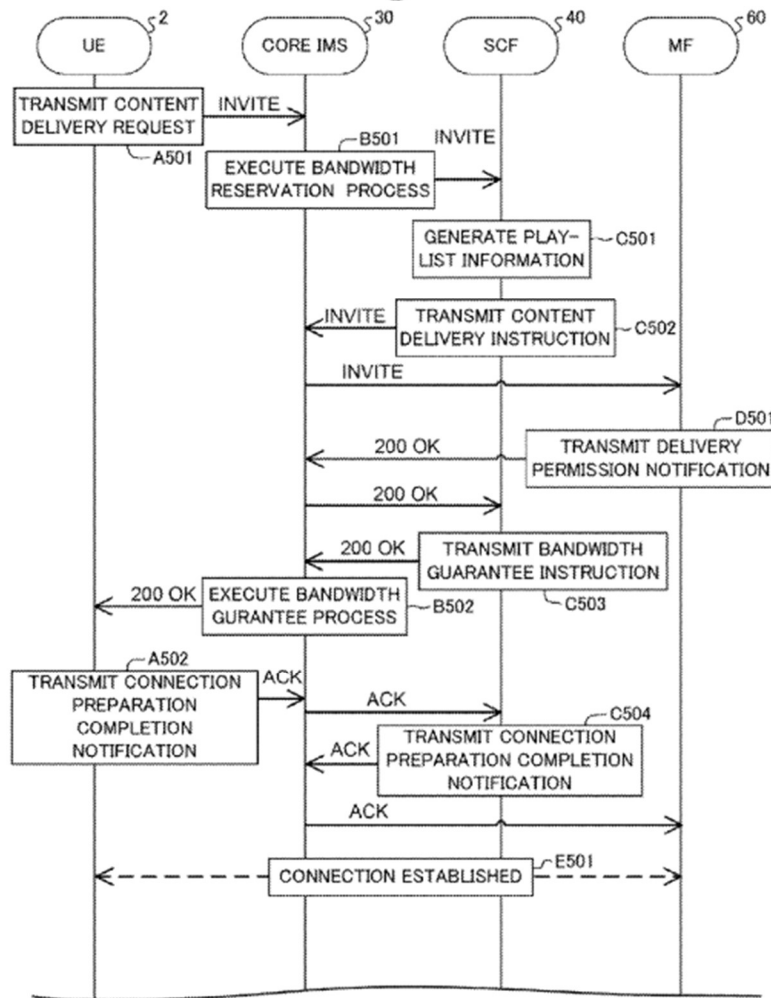
NEC also argues that the process for guaranteeing bandwidth must be “more than an initial check at the time of connection,” POR 39, and the bandwidth guarantee “refers to a process for ensuring that the target device has and maintains a bandwidth necessary for the communication.” POR 41. But again, NEC includes no support from the specification or its expert for these conclusory statements.¹⁰

⁹ Even if NEC was correct that the bandwidth limitation “include[s] a bandwidth reservation step,” POR 38-39, this is of no moment. NEC’s only argument that this distinction is relevant is SIP Standard’s sentence mentioning “network resource reservation capabilities,” POR 34, 39, which as discussed above is meritless.

¹⁰ NEC includes one citation to Dr. Cooperstock at Ex-2010 ¶29 in support of its claim about “maintain[ing]” a bandwidth, but the citation does not actually include support for this statement.

Indeed, the limitation itself refutes NEC's argument: "a process for guaranteeing a communication bandwidth required for transmitting content data *as a process for establishing the connection.*" The claim specifies that the process for guaranteeing bandwidth is a part of the process for establishing the connection and does not include anything beyond "the time of connection." Figure 5 of the specification also shows the connection control server (core IMS) is no longer involved after a connection between the user device and application server system has been established:

Fig.5



Finally, NEC argues that the proposed combination fails because SIP Standard does not “mandate” that a system guarantee bandwidth “if insufficient bandwidth is detected” to handle a particular request. POR 40-41, 43-44. In other words, NEC requires that a content delivery system of claim 1 must *always* guarantee a bandwidth for *any* content request it receives. But NEC invents this requirement from thin air: nowhere does the '427 Patent describe guaranteeing a bandwidth for every possible request under every possible circumstance. Even its

own expert concedes the patent “does not appear to state what should happen in the case of the bandwidth guarantee process not being able to succeed,” and “a POSITA, reading the patent, would, then, have the liberty of deciding what to do in that situation.” Ex-1017 (Cooperstock Tr.) 144:12-21. Dr. Reader’s analysis of the proposed combination and SIP Standard reflects Dr. Cooperstock’s statements. Pet. 48-49 (citing Ex-1008 ¶¶188-89).

D. Ueda, SIP Standard, and SDP Standard teach the playlist limitation.

NEC’s argument that the proposed combination does not teach this limitation rests on the same incorrect understanding of obviousness as above in Section IV.C. Here, NEC analyzes SIP Standard and SDP Standard to argue that they do not in and of themselves disclose sending a playlist, and choosing to do so would be hindsight. POR 46-51. But the question is not whether SIP Standard and SDP Standard teach sending a playlist, but whether *their combination with Ueda* discloses sending the claimed playlist in the claimed manner. *Bot M8*, 66 F.4th at 1386. For example, NEC discusses various fields used in SDP (such as the a=, u=, and i= fields) to argue that they do not describe sending a playlist, but only “information specifying the media.” POR 50. But NEC elects to forget that *Ueda discloses sending a playlist*. As explained in the Petition, a POSA would have leveraged the numerous methodologies described in SIP Standard and SDP Standard to convey the playlist (*as already disclosed by Ueda*). Pet. 53-55; Ex-

1008 ¶¶202-05. Nowhere does NEC or Dr. Cooperstock actually rebut Dr. Reader’s uncontested testimony that a POSA—implementing SIP and SDP into Ueda’s system, as motivated for the reasons already described in Sections IV.A-B—would find it obvious to send Ueda’s playlist using any of the methods described in the Petition.

Finally, NEC’s argues that Ueda “teach[es] *against* providing ‘play-list’ information at a same time that a connection is established” because Ueda describes an embodiment where an “*authentication* step S423 must be completed (and successful) *before* the playlist is transmitted.” POR 52. As the Board already recognized, *see* DI 43-44, NEC’s arguments are without merit. The limitation does not require transmitting “play-list information” “at a same time” as *authentication*, but at a same time “the one or more connection control servers executes a process for guaranteeing a communication bandwidth . . . as a process for establishing the connection.” Moreover, the ’427 Patent contradicts NEC’s claim of timing of user authentication. *See* Ex-1001, Fig. 4 (authentication), 12:56-13:13 (describing user authentication process and receipt of user authentication success information), 13:50-58 (describing content delivery request including previously received user authentication success information).

V. CLAIMS 1, 4-9, 14, 16, 18, 20, 22, 32, AND 34-36 WOULD HAVE BEEN OBVIOUS IN VIEW OF UEDA, SIP STANDARD, AND BECHTOLSHEIM

A. A POSA Would Have Been Motivated to Combine Ueda, SIP Standard, and Bechtolsheim.

NEC's arguments regarding motivation to combine are meritless. The Petition asserted that "[a] POSITA would have been motivated to combine Bechtolsheim with Ueda to maintain video quality and avoid requiring a higher bandwidth than available." Pet. 24. NEC does not dispute (and thus concedes) that a POSA would have been so motivated. Instead, NEC argues that this is not sufficient motivation because Bechtolsheim, per NEC, does not teach guaranteeing the claimed bandwidth. POR 56. But obviousness does not require that a POSA's motivation to combine "directly impact the claimed [limitation]." *Lone Star Silicon Innovations LLC v. Iancu*, 809 F. App'x 773, 780 (Fed. Cir. 2020). Thus, per Dr. Reader's uncontested testimony, a POSA would have been motivated to combine Ueda, SIP Standard, and Bechtolsheim. *See* Ex-1008 ¶¶111-12.¹¹

NEC also disputes motivation to combine Bechtolsheim with SIP Standard. POR 57-58. Establishing a motivation to combine Ueda with SIP Standard, as well as Ueda with Bechtolsheim, is sufficient to show a motivation to create the

¹¹ Peloton disputes NEC's contention that Bechtolsheim does not teach the claimed bandwidth guarantee below in Section V.B.

complete combination. *See Intell. Ventures II LLC v. Ericsson Inc.*, 685 F. App'x 913, 918 (Fed. Cir. 2017) (agreeing with Board that motivation to combine each reference in ground with each other not necessary for obviousness). Nevertheless, NEC's dismissal that "describing multimedia sessions and timing information" is "not an actual motivation to combine," POR 57, simply ignores the supporting text from the references themselves that provide the motivation. SIP is "not a vertically integrated communications system" and relies on other teachings to provide, e.g., "a session description." Ex-1004 § 2. Bechtolsheim teaches an additional means of describing such a multimedia session, involving content metadata. Ex-1006 ¶[0034]. These teachings are an additional, if not needed, motivation to combine Bechtolsheim and SIP Standard. *See* Ex-1008 ¶112.¹²

B. Ueda, SIP Standard, and Bechtolsheim teach the bandwidth and playlist limitations.

NEC's arguments rely on an illogical combination of the proposed references never disclosed by Peloton. Ueda in view of SIP Standard teaches

¹² NEC's arguments regarding "reasonable likelihood of success" are similarly flawed. POR at 58. NEC simply ignores Dr. Reader's explanation of how a POSA would expect to successfully integrate SIP with Ueda, Ex-1008 ¶¶104-07, and identification of the clear teachings in SIP Standard regarding integrating media description details, such as taught in Bechtolsheim, Ex-1008 ¶112.

transmitting play-list information via a connection control server (proxy server) back to the user equipment, as well as using the proxy server(s) to execute a process for guaranteeing bandwidth. *See* Sections IV.C-D. Bechtolsheim additionally teaches preparing the playlist sent to the user equipment “at a same time” that a connection control server “executes a process for guaranteeing a communication bandwidth . . . as a process for establishing the connection.” Pet. 74-75. The suggestion that the proposed combination system with Ueda “put[s] together” a playlist and does *not* send it to the user equipment (as already taught by Ueda) is one of NEC’s own creation and not Peloton’s. *See* Pet. 72.¹³

NEC’s arguments that Bechtolsheim does not disclose the claimed bandwidth guarantee are also flawed. NEC dismisses Bechtolsheim’s disclosure that switch 135 “create[s] new streams,” which “specif[y] the delivery endpoint for the content and *represent[] the reservation of bandwidth and streaming capacity*

¹³ Peloton also notes that NEC never disputes the proposed combination discloses transmitting play-list information “at a same time . . . *as a process for establishing a connection,*” but rather at a same time as executing the bandwidth guarantee, contrary to its own claim construction position. POR 59. Thus, to the extent the Board agrees with NEC regarding construction of the claim, NEC has presented no actual dispute regarding this claim term.

of the switch unit 135,” Ex-1006 ¶[0049], by arguing that this “just indicates that information about available bandwidth . . . is *stored at* the switch unit 135.” POR 61. NEC presents no explanation of why “reserve” does not mean reserve, but rather to “indicate information.” Nevertheless, Bechtolsheim’s description of switch unit 135’s controller 208, which allocates bandwidth according to a content schedule, makes clear this is false. *See* Ex-1006 ¶¶[0053]-[0055].

Finally, NEC argues that Bechtolsheim does not teach the claimed bandwidth guarantee because “import preprocessor 148 may be configured to issue warnings and drop data in order to meet the schedule.” POR 56. But as NEC’s expert explained, the ’427 Patent “does not appear to state what should happen in the case of the bandwidth guarantee process not being able to succeed,” and “a POSITA reading the patent would then have the liberty of deciding what to do in that situation.” Ex-1017 (Cooperstock Tr.) 144:12-21. This is exactly what Bechtolsheim describes: in the event the “target bandwidth is too small,” the system may either choose to prioritize and *preserve* the bandwidth guarantee¹⁴ by

¹⁴ Notably, NEC does not dispute that Bechtolsheim’s optional warnings and dropping data (i.e., *prioritizing* the promised bandwidth at the cost of fidelity, not “match[ing] the bandwidth that happens to be available,” POR at 56) guarantees

dropping data, or may prioritize fidelity instead of quality. Ex-1006 ¶[0038]. For the same reasons described in Section IV.C, this argument should be set aside.

VI. CLAIMS 2, 3, 15, AND 17 WOULD HAVE BEEN OBVIOUS IN VIEW OF UEDA, SIP STANDARD, SDP STANDARD, AND COHEE

NEC's motivation to combine arguments fail for the same reasons as described for Grounds 1 and 2. Obviousness does not require a motivation to combine Cohee with each of Ueda, SIP Standard, and SDP Standard. *See Intell. Ventures II*, 685 F. App'x at 918. Dr. Reader's explanation that combining Cohee with Ueda allows for media clips to reside at any location provides sufficient motivation. Ex-1008 ¶113; *see also* Ex-2029 (Reader Tr.) 114:12-115:7. NEC's remaining arguments rest on the assertion that Ueda would not benefit from these teachings because it discloses "a disc that points to a single URL, at the server." POR 64-65. These arguments fail for the reasons discussed in Section IV.A.¹⁵

NEC presents no arguments for Ground 3 beyond motivation to combine.

the bandwidth, but argues rather this is in some way an improper means of doing so. The '427 Patent neither claims nor teaches any such restriction.

¹⁵ NEC's likelihood of success arguments fail for the same reasons as described for Ground 2.

**VII. CLAIMS 2, 3, 15, AND 17 WOULD HAVE BEEN OBVIOUS IN
VIEW OF UEDA, SIP STANDARD, BECHTOLSHEIM, AND COHEE**

NEC argues that Peloton failed to provide motivation to combine Cohee with Bechtolsheim for Ground 4, but no such requirement exists. *See Intell. Ventures II*, 685 F. App'x at 918.¹⁶

Date: July 24, 2024

Respectfully submitted,

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¹⁶ See note 15.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I certify that the foregoing Petitioner's Reply contains 5595 words based on the word count indicated by the word-processing program used to generate the paper and excluding those portions exempted by 37 C.F.R. § 42.24(a).

Date: July 24, 2024

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6, I hereby certify that the foregoing Petitioner's Reply to Patent Owner's Response was served by electronic mail today on the following counsel of record for Patent Owner:

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