

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

UNILOC 2017 LLC,
Appellant

v.

FACEBOOK, INC., WHATSAPP, INC.,
Cross-Appellants

**ANDREW HIRSHFELD, PERFORMING THE
FUNCTIONS AND DUTIES OF THE UNDER
SECRETARY OF COMMERCE FOR
INTELLECTUAL PROPERTY AND DIRECTOR OF
THE UNITED STATES PATENT AND TRADEMARK
OFFICE,**
Intervenor

2019-2162, 2019-2159

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2017-01667, IPR2017-01668, IPR2017-02090, IPR2018-00579, IPR2018-00580.

Decided: November 18, 2021

BRIAN MATTHEW KOIDE, Etheridge Law Group, Southlake, TX, argued for appellant. Also represented by JAMES ETHERIDGE, RYAN S. LOVELESS, BRETT MANGRUM, JEFFREY A. STEPHENS.

HEIDI LYN KEEFE, Cooley LLP, Palo Alto, CA, argued for cross-appellants. Also represented by LOWELL D. MEAD, MARK R. WEINSTEIN; PHILLIP EDWARD MORTON, Washington, DC.

ROBERT MCBRIDE, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor. Also represented by THOMAS W. KRAUSE, FARHEENA YASMEEN RASHEED.

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

TARANTO, *Circuit Judge*.

Uniloc 2017 LLC (Uniloc) owns U.S. Patent No. 8,724,622, which addresses instant voice messaging by use of voice-over-internet-protocol (VoIP) communications. Facebook, Inc. and WhatsApp, Inc. (collectively, Facebook) challenged various claims of the '622 patent in two inter partes reviews in the Patent and Trademark Office. The Office's Patent Trial and Appeal Board held all challenged claims unpatentable for obviousness, except for dependent claims 4 and 5. *Facebook, Inc. v. Uniloc 2017 LLC*, IPR2017-01668, Paper No. 35, at 111–12 (P.T.A.B. Jan. 16, 2019) (*Final Written Decision*). Both Uniloc and Facebook appeal. We reject Uniloc's challenges to the Board's decision. But on Facebook's cross-appeal, we hold that the Board misunderstood Facebook's petition regarding claims 4 and 5, and we therefore vacate the Board's decision as to those claims and remand for any further proceedings as may be necessary and appropriate regarding those claims.

I

A

The '622 patent, entitled "System and Method for Instant VoIP Messaging," describes a "system and method for enabling local and global instant VoIP messaging." '622 patent, title and col. 2, lines 57–59. A local, packet-switched IP network connects an instant voice message client, such as a telephone or a telephony-capable computer, to a local instant voice message server. *Id.*, Fig. 2; *id.*, col. 6, line 50 through col. 7, line 36. In "record mode," the client "records the user's speech into a digitized audio file . . . (i.e., an instant voice message)," then transmits it to the server. *Id.*, col. 7, line 57 through col. 8, line 26. The server in turn delivers the message to selected recipient clients if those recipients are currently connected to the server. *Id.*, col. 8, lines 26–34. If a selected recipient is not connected, the server "temporarily saves the instant voice message" and delivers it later, once the recipient connects. *Id.*, col. 8, lines 34–39.

For present purposes, claims 3, 4, 5, and 24 are illustrative. They read:

3. A system comprising:

a network interface connected to a packet-switched network;

a messaging system communicating with a plurality of instant voice message client systems via the network interface; and

a communication platform system maintaining connection information for each of the plurality of instant voice message client systems indicating whether there is a current connection to each of the plurality of instant voice message client systems,

wherein the messaging system receives an instant voice message from one of the plurality of instant voice message client systems, and

wherein *the instant voice message includes an object field including a digitized audio file.*

Id., col. 24, lines 12–27 (emphasis added).

4. The system according to claim 3, wherein *the instant voice message includes an action field identifying one of a predetermined set of permitted actions requested by the user.*

Id., col. 24, lines 28–30 (emphasis added).

5. The system according to claim 4, wherein the predetermined set of permitted action includes at least one of a connection request, a disconnection request, a subscription request, an unsubscription request, a message transmission request, and a set status request.

Id., col. 24, lines 31–35.

24. A system comprising:

a network interface connected to a packet-switched network;

a messaging system communicating with a plurality of instant voice message client systems via the network interface; and

a communication platform system maintaining connection information for each of the plurality of instant voice message client systems indicating whether there is a current connection to each of the plurality of instant voice message client systems,

wherein *the messaging system receives connection object messages from the plurality of instant voice message client systems*, wherein each of the

connection object messages includes data representing a state of a logical connection with a given one of the plurality of instant voice message client systems.

Id., col. 25, line 59 through col. 26, line 8 (emphasis added).

B

On June 22, 2017, Facebook filed two petitions with the Board for inter partes reviews of the '622 patent. In one petition, Facebook challenged claims 3, 6–8, 10–11, 13–23, 27–35, and 38–39. In the second petition, Facebook challenged claims 4–5, 12, and 24–26.

In its first petition, Facebook argued that claim 3 was unpatentable for obviousness over a combination of prior-art references including Zydney (PCT Pub. No. WO 01/11824 A2). Facebook relied on certain passages of Zydney as disclosing the claim 3 limitation that “the instant voice message includes an object field including a digitized audio file.” J.A. 1554–56. Specifically, Zydney describes voice exchange and voice distribution between users of computer networks using “voice containers,” which are “container object[s] that contain[] no methods, but contain[] voice data or voice data and voice data properties.” Zydney, p. 1, line 19 through p. 2, line 10; *id.*, p. 12, lines 6–8. Zydney says that its voice container can be formatted using the multipurpose internet mail extension (MIME) format, which “allows non-textual messages and multipart message bodies attachments [sic] to be specified in the message headers.” *Id.*, p. 19, line 7 through p. 20, line 9 (incorporating by reference RFC [Request for Comments] 1521, which further describes the MIME protocol). Stating that an “object field” is “a field containing content that will accompany the instant voice message, with the term ‘field’ simply referring to a block of data containing a particular type of data,” Facebook contended that “Zydney discloses the claimed ‘object field’ in at least two independent ways.” J.A. 1554. First, “[i]t would . . . have been obvious that the

Zydney voice container would contain an ‘object field’ because, without one, the recipient device could not separate the voice data from the other fields of data in the voice container and play back the voice data for the user—a capability the recipient in Zydney has.” J.A. 1555. Second, “[b]ecause Zydney itself discloses that voice containers can be encoded using MIME and directly cites to RFC 1521, it would have been plainly obvious to a person of ordinary skill in the art to provide the receiving software agent with the ability to format the voice container according to RFC 1521, thus encoding the voice data in the body (an ‘object filed’) of the message.” J.A. 1555–56. To support those contentions, Facebook relied on the expert declaration of Dr. Tal Lavian. J.A. 251–57 (Lavian Decl., ¶¶ 136–45).

Regarding claim 4, which depends on claim 3, Facebook relied in its second petition on a combination that, as relevant here, included Zydney and Paul S. Hethmon, *Illustrated Guide to HTTP* (1997). Hethmon is a reference book that discusses version 1.1 of Hypertext Transfer Protocol (HTTP/1.1), which is a protocol for sending requests and responses between client and server computers over the internet. Hethmon at 10–17; *see also* J.A. 225–26, 355–56 (Lavian Decl., ¶¶ 95, 305). Facebook argued that Zydney and Hethmon disclosed the claim 4 limitation “wherein the instant voice message includes an action field identifying one of a predetermined set of permitted actions requested by the user.” ’622 patent, col. 24, lines 28–30; J.A. 2672–80.

Although claim 3 was not itself challenged in the second petition, Facebook discussed the elements of claim 3 (incorporated into challenged claims 4 and 5) as “a foundation for analyzing the obviousness of claims” 4 and 5. J.A. 2655. In that discussion, Facebook stated that “Figure 1A of Zydney . . . expressly shows the central server (which contains the messaging system) receiving a ‘voice container’ (instant voice message) from a sending client system,” thus treating Zydney’s voice container as teaching

claim 3's "instant voice message." J.A. 2668. Then, when discussing claim 4 and its added "action field" limitation, Facebook turned to Hethmon as teaching that limitation in combination with Zydney. J.A. 2672–80. What Facebook said there about how the Zydney-Hethmon combination teaches an "*instant voice message [that] includes an action field identifying one of a predetermined set of permitted actions requested by the user,*" '622 patent, col. 24, lines 28–30 (emphasis added), is the source of the dispute now before us over the Board's rejection of Facebook's challenge to claim 4 (and its dependent claim 5).

Recognizing that the instant voice message must "include" the required action field, Facebook asserted that while "Zydney does not appear to explicitly describe that the instant voice message contains a 'field' that identifies one of a predetermined set of permitted actions requested by the user," "this feature would have been obvious over Zydney in view of **Hethmon**, which confirms that the claimed '**action field**' is a well-known and built-in feature of [HTTP/1.1]." J.A. 2672. Facebook explained that HTTP/1.1 clients communicate with the server through request messages, which contain a "Request-Line" element that specifies a "Method" to indicate the type of action requested of the server, as well as an "Entity-Body" field in which "[t]he data to be transmitted is contained." J.A. 2672–74 (citing Hethmon at 10–11, 54–61, 78; J.A. 355–58 (Lavian Decl., ¶¶ 304–09)). Facebook said: "The '**Method**' field in the '**Request-Line**' is the critical field for purposes of claim 4." J.A. 2673 (citing Hethmon at 55). One such method, called POST, is used to transmit data of various types. J.A. 2674 (citing Hethmon at 78; J.A. 357–58 (Lavian Decl., ¶ 309)). Facebook elaborated:

An HTTP message with a POST method provides an example of **an action field identifying one of a predetermined set of permitted actions requested by the user**, as claimed. In fact, the '622 patent expressly refers to a "post message" as one

of the permitted actions that can be in the “action field.” (622, 14:6–10.)

Rationale and Motivation to Combine. As noted previously, Zydney explains that an instant voice message can be sent by the sender to central server. (Zydney, 16:7–12, 15:19–21, 27:15–16; Fig. 1A (showing voice container transmission path through the central server), Fig. 8 (Step 1.2.3).) It would have been obvious to a person of ordinary skill in the art to combine Zydney with Hethmon, with no change in their respective functions, predictably resulting in the voice container of Zydney being transmitted by the sending client to the central server using HTTP/1.1 message. This, in turn, would have resulted in the voice container being carried in an HTTP/1.1 message that includes an “**action field**,” e.g. the “POST” method described above. And because the “POST” message in this combination was the result of the Zydney user’s decision to send an instant voice message, the action field includes a “**permitted action[] requested by the user**,” as claimed. A person of ordinary skill in the art would have had ample motivation to combine Zydney and Hethmon in this manner. (Lavian, ¶¶312–319.)

J.A. 2675. Facebook repeated the point when discussing claim 5. J.A. 2680 (“The POST method specified in the HTTP request message . . . discloses a **message transmission request**, as claimed, because it is used (in the combination of Zydney and Hethmon) to transmit the voice container to the central server in Zydney.”) (quoting J.A. 365–66 (Lavian Decl., ¶ 320)).

As to claim 24, Facebook argued that the claim was unpatentable for obviousness over a combination of prior-art references including Zydney and Hethmon, which, Facebook said, together met claim 24’s requirement that “the

messaging system receives connection object messages from the plurality of instant voice message client systems.” ’622 patent, col. 26, lines 3–5; J.A. 2681–88. Specifically, Facebook contended that “[t]he combination of Zydney and Hethmon here would have predictably resulted in Zydney’s instant voice messaging system in which the clients report their statuses using HTTP messages with POST methods, thus disclosing the claimed connection object messages.” J.A. 2685; *see also* J.A. 2682–83 (citing Zydney, p. 7, line 21 through p. 8, line 6, p. 26, lines 16–19; Hethmon at 78; J.A. 370–71 (Lavian Decl., ¶¶ 328–30)).

C

The Board instituted the requested reviews, determining that Facebook had established a reasonable likelihood of prevailing on all challenged claims, J.A. 1666–704; J.A. 2747–77, and Uniloc thereafter filed its patent owner’s responses, J.A. 1758–807; J.A. 2811–38. Concerning claim 3’s “object field” limitation, Uniloc argued in part that Zydney does not disclose an object field or digitized audio file specifically. J.A. 1781–88; *Final Written Decision* at 47–51 (summarizing Uniloc’s seven responses on this limitation). As to claim 4’s requirement that “the instant voice message include[] an action field identifying one of a predetermined set of permitted actions requested by the user,” Uniloc responded only that Zydney taught away from modifying the “voice container” to include elements such as Hethmon’s POST method (*i.e.*, an action field) since Zydney’s voice “container—by intended design—contains no methods.” J.A. 2831–33; *see also* Zydney, p. 12, lines 6–8 (“The term ‘voice containers’ as used throughout this application refers to a container object that contains no methods . . .”). Uniloc made no additional arguments concerning Zydney and Hethmon’s disclosure of the additional limitation of claim 5. J.A. 2831–33. Finally, for claim 24’s requirement concerning “connection object messages,” Uniloc argued that Zydney taught away from the combination for multiple, independent reasons, J.A. 2833–36, including that

Zydney “purports to utilize transport mechanisms that rely on data compression of *then-existing* hardware and software” but that HTTP in August 2000 did not have compression capabilities, J.A. 2836 (citing Zydney, p. 11, lines 14–16; J.A. 3462, 3467 (Easttom Decl., ¶¶ 51, 64)).

Facebook then filed replies. J.A. 1835–65; J.A. 2861–86. Regarding the “object field” limitation of claim 3, Facebook responded (in part) that Uniloc’s position “appears to assume an unstated narrow claim interpretation of the term ‘object field’ (*e.g.*, that it is a ‘specific type of field’),” but that “[u]nder either the plain and ordinary meaning informed by the specification or under the construction [Uniloc] proposed in [earlier] litigation, Zydney discloses and renders obvious that the instant voice message (voice container) contains an object field (block of data) including an audio file, for the reasons explained in the Petition.” J.A. 1848–53. Regarding claim 4’s “action field” limitation, Facebook answered that Uniloc had “misstate[d] the proposed obviousness combination.” J.A. 2874–76. Specifically, Facebook stated:

The combination would not result in the voice container itself containing any methods. Rather, the Petition explains that it would have been obvious to transport the voice containers in Zydney as the “payload” contained in [HTTP/1.1] messages as taught by Hethmon. (Petition at 40–42.) Using [HTTP/1.1], the voice container would be contained as the “entity body” in an HTTP POST message, for example. (Petition at 39–40; Hethmon, pp. 54 (“Entity-Body” field), 78 (“[u]sing the POST method, the client sends an entity body to the server for processing”).) The Request-Line in the HTTP message is distinct from the Entity-Body “payload” of the message. (*See id.*) Therefore, the Zydney voice container, transported as the payload of an HTTP message disclosing the claimed “instant voice message,” would not contain any methods.

J.A. 2875. Finally, regarding claim 24’s “connection object messages” limitation, Facebook replied to each of Uniloc’s various teaching-away arguments. J.A. 2876–84. Specifically, Facebook stated that Zydney does not *require* data compression when transmitting voice containers and that, even if it did, HTTP/1.1 in fact supported data compression as of August 2000, whether done separately by other software on the client device or through the HTTP protocol itself. J.A. 2882–84 (citing Hethmon at 42, 47).

D

After hearing oral argument from the parties, the Board issued its final written decision on January 16, 2019, consolidating the proceedings and holding unpatentable all the challenged claims except claims 4 and 5. *Final Written Decision* at 1, 4–5, 112. On the “object field” limitation of claim 3, the Board specifically concluded it was “persuaded by [Facebook’s] evidence, including Dr. Lavian’s testimony, that it would have been obvious to a person of ordinary skill in the art . . . to include an object field in Zydney’s voice container” because, without a field to hold the voice data in the container, Zydney could not operate as specified. *Id.* at 53–54 (citing J.A. 253–54 (Lavian Decl., ¶ 138 & n.13)). The Board also “credit[ed] Dr. Lavian’s un rebutted testimony, supported by RFC 1521, that when in MIME format, Zydney’s voice container would contain the digitized audio file—i.e., the voice data—in an object field.” *Id.* at 54 (citing J.A. 255–57 (Lavian Decl., ¶¶ 141–44)). Similarly, the Board determined that the subject matter of claim 24 would have been obvious to the relevant artisan, specifically crediting the evidence that a relevant artisan would have made the Zydney-Hethmon combination using HTTP POST messages. *Id.* at 107–08.

Regarding claim 4’s “action field” limitation, the Board concluded that Facebook had not established that the prior art taught this element. The Board reasoned:

[Facebook] . . . consistently relies on Zydney’s voice container as being the recited “instant voice message” of claim 3, from which claim 4 depends. *See, e.g.*, 1668 Pet. 33 (reciting “a ‘voice container’ (instant voice message)”). Thus, even if we were to agree with [Facebook] that the HTTP/1.1 Request-Line, as described by Hethmon, “discloses an action field identifying one of a predetermined set of permitted actions requested by the user” (*id.* at 39), the combination of Hethmon with Zydney . . . would result in “instant voice message” being “distinct from” such “action field” (*see* 1668 Reply 11) rather than “includ[ing]” the action field as claim 4 explicitly recites. [Facebook] does not explain how an instant voice message distinct from an action field would have rendered obvious an instant voice message including an action field.

Id. at 102–03. The Board did not consider whether the HTTP message, which undisputedly included an action field, could be considered the claimed “instant voice message,” as the Board evidently did not see Facebook as having made such a contention for claim 4. For that reason, the Board found that Facebook had failed to meet its burden on claim 4 and, hence, claim 5. *Id.* at 103.

Facebook and Uniloc each timely appealed the Board’s final written decision. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. §§ 141(c), 319.

II

On appeal, Uniloc ultimately makes two contentions, having withdrawn certain additional challenges it substantially briefed, including a challenge to the Board’s determination of unpatentability of claim 27. It argues that the Board committed reversible error in key factual determinations concerning (1) Zydney and the claim 3 requirement that an instant voice message include “an object field including a digitized audio file” and (2) the combination of

Zydney and Hethmon and the claim 24 “connection object message” limitation. We reject both challenges.

We review the Board’s legal conclusions de novo and its factual findings for substantial-evidence support. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1360 (Fed. Cir. 2016). The ruling on obviousness is a legal conclusion based on underlying determinations of fact. *PersonalWeb Techs., LLC v. Apple, Inc.*, 917 F.3d 1376, 1381 (Fed. Cir. 2019). Such factual determinations include what a prior-art reference teaches and whether a prior-art reference teaches away. *Gen. Elec. Co. v. Raytheon Techs. Corp.*, 983 F.3d 1334, 1345 (Fed. Cir. 2020); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364 (Fed. Cir. 2015). “Substantial evidence review asks ‘whether a reasonable fact finder could have arrived at the agency’s decision’ and requires examination of the ‘record as a whole, taking into account evidence that both justifies and detracts from an agency’s decision.’” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016) (quoting *In re Gartside*, 203 F.3d 1305, 1312 (Fed. Cir. 2000)).¹

A

Substantial evidence supports the Board’s finding about Zydney’s teaching related to claim 3—the crucial finding that supports the determination that “Zydney renders obvious an instant voice message including ‘an object field including a digitized audio file,’ as recited in claim 3,” and hence by the challenged claims that depend on claim 3. *Final Written Decision* at 53. Uniloc argues that there was not substantial evidence that a *digitized audio file*

¹ To the extent that Uniloc suggests that the Board failed to provide an explanation allowing us to discern the path of its reasoning, or failed to ask the legally required questions in its analysis, we reject the suggestion.

(rather than just voice data) would be in an *object field* (rather than just a field) in Zydney. Uniloc Opening Br. 36–38; Uniloc Reply Br. 9–10. We disagree.

First, the Board permissibly credited Dr. Lavian’s testimony that the voice container in Zydney must have a separate field in which the voice data was stored. *Final Written Decision* at 53–54 (quoting J.A. 253–54 (Lavian Decl., ¶ 138 n.13)). Second, the Board reasonably found, again based on Dr. Lavian’s testimony, that Zydney disclosed the limitation when the voice container was in MIME format. *Id.* at 54 (citing J.A. 255–57 (Lavian Decl., ¶¶ 141–44)). Dr. Lavian’s explanation sufficed to connect the concepts of a digitized audio file and voice data and the concepts of an object field and a field, using either of two claim constructions of “object field,” with no contrary construction meaningfully advanced or argued by Uniloc. *See* J.A. 254–56 (Lavian Decl., ¶¶ 139, 141) (concerning digitized audio files); J.A. 251–52 (Lavian Decl., ¶¶ 136–37) (explaining two potential claim constructions for “object field”: one based on Uniloc’s position in pending litigation and one based on the broadest reasonable construction as informed by the specification); J.A. 1782–83 (Uniloc arguing in its response that an object field is “a *specific type* of field,” without additional elaboration).

B

Substantial evidence likewise supports the Board’s finding that the “connection object messages” limitation of claim 24 is taught by the sufficiently motivated combination of Zydney and Hethmon. *Final Written Decision* at 103–08. Uniloc’s only focused contention in this court concerns its argument to the Board that Zydney taught away from using the HTTP POST method taught by Hethmon, since (according to Uniloc) Zydney used transport mechanisms that relied on data compression of then-existing hardware and software and HTTP in August 2000 did not offer compression. Uniloc Opening Br. 39–40; Uniloc Reply

Br. 10–11. We reject this contention, concluding that the Board said enough to make clear that it was rejecting the contention and why.

The Board stated that it generally “disagree[d] with [Uniloc’s] argument that Zydney teaches away from a combination in which the HTTP POST method described in Hethmon would be used as a vehicle to provide client status information to Zydney’s central server,” and, in support of that statement, the Board explained that it credited Dr. Lavian’s testimony undermining Uniloc’s numerous other, related teaching-away arguments. *Final Written Decision* at 107–08. Further, the Board stated that it was “persuaded, for the reasons stated by [Facebook] and discussed above,” *id.* at 106, and the “above” discussion included recitations of Facebook’s specific counterarguments to Uniloc’s compression argument—counterarguments that are amply grounded in the disclosures of Zydney and Hethmon, *id.*; *see* Zydney, p. 11, lines 14–16 (stating only that “the present invention is designed to adapt to the voice and data compression capabilities of the user’s existing hardware and software platform,” not that compression was required or had to be carried out by the HTTP protocol itself); Hethmon at 42 (discussing content codings that “allow[] an application to serve resources in a compressed format”), 47 (referring to “zip” and “gif” media types). Accordingly, we reject Uniloc’s challenge to the Board’s determination of unpatentability of claim 24 (and dependent challenged claims).

III

Facebook cross-appeals the Board’s determination that it did not carry its burden of proving claims 4 and 5 unpatentable for obviousness. *Final Written Decision* at 98–103. More specifically, Facebook contends that the Board overlooked its argument about claim 4, starting in its pertinent petition, that the required “instant voice message includ[ing] an action field” was taught by an HTTP message

as a whole, in which the Request-Line portion contains the action field (specifically a POST method) and the Entity-Body carries the Zydney voice container. Facebook Opening Br. 32–38; Facebook Reply Br. 2–8. We agree with Facebook.

We review the Board’s judgments concerning what arguments are fairly presented in a petition and other pleadings for abuse of discretion. *See Ericsson Inc. v. Intellectual Ventures I LLC*, 901 F.3d 1374, 1379 (Fed. Cir. 2018); *Altaire Pharms., Inc. v. Paragon Biotech, Inc.*, 889 F.3d 1274, 1284 (Fed. Cir. 2018), *remand order modified by stipulation*, 738 F. App’x 1017 (Fed. Cir. 2018); *Intelligent Bio-Systems*, 821 F.3d at 1367; *see also AMC Multi-Cinema, Inc. v. Fall Line Patents, LLC*, No. 2021-1051, 2021 WL 4470062, at *6 (Fed. Cir. Sep. 30, 2021); *MModal LLC v. Nuance Commc’ns, Inc.*, 846 F. App’x 900, 906 (Fed. Cir. 2021). “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*, 821 F.3d at 1367 (citation omitted). Under those standards, we hold that the Board committed an abuse of discretion in overlooking, and therefore not considering, Facebook’s argument about the teaching of the HTTP message as a whole.

Facebook’s petition provided “an understandable explanation of the element-by-element specifics of its unpatentability contentions.” *AMC*, 2021 WL 4470062, at *5 (citing 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363–64 (Fed. Cir. 2016); *Ariosa*, 805 F.3d at 1367). Facebook made clear that it was addressing why the HTTP message, based on the combination of Zydney and Hethmon, meets the claim 4 requirement that “the instant voice message *contains* a ‘field’ that identifies one of a predetermined set of permitted actions requested by the user.”

J.A. 2672 (emphasis added). It made its argument for that conclusion by detailing the components of an HTTP message and stating that the Request-Line component would contain the required action field (a POST method), while the body of the message would carry the voice container of Zydney. J.A. 2672–75. And it stressed that “[t]he ‘**Method**’ field in the ‘**Request-Line**’ is the critical field for purposes of claim 4.” J.A. 2673 (citing Hethmon at 55). The whole point of this discussion was to convey that the claim requirement of an instant voice message that “includes an action field” of the specified sort was met by the HTTP message, and that meaning was strongly implied by the statement that the just-described arrangement “would have resulted in the voice container being carried in an HTTP/1.1 message that includes an ‘**action field**,’ e.g. the ‘POST’ method.” J.A. 2675. All of this, fairly read, conveys that the HTTP message as a whole is an “instant voice message” meeting the claim 4 requirement. When Facebook, in its reply, was more explicit in so stating, see J.A. 2875 (“[T]he Zydney voice container, transported as the payload of an *HTTP message disclosing the claimed ‘instant voice message,’* would not contain any methods.” (emphasis added)), it was permissibly clarifying what it had said in the petition, not making a previously unmade point, see *AMC*, 2021 WL 4470062, at *6.

The Board did not state, and Uniloc has not advanced, any contrary fair reading of the petition or reply passages. For example, Uniloc suggested at oral argument that the petition’s reference to “the voice container being carried in an HTTP/1.1 message that includes an ‘**action field**,’ e.g. the ‘POST’ method described above,” J.A. 2675, may be indicating that it is the voice container, not the HTTP message, that “includes an ‘**action field**’” (and hence is the claimed instant voice message). Oral Arg. at 24:00–25:34; see also Uniloc Response Br. 3. Similarly, in its briefing, Uniloc stated that the reply’s reference to “the Zydney voice container, transported as the payload of an HTTP message

disclosing the claimed “instant voice message,” J.A. 2875, is “at best ambiguous,” Uniloc Response Br. 6, seemingly implying that “claimed ‘instant voice message’ could modify ‘Zydney voice container’ rather than ‘HTTP message.’” But these are unnatural readings, given the “rule of the last antecedent,” which “provides that, absent ‘other,’ contrary ‘indicia of meaning,’ ‘a limiting clause or phrase . . . should ordinarily be read as modifying only the noun or phrase that it immediately follows.” *Apple Inc. v. United States*, 964 F.3d 1087, 1096 (Fed. Cir. 2020) (quoting *Lockhart v. United States*, 136 S. Ct. 958, 962–63 (2016)); see also *Barnhart v. Thomas*, 540 U.S. 20, 26 (2003).

More substantially, Uniloc stresses that, in the immediately preceding discussion of claim 3 in the petition, the Zydney voice container is itself the claimed “instant voice message,” whereas the claim 4 petition passage, in Facebook’s reading, asserts that something else, namely, the HTTP message as a whole, is (also) the “instant voice message.” Uniloc Response Br. 4–5. That shift may have been surprising, but Uniloc makes too much of it. Uniloc has acknowledged that there is no inconsistency between the two theories, see Oral Arg. at 26:13–27:08, and there is nothing improper about arguing that the prior art discloses particular claim language in several different ways. The shift, of course, could have been more clearly signaled or announced, but the relevant question is whether the substance of the claim 4 assertion was clear enough. Here, we think that the substance of the petition passage was sufficiently clear that the Board was obliged to recognize that substance—especially after the reply made it still clearer.

In short, Facebook’s petition together with the reinforcing reply statement put the Board on notice that Facebook was alleging that the HTTP message, not the Zydney voice container, was the “instant voice message” of claims 4 and 5. By overlooking those statements and instead basing its findings on the mistaken assumption that Facebook was treating only Zydney’s voice container as teaching the

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instant voice message, *Final Written Decision* at 102–03, the Board abused its discretion. Because the Board’s misunderstanding of Facebook’s submissions infected its assessment of claims 4 and 5, we must set aside the Board’s determination regarding those claims. *See, e.g., Singh v. Brake*, 222 F.3d 1362, 1370 (Fed. Cir. 2000).

Failing to appreciate what Facebook had contended, the Board did not determine the correctness of the contention that the HTTP message meets claim 4’s requirements. At least for that reason, it is not clear to us whether, once Facebook’s contention is properly appreciated, Facebook is entitled to a determination of unpatentability of claims 4 or 5 or whether Uniloc may have properly preserved arguments that remain open after our decisions here (concerning, *e.g.*, claim 24) and in *Uniloc 2017 LLC v. Facebook Inc.*, 989 F.3d 1018, 1031–33 (Fed. Cir. 2021), and that could affect the bottom-line determination concerning claims 4 or 5. In these circumstances, we think it advisable to vacate the Board decision regarding claims 4 and 5 and to remand for any further proceedings that may be warranted.

IV

For the foregoing reasons, we affirm the Board’s determinations concerning all challenged claims except for claims 4 and 5; we vacate the Board’s decision concerning claims 4 and 5; and we remand the matter to the Board.

The parties shall bear their own costs.

**AFFIRMED IN PART, VACATED IN PART, AND
REMANDED**