

NOTE: This disposition is nonprecedential.

# United States Court of Appeals for the Federal Circuit

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**MICROSOFT CORPORATION,**  
*Appellant*

v.

**FG SRC, LLC,**  
*Appellee*

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2020-1928

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. IPR2018-  
01594.

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Decided: June 17, 2021

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JOSEPH A. MICALLEF, Sidley Austin LLP, Washington,  
DC, argued for appellant. Also represented by SCOTT  
BORDER, SAMUEL DILLON; RICHARD ALAN CEDEROTH, Chi-  
cago, IL.

JAY P. KESAN, DiMuroGinsberg PC, McLean, VA, ar-  
gued for appellee. Also represented by ALFONSO CHAN, ARI  
RAFILSON, Shore Chan DePumpo LLP, Dallas, TX; CECIL  
E. KEY, DGKeyIP Group, Tysons Corner, VA.

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Before LOURIE, PROST\*, and O'MALLEY, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* LOURIE.

Opinion concurring-in-part and dissenting-in-part filed by  
*Circuit Judge* PROST.

LOURIE, *Circuit Judge*.

Microsoft Corporation (“Microsoft”) appeals from a final written decision of the United States Patent and Trademark Office Patent Trial and Appeal Board (“the Board”) holding that Microsoft failed to demonstrate that claims 18–25 of U.S. Patent 6,434,687 (“the ’687 patent”) were unpatentable. *See Microsoft Corp. v. FG SRC LLC*, No. IPR2018-01594, 2020 WL 1818685 (P.T.A.B. Apr. 9, 2020) (“*Decision*”). We *affirm*.

## BACKGROUND

### I. THE ’687 PATENT

FG SRC, LLC (“FG”) owns the ’687 patent, which is directed to methods for accelerating web site access and processing using reconfigurable processors, such as field programmable gate arrays (“FPGAs”). The patent explains that e-commerce web sites often seek to provide different content to different users based on the demographics of the particular user. ’687 patent col. 1 ll. 35–40. The demographic data may be obtained in a number of ways. For example, data may be obtained directly by simply asking the user to respond to questions, or indirectly, such as by analyzing the web sites that the user has visited previously. *Id.* col. 1 ll. 41–45. Either way, the patent explains, the data must be processed in order for the server to provide customized content to the user. *Id.* col. 1 ll. 47–51.

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\* Circuit Judge Sharon Prost vacated the position of Chief Judge on May 21, 2021.

And because typical web users are willing to wait only a limited amount of time for a web site to load, the processing of demographic data and selection of web page content must be done quickly. *Id.* col. 1 ll. 52–55.

The '687 patent purports to address this issue by using a server with reconfigurable processors to process the demographic data and select web content to be transmitted to the user. The patent explains that a conventional server with conventional processing elements processes data serially, such that N processing iterations are required to process N elements of data. *Id.* col. 20 ll. 55–60. But because the algorithms loaded into reconfigurable processors can be changed quickly, a reconfigurable server may instantiate many processing units tailored to the specific problem at hand. *Id.* col. 21 ll. 8–14. Consequently, the patent explains that reconfigurable servers can process data in parallel, and N data elements can therefore be processed in a single iteration, reducing processing time considerably. *Id.* col. 21 ll. 21–23.

Claims 1–3, though not directly at issue in this appeal, are related to the issues on appeal, and recite:

1. A method for processing data at an internet site comprising:

providing a reconfigurable server at said site incorporating at least one microprocessor and at least one reconfigurable processing element;

receiving N data elements at said site relative to a remote computer coupled to said site;

instantiating N of said reconfigurable processing elements at said reconfigurable server; and

processing said N data elements with corresponding ones of said N reconfigurable processing elements.

2. The method of claim 1 further comprising: *selecting a content of said site in response to said processed N data elements.*

3. The method of claim 2 further comprising: *transmitting said content to said remote computer.*

*Id.* col. 21 ll. 51–67 (emphases added).

Claim 18, which is at issue in this appeal, recites substantially similar subject matter as claims 1–3 in a single claim:

18. A process of accelerating access time of a remote computer to an internet site comprising:

providing a reconfigurable server at said site incorporating at least one microprocessor and at least one reconfigurable processor;

transmitting N data elements from said remote computer to said server;

substantially concurrently processing said N data elements with N of said at least one reconfigurable processors;

*selecting a content of said internet site in response to said N data elements; and*

*transmitting said content to said remote computer.*

*Id.* col. 22 ll. 50–62 (emphases added).

Finally, claim 25 depends from claim 18 and recites:

25. The process of claim 18 further comprising: displaying said content at said remote computer.

*Id.* col. 24 ll. 6–7.

## II. THE PRIOR ART

Microsoft filed a petition for *inter partes* review of claims 1–25 of the '687 patent. *See Microsoft Corp. v. Saint*

*Regis Mohawk Tribe*, No. IPR2018-01594, 2018 WL 4050662 (P.T.A.B. Aug. 24, 2018).<sup>1</sup> Relevant to this appeal, Microsoft argued that claims 1–3 and 18 were anticipated by a white paper titled “*The Architecture of the Obelix – An Improved Internet Search Engine*” (“Obelix”).<sup>2</sup> Microsoft also argued that claims 2, 3, and 25 would have been obvious over Obelix in view of U.S. Patent 6,098,065 (“Skillen”).

Obelix describes utilizing user action information on web pages, such as printing and bookmarking, to improve the web page ranking of a search algorithm using a server with reconfigurable processors (the Obelix server). J.A. 2099. The paper explains that the purpose of its system is to introduce a “human factor” into search ranking algorithms. *Id.* To do so, the reconfigurable processors operate in three stages. First, a modified web browser collects information about users’ interactions with various web sites having distinct uniform resource locators (URLs). *Id.* Obelix explains that “users’ actions” are defined to cover most interactions with a web page, such as visiting, saving, or printing the web page. *Id.* Second, the user action information is transmitted to the Obelix server for processing. J.A. 2101. The purpose of the processing is to generate a weighted sum for each URL—called a “Casselman score”—of all actions relating to the URL, where each action has its own weight according to its importance. *Id.* The Casselman score represents the sum of overall scores of user actions. J.A. 2100. Finally, the results are

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<sup>1</sup> Ownership of the ’687 patent has changed during the course of the proceedings from Saint Regis to DirectStream, LLC, and presently to FG.

<sup>2</sup> Knezevic et al., *The Architecture of the Obelix – An Improved Internet Search Engine*, Proceedings of the 33<sup>rd</sup> Hawaii International Conference on System Sciences, IEEE (2000).

transferred to a database to be used during searching. J.A. 2109.

When a user makes a search request, a search engine ranks pages according to a conventional search algorithm, such as the number of search words that appear in each web page. J.A. 2100. Afterwards, the Obelix results are calculated by reranking the results based on the Casselman scores, and the results are returned to the user. J.A. 2105–06.

Skillen describes a method for providing advertisements to a user searching for information within a network. Skillen, Abstract. A user submits a search request, and the search results are passed to an associative search engine that selects a probable best product for an advertisement to be displayed with the search results. *Id.* col. 4 ll. 26–45. The advertisement selection is based in part on a user profile data stored on the searching user’s device, *id.* col. 5 ll. 7–12, and can be refined based on the user’s selection of a search result. *Id.* col. 4 ll. 51–55.

### III. THE BOARD’S DECISION

The Board concluded that claim 1 was shown to be anticipated by Obelix but that claims 2, 3, and 18 were not. *Decision*, 2020 WL 1818685, at \*14. Specifically, the Board found that Obelix does not disclose “selecting a content of said site in response to said processed N data elements” as recited in claims 2 and 18 because Obelix does not rerank its search results based on actions by the current user, but rather does so based on action information of previous users collected during the data collection phase. *Id.* at \*13.

Nevertheless, the Board concluded that claims 2 and 3 would have been obvious over Obelix in view of Skillen. *Id.* at \*24. Specifically, the Board found that Skillen’s selection of a probable best product advertisement based on a user’s search query discloses the selection of content in response to the processed data elements recited in claim 2.

*Id.* Likewise, the Board found that Skillen’s transmission of the selected advertisement for display on the user’s device discloses the transmission of content to the remote computer as recited in claim 3. *Id.* Finally, the Board concluded that Microsoft failed to demonstrate that claim 25 would have been obvious over the combination of Obelix and Skillen because Microsoft did not show that Obelix discloses “selecting a content of said internet site in response to said N data elements” and “transmitting said content to said remote computer” as recited in claim 18 (from which claim 25 depends), and Microsoft “d[id] not challenge independent claim 18 as unpatentable over the combination of Obelix and Skillen.” *Id.* at \*25.

Microsoft appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

#### DISCUSSION

Microsoft makes two principal arguments on appeal. First, Microsoft argues that the Board erred in failing to conclude that claim 18 would have been obvious over Obelix and Skillen. Specifically, Microsoft argues that its petition fairly raised the issue of obviousness of claim 18 over Obelix and Skillen, and the Board therefore erred in failing to address claim 18 based on that ground. Had the Board done so, according to Microsoft, it could only have concluded that claim 18 would have been obvious over Obelix and Skillen based on the claim’s similarity with claims 2 and 3, which the Board held unpatentable. Second, Microsoft argues that the Board erred in holding that claim 18 was not anticipated by Obelix. Specifically, Microsoft argues that the Board erred in implicitly construing the selecting and transmitting limitations to require a current user and, according to Microsoft, the claim was shown to be anticipated absent that requirement. We consider Microsoft’s arguments in turn.

## I. OBVIOUSNESS OVER OBELIX AND SKILLEN

As formal administrative adjudications, IPRs are subject to the procedural requirements of the Administrative Procedure Act. *Fanduel, Inc. v. Interactive Games LLC*, 966 F.3d 1334, 1339 (Fed. Cir. 2020); *Hamilton Beach Brands, Inc. v. f'real Foods, LLC*, 908 F.3d 1328, 1338 (Fed. Cir. 2018). “Decisions related to compliance with the Board’s procedures are reviewed for an abuse of discretion.” *Ericsson Inc. v. Intellectual Ventures I LLC*, 901 F.3d 1374, 1379 (Fed. Cir. 2018) (citing *Bilstad v. Wakalopulos*, 386 F.3d 1116, 1121 (Fed. Cir. 2004)). The Board’s procedures require that a petitioner set forth “[t]he specific statutory grounds under 35 U.S.C. 102 or 103 on which the challenge to the claim is based and the patents or printed publications relied upon for each ground.” 37 C.F.R. § 42.104. Accordingly, we review the Board’s determination whether a petitioner challenged a claim based on particular references for an abuse of discretion. “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.” *Ericsson*, 901 F.3d at 1379 (quoting *Bilstad*, 386 F.3d at 1121)).

Microsoft offers several explanations of how its petition allegedly challenged claim 18 based on the combination of Obelix and Skillen and argues that the Board erred in failing to address claim 18 on that ground. First, Microsoft points to a passage in its petition in which it argued that the selecting limitation of claim 18 was “satisfied for the reasons set forth above with respect to claim 2.” Appellant’s Br. 51 (citing J.A 146). The statement regarding claim 18 on which Microsoft relies appears in a section of its petition titled “Claims 1-5, 8-12, 16-19, and 22-25 Are Anticipated by Obelix.” J.A. 129. As such, one might reasonably understand Microsoft’s statement to refer to the reasons “set forth above” with respect to claim 2 under the



same heading, arguing that the selecting limitation of claim 2 is also anticipated by Obelix. But no. Instead, Microsoft argues that the Board should have understood the statement to refer to the reasons set forth *way* above (34 pages above, in fact) with respect to claim 2, in a completely different and unrelated section titled “Identification of Challenged Claims” where Microsoft stated that “Claims 2-4, 13, and 25 Are Obvious over Obelix in view Skillen.” J.A. 112.

As further support, Microsoft directs our attention to a citation of its expert declaration following its assertion that the selecting limitation of claim 18 is satisfied for the same reasons as claim 2. In addition to analysis of why claim 2 is anticipated by Obelix, the cited paragraphs of the expert declaration also include analysis of why claim 2 would have been obvious over Obelix and Skillen. *See* J.A. 146 (citing J.A. 2022–29). We observe that Microsoft fails to acknowledge the immediately preceding citation, which directs the reader to Microsoft’s analysis in the same section arguing that claim 2 is anticipated by Obelix.

Finally, Microsoft argues that the Board erred in failing to address claim 18 based on Obelix and Skillen because FG’s patent owner response acknowledged that Microsoft challenged claim 18 on that ground. *See* J.A. 449 (“Petitioner further asserts that the combination of Skillen with Obelix/Spencer renders obvious independent Claim 18, based solely on the allegation that Skillen discloses selecting content in response to the N data elements and transmitting the content to a remote computer.”).

We are unpersuaded that the Board abused its discretion in declining to interpret Microsoft’s petition as challenging claim 18 over Obelix and Skillen based on such tenuous connections in Microsoft’s petition. The Supreme Court has observed that the petitioner is the “master of its complaint,” *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018), and as such, “[i]t is of the utmost importance that

petitioners . . . adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3)). Here, there is no plausible argument that Microsoft’s petition challenged claim 18 based on obviousness over Obelix and Skillen with any particularity whatsoever. Microsoft clearly argued that claim 18 was anticipated by Obelix but relies on an unrelated ground in an unrelated section of its petition to ask us to deduce the existence of an obviousness argument from within its anticipation argument. We decline to do so, nor can we say that it was an abuse of discretion for the Board not to do so. It is not the Board’s job to cobble together assertions from different sections of a petition or citations of various exhibits in order to infer every possible permutation of a petitioner’s arguments. Arguments in a petition must be made with particularity, not opacity, and the Board was certainly within its discretion to conclude that Microsoft’s analysis of claim 18 within a section titled “Claims 1-5, 8-12, 16-19, and 22-25 Are Anticipated by Obelix” was a challenge to claim 18 based only on anticipation by Obelix.

FG’s statement in its Patent Owner Response does not warrant a different result. While the understanding of an opposing party may be relevant to whether a petitioner’s argument was fairly raised, it is not conclusive, and it does not change the content of the petition. In this case, because Microsoft’s petition was so deficient in challenging claim 18 based on Obelix and Skillen, and because FG’s acknowledgement of claim 18 was made within the context of addressing claims depending from claim 18 (which Microsoft did challenge), it was not an abuse of discretion for the Board to discount the weight of FG’s statement.

Because we conclude that the Board did not err in failing to address claim 18 based on Obelix and Skillen, we

need not consider whether claim 18 would have been obvious based on its similarity to claims 2 and 3.

## II. ANTICIPATION BY OBELIX

Microsoft also argues that the Board erred in finding that claim 18 was not anticipated by Obelix. Specifically, Microsoft argues that the Board's analysis of claim 18 implicitly construed the selecting and transmitting limitations to be performed "in realtime for a current user." Appellant's Br 56. According to Microsoft, the claim is not limited to a current user, and, without that requirement, the claim was shown to be anticipated by Obelix. FG responds that the claim is directed to accelerating web site processing to provide customized content to the visitor to the web site, and therefore the selection of content in response to the transmitted data elements necessarily applies only to the current user. We agree with FG.

"Claim construction is a question of law that may involve underlying factual questions." *Amgen Inc. v. Amneal Pharm. LLC*, 945 F.3d 1368, 1375 (Fed. Cir. 2020) (citing *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 332 (2015)). Where, as here, the lower tribunal's construction is based solely on evidence intrinsic to the patent, we review the construction de novo. *Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1364 (Fed. Cir. 2015) (citing *Teva*, 574 U.S. at 330–33). Because the '687 has expired, we give the claim terms their plain and ordinary meaning as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

While we agree with Microsoft that the Board implicitly construed the selecting and transmitting limitations to require a current user, we disagree that the Board's construction was erroneous. We begin with the claim language itself. FG contends that the preamble of claim 18, which recites "a process of accelerating access time of a

remote computer to an internet site,” supports the Board’s construction because accessing an internet site is inherently performed by a single user. Appellee’s Br. 32. But we need not resort to the preamble or determine whether or not it is limiting to resolve the parties’ dispute. The body of claim 18 recites, among other things, transmitting N data elements from a remote computer to a server, selecting content of an internet site *in response to* the data elements, and transmitting the content to the remote computer. While claim 18 does not expressly recite that the selecting of web site content is performed immediately or for a current user, it does require that the selection is performed “in response to” the transmission of the data elements to the server. The requirement that the content selection is in response to the transmission of the data elements implies that the selection of web site content is triggered by the transmission of data and that both steps are performed as part of a single transaction—that is, by a single user. In contrast, Microsoft’s proposed construction would encompass a system (such as Obelix) in which data are collected during one phase from a first set of users and then stored for an indeterminate period of time until a later user initiates a search. In that case, the selection of web site content would not be “in response to” the transmission of the data, but in response to the separate event of a second user requesting web site content. As such, Microsoft’s proposed construction is too broad because it does not account for all the language of the claim.

The written description accords with this understanding of the selecting limitation. As FG argues, the patent is generally directed to accelerating web site processing and access to customize web site content for a single user. For example, the background explains that web sites collect demographic information about users to provide content varied based on the demographics of a particular user, ’687 patent col. 1 ll. 40, and describes one aspect of the problem to be solved that the average user will wait only twenty

seconds for a web site to update. *Id.* col. 1 ll. 52–54. The patent’s solution results in a system “with significantly faster processing capability which translates into shorter site visitor waiting periods.” *Id.* col. 3 ll. 4–6. Finally, in describing the selecting step, the patent explains that, following the processing of the data elements, the server can select web page content “specifically adapted to the particular web site visitor.” *Id.* col. 20 ll. 63–67. Taken together, we are persuaded that a person of skill would understand these statements as describing the transmission of data from the remote computer to the server, the selection of web site content in response to the data, and the transmission of the selected web content from the server to the remote computer to occur during a single transaction by a single user. As such, we agree with FG that the selection of content is limited to a current user, and we affirm the Board’s construction.

Because we conclude that the Board did not err in determining that the selecting limitation of claim 18 requires the selection of data for a current user, and because Microsoft does not argue that Obelix discloses the selecting limitation under the Board’s construction, we need not consider whether Obelix discloses the selecting and transmitting limitations under Microsoft’s proposed construction.

#### CONCLUSION

We have considered Microsoft’s remaining arguments but find them unpersuasive. For the foregoing reasons, the decision of the Board is *affirmed*.

#### AFFIRMED

NOTE: This disposition is nonprecedential.

# United States Court of Appeals for the Federal Circuit

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**MICROSOFT CORPORATION,**  
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PROST, *Circuit Judge*, concurring in part and dissenting in part.

I agree with the Majority on the result of the procedural question about whether obviousness over the Obelix-and-Skillen combination was raised. But I respectfully disagree about anticipation by Obelix.

The Majority affirms the Board's conclusion that claim 18 was not anticipated by Obelix. But I think that the Board misinterpreted claim 18, and I would remand for the Board to consider claim 18 again under a proper understanding of its scope.

The innovation, as the patent describes it, is retrieving tailored web content that is selected after parallel processing (or, “substantially concurrently processing”) some underlying data. Claim 18 recites (emphasis added):

18. A process of accelerating access time of a remote computer to an internet site comprising:

providing a reconfigurable server at said site incorporating at least one microprocessor and at least one reconfigurable processor;

transmitting N data elements from said remote computer to said server;

substantially concurrently processing said N data elements with N of said at least one reconfigurable processors;

*selecting a content of said internet site in response to said N data elements; and*

transmitting said content to said remote computer.

None of this claim language mentions a “current user” or that the content that is selected is personalized.

The Board concluded that Obelix does not disclose the “selecting” step (i.e., in the context of this case, selecting ranked search-engine results) because Obelix does not rank its search results based on actions by the current user but instead does so based on action information from previous users. *See* Maj. 6; *Microsoft Corp. v. FG SRC, LLC*, No. IPR2018-01594, Paper 72, 2020 WL 1818685, at \*13 (P.T.A.B. Apr. 9, 2020). Specifically, the Board describes Obelix as having an initial “data collection phase” and “processing phase” in which user behavior is tracked and potential search results are ranked. *Microsoft*, 2020 WL 1818685, at \*13. Later, “when a user submits a search request” after those phases are concluded, the search results are ranked based on data processed *before* the current user’s search. *Id.* This, the Board concludes, is not the

claimed “selecting” of content “in response to” data from the remote computer. *Id.* The Board found “persuasive” FG SRC’s arguments that Obelix cannot “select” as claimed because it “uses data received from past users, not from current users, to re-rank the search results.” *Id.* The Majority agrees, concluding that “the selection of content is limited to a current user.” Maj. 13. I disagree based on my understanding of the claims.

Properly understood, claim 18 requires only that a computer send data to a server, that the server parallel-process that data, and that the server (at some point) send back internet content selected using that data. It does not require that any of the steps be for a “current user” (a term that doesn’t appear in the claims). Nor does it require that the data processing and content selection be in a “single transaction” with, or contemporaneous with, the collection of data from the remote computer. *See* Maj. 12–13. The real question is whether the search results are ranked based at least in part on data from the same *remote computer* that the search is conducted on. And the Board didn’t answer that question.

Suppose that a computer transmits data (i.e., in the context of this case, its users’ behavior on the internet) to the server for a while, over weeks and weeks. And say that some user later, on the same computer, searches the web—and that the server processes the collected data, selects ranked search results, and returns those ranked search results to the same computer. In my view, that would plainly satisfy the claim limitations. But under the Majority and the Board’s analysis, it would not.

To that end, FG SRC points to claim language requiring that content selection be “in response to” the processed data elements. The Majority says in agreement that the selecting step must be “triggered by” the transmission of data from the computer “as part of a single transaction,” namely “by a single user.” Maj. 12. But “in response to”



doesn't mean *contemporaneous with* or *in immediate response to*—just as this paragraph, though written months after the parties' briefs, is "in response to" them. Besides, the claims say that the selection is in response to the *data*, not the transmission.

What's more, even if the selection of the search results is "in response to" the user's search, that doesn't mean the selection isn't *also* "in response to" the processed data. The Majority treats these possibilities—in response to the *user's search* versus the *data*—as orthogonal. *See* Maj. 12. But the selection can be in response to both. Here, both are prerequisites—just as this paragraph is "in response to" the Majority's opinion *and* the parties' briefs. And so if content is selected in the background yet only transmitted once the user conducts a search, the limitation is met. So too if content is selected after a search but using previously processed data. The point, in the context of the patent, is that avoiding laborious *non-parallel processing* at the time of search means quicker search results.

Accordingly, in my view, only one narrow fact question remains under the proper reading of the claims: does Obelix disclose (1) "selecting a content" of an internet site "in response to" data transmitted (at some point) from a remote computer and (2) "transmitting said content" (at some other point) to the same "remote computer"? We should remand for the Board to consider that question and whatever other claims are implicated by it. On this issue, I respectfully dissent.