# United States Court of Appeals for the Federal Circuit

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**E2INTERACTIVE, INC.,**
*Appellant*

**v.**

**BLACKHAWK NETWORK, INC.,**
*Appellee*

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2016-1775

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board, in No. 95/001,464.

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Decided: May 11, 2017

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ROBIN L. MCGRATH, Duane Morris, LLP, Atlanta, GA, argued for appellant.

ORION ARMON, Cooley LLP, Broomfield, CO, argued for appellee. Also represented by JANNA FISCHER, BRIAN EUTERMOSER; EAMONN GARDNER, KEVIN JAMES ZIMMER, San Diego, CA.

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

LOURIE, *Circuit Judge*.

e2Interactive, Inc. ("e2") appeals from a decision of the U.S. Patent and Trademark Office ("PTO") Patent Trial and Appeal Board ("Board") affirming the Examiner's rejection, in an *inter partes* reexamination, of claims 1–14, 16–25, and 27–68 of U.S. Patent 7,578,439 ("the '439 patent") as unpatentable under 35 U.S.C. § 103. *See Blackhawk Network, Inc. v. e2Interactive, Inc.*, No. 2015-004983, 2015 Pat. App. LEXIS 11726 (P.T.A.B. Dec. 21, 2015); J.A. 2–32 ("*Decision*"). Because the Board did not err in concluding that the claims of the '439 patent would have been obvious over the cited references, we *affirm*.

## BACKGROUND

e2 owns the '439 patent, which is directed to a security check for Stored Value Card ("SVC") transactions. *See* '439 patent Abstract. SVCs—for example, gift cards, prepaid long distance cards, etc.—contain data relating to services and/or products for which the cost has been prepaid. *See, e.g., id.* col. 1 ll. 33–58. The '439 patent purports to distinguish over the prior art by including, as a security check, a determination whether the terminal sending a transaction request has the authority to request the particular type of transaction being requested. *See id.* Abstract. All independent claims of the '439 patent require: "determining if the requesting terminal is authorized to request the requested *transaction type* for the [SVC]" (the "Determining Step"). *See, e.g., id.* col. 15 ll. 18–20 (emphasis added). Independent claim 1 is illustrative and reads as follows:

> A computer-implemented method for processing a stored-value card transaction request in a card data management system having a central processor in communication with a plurality of point-of-sale terminals over a communications network, each of the one or more terminals having a unique terminal identifier and being associated

with a location and a prepaid card merchant, the central processor being in communication with a database having stored therein a plurality of card records, each card record containing data associated with a stored-value card distributed to a prepaid card merchant for further distribution to purchasers at a location controlled by the prepaid card merchant, the method comprising:

> receiving the stored-value card transaction request from a requesting terminal, the requesting terminal being one of the plurality of point-of-sale terminals, the transaction request comprising
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> a requesting terminal identifier,
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> a card identifier assigned to a stored value card, and
>
> information indicative of a requested transaction type;
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> *determining if the requesting terminal is authorized to request the requested* <u>*transaction type*</u> *for the stored value card*;
>
> responsive to a determination that the requesting terminal is authorized to request the requested transaction type, initiating the requested transaction; and
>
> transmitting a request response to the requesting terminal.

*Id.* col. 14 ll. 65–col. 15 l. 24 (emphases added).

Blackhawk Network, Inc. ("Blackhawk") filed a request for an *inter partes* reexamination of the '439 patent, which the PTO granted on some, but not all, of the

grounds. During the reexamination, the Examiner reject-
ed claims 1–14, 16–25, 27–29, and newly added claims
30–68 of the '439 patent as obvious over various combina-
tions of three primary references—U.S. Patent 5,903,633
to Lorsch ("Lorsch"), U.S. Patent 6,000,608 to Dorf
("Dorf"), and U.S. Patent 5,732,136 to Murphree ("Mur-
phree")—with two secondary references, Schlafly and ISO
8583. *See*, *e.g.*, *Decision*, 2015 Pat. App. LEXIS 11726, at
*9. The Examiner found that each of the three primary
references discloses all limitations of the challenged
claims except for the Determining Step, and that the
Determining Step is disclosed by each of the secondary
references. *See id.* e2 appealed to the Board, arguing
that the Examiner interpreted the claim language too
broadly and thus erroneously determined that the sec-
ondary references teach the Determining Step. *See id.*

The Board affirmed the Examiner's rejection of claims
1–14, 16–25, and 27–68 as obvious. In its appeal to the
Board, e2 challenged the Examiner's interpretation of the
claim language, specifically the term "transaction type"
found in the Determining Step limitation. *See id.* at *10.
Consequently, the Board first construed "transaction
type" and then found that, under its construction, both
Schlafly and ISO 8583 teach the Determining Step. *See
id.* at *32, *41.

The '439 patent provides four examples of "transac-
tion type[s]": (1) "activation" (activating a card at the time
of sale of the card by, for example, setting the value of the
card); (2) "deactivation" (deactivating the card so that it
cannot be used if, for example, it is stolen); (3) "recharge"
(a.k.a., "reloading" or "incrementation," adding value to
the card); and (4) "redemption" (reclaiming the value of
the card as part of a purchase by the card holder). '439
patent col. 1 ll. 28–29, col. 5 ll. 1–4.

Before the Board, e2 argued that an authorization
based on "transaction type" must be agnostic to the target

of the transaction—i.e., it must not consider whether, for example, the transaction is for goods versus services, sporting goods versus electronics, etc.—because "transaction type" connotes "more transcendent categories of transactions," as evidenced by the four examples provided in the '439 patent disclosure—activation, deactivation, recharge, and redemption. *Decision*, 2015 Pat. App. LEXIS 11726, at \*22. For example, e2 asserted, because the '439 patent describes "redemption" as a different "transaction type" than "activation," a redemption for goods would be the same "transaction type" as a redemption for services.

The Board rejected e2's argument, concluding that, under the broadest reasonable interpretation, no disclosure in the '439 patent constitutes either an express definition of "transaction type" or a clear disclaimer of a "transaction type" authorization "that is, in some fashion, based on the target of the transaction." *Id.* at \*13–14. Rather, the Board explained, the patent itself "at least implies or renders obvious" that "transaction type" implicates the target of the transaction because it "strains the imagination" to envision something an SVC card could be used to redeem "other than some sort of good or service." *Id.* at \*14–15. Therefore, the Board determined, the '439 patent's disclosure that "redemption" is an example of a "transaction type" seems to be "inherently synonymous" with a statement that "one example of a transaction type is a redemption for a good or service." *Id.* Thus, the Board concluded that an authorization of "*redemption* transaction types" "implicitly entails, or at least suggests" a determination that "implicates the target of the transaction." *Id.* at \*16 (emphasis added).

In addition to the '439 patent disclosure, the Board relied on extrinsic evidence to construe "transaction type"— namely, the testimony of Blackhawk's expert, Ms. Lori Breitzke. *See id.* at \*23–24. Ms. Breitzke's declaration in turn relied upon several extrinsic sources, including the

"EMV '96 Specification,"[1] and explained that a skilled artisan would understand that "a purchase transaction for domestic goods is of a different transaction type than a purchase transaction for international goods." *Id.* at \*23 (internal quotation marks omitted). The Board cited Table A2 of the EMV '96 Specification, which set forth separate codes for, *inter alia*, the following categories of purchase transactions: "domestic goods, international goods, domestic services, international services, domestic cash transactions, and international cash transactions." *Id.* at \*24. Thus, the Board concluded, the '439 patent's disclosed examples of "activation," "deactivation," "recharge," and "redemption" are just that—examples—and authorization of "redemption transaction types" may distinguish even more specifically, for example, between goods versus services, or among goods, to distinguish domestic goods versus international goods, and so forth. *See id.* at \*16, \*24.

Thus, the Board construed a "transaction type" authorization, as performed in the Determining Step, to be "*any authorization determination that is more general than an authorization determination would need to be in order to authorize a specific transaction.*" *Id.* at \*17 (emphasis added). The Board, paraphrasing its construction, explained that an authentication based on "transaction type" must be merely "*broader than, or generic to, a specific transaction authorization.*" *Id.* at \*26 (emphasis added). The Board elaborated further that any authorization constitutes an authorization based on transaction type, for purposes of the Determining Step, so long as the "authorization of the *underlying specific transaction,*

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[1]    *EMV '96 Integrated Circuit Card Terminal Specification for Payment Systems*, Europa International S.A., MasterCard International Inc., and Visa International Service Association, Version 3.1.1 (May 31, 1998).

*itself, would require further determinations*, such as whether the requester is authorized to use the card, whether the requester is authorized to request the transaction (e.g., age-restricted transaction), or whether the account has adequate funds or credit." *Id.* (emphasis added).

The Board then determined that, under its construction of "transaction type," both secondary references— Schlafly and ISO 8583—teach the Determining Step.

Schlafly is directed to individual, portable data terminals that allow users to order goods and/or services. e2 argued that Schlafly does not teach the Determining Step because it fails to describe or suggest a determination based on the type of transaction. Rather, e2 asserted, Schlafly teaches that goods and services can be ordered through use of a code corresponding to the desired good or service and, as such, teaches making a determination based only on the *target* of the transaction, rather than the transaction *type*. The Board rejected e2's argument based on Schlafly's teaching that the target of the transaction can be "entire categories or classes of goods and services, as opposed to just specific goods and services." *Id.* at *28–29. Thus, the Board found that Schlafly "disclose[s] codes that are used to authorize a terminal for transaction *types*—not just particular transactions." *Id.* at *29–30 (emphasis in original).

ISO 8583 is an international standard for the exchange of electronic messages relating to financial transactions, which includes Code 120: "transaction not permitted to terminal." Although ISO 8583 does not disclose what type of actions may result in a Code 120 message, the Board found that a skilled artisan would understand that the messages taught by ISO 8583 are issued "*in response to the preceding occurrence of processes, transactions, or events*" and, as such, ISO 8583 teaches how to format messages that are exchanged "in response

to various transaction determinations being made." *Id.* at *35–36 (emphasis in original). The Board noted that e2 had not "proffered any reasonable suggestions for why else the codes would be sent." *Id.* at *36.

Furthermore, the Board found that e2 admitted that ISO 8583 teaches the Determining Step. Before the Board, e2 had proffered an illustration which it thought would distinguish a situation prompting ISO 8583's Code 120 message from a determination based on transaction type. Specifically, e2 offered the example of a person attempting to use an Amex® card at a terminal that only accepts Visa® cards. e2 argued that such a transaction request could result in a Code 120 message—"transaction not permitted to terminal"—but the reason would not be because of failure to authorize the transaction *type*; rather, the Code 120 message would indicate failure to authorize the *card* or the *terminal*, no matter what transaction *type* it was attempting to use the card for— redemption, activation, etc. Under its construction of "transaction type," the Board considered a determination distinguishing Amex® cards from Visa® cards to be a determination based on "transaction type." Thus, the Board found that e2's proffered example, where it conceded that such a transaction request could result in a Code 120 message, to be an admission that ISO 8583's Code 120 teaches, or at least renders obvious, a determination based on "transaction type," i.e., the Determining Step.

e2 timely appealed to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

## DISCUSSION

We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), and the Board's factual findings underlying those determinations for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evi-

dence to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938). Obviousness is a question of law, based on underlying factual findings, including what a reference teaches, whether a person of ordinary skill in the art would have been motivated to combine references, and any relevant objective indicia of nonobviousness. *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1047–48, 1051 (Fed. Cir. 2016) (en banc).

On appeal, e2 argues that the Board: (1) misinterpreted "transaction type," as recited in the Determining Step; (2) erroneously concluded that the secondary references—Schlafly and ISO 8583—teach the Determining Step; and (3) erred in finding that there would have been a motivation to combine the secondary references with the primary references. Because e2 premises all of its arguments regarding the secondary references on its proposed construction of "transaction type," a conclusion by this court affirming the Board's construction would render moot those arguments. Thus, we will first discuss the Board's construction of "transaction type."

## I

We first consider whether the Board erred in construing a "transaction type" authorization, as performed in the Determining Step, as: (1) "*any authorization determination that is more general than an authorization determination would need to be in order to authorize a specific transaction*"; and/or (2) any authorization that is merely "*broader than, or generic to, a specific transaction authorization.*" *Decision*, 2015 Pat. App. LEXIS 11726, at *17, *26 (emphases added).

Claim construction is an issue of law that may involve underlying factual considerations. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838 (2015). We review the Board's ultimate construction *de novo*, and any underlying factual determinations for substantial evidence. *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307,

1316 (Fed. Cir. 2015). In *inter partes* reexamination proceedings, claims are given their "broadest reasonable interpretation" ("BRI") consistent with the specification. *In re Rambus, Inc.*, 753 F.3d 1253, 1255 (Fed. Cir. 2014).

e2 argues that the '439 patent provides an exhaustive number of embodiments and that, in all of them, the "transaction type" authorization distinguishes among (1) activation, (2) deactivation, (3) recharge, and (4) redemption. Thus, e2 argues, although it does not suggest that we import the limitation of dependent claim 2 (requiring the "transaction type" to be one of those four types) into claim 1, the provided examples show that "transaction type" is a more "transcendent categor[y] of transactions" being requested—specifically, it refers to "the action being requested on an SVC." *Decision*, 2015 Pat. App. LEXIS 11726, at *22; Appellant's Br. 29. e2 contends that "transaction type" authorizations, as taught by the '439 patent, are "all or nothing propositions" that do not take into account the "transactional details such as SVC type or product/service acquired." Appellant's Br. 34–35.

Blackhawk responds that the Board's construction was correct for at least three reasons. First, Blackhawk contends, the doctrine of claim differentiation requires that the scope of "transaction type[s]" covered by claim 1 be broader than that of dependent claim 2, which specifies that the "transaction type" is one of four types— activation, deactivation, recharge, or redemption. Second, Blackhawk continues, the written description describes only exemplary embodiments that should not be read into claim 1. Third, Blackhawk points to extrinsic evidence supporting the Board's construction—specifically Ms. Breitzke's declaration—and argues that the Board's reliance on it was based on substantial evidence.

We agree with Blackhawk that the Board correctly construed "transaction type," as recited in the Determining Step. Under the BRI standard, the '439 patent's disclosure is broad enough to include within a "transaction type" authorization more nuanced distinctions than just "the action being requested on the SVC," such as redemption of goods versus redemption of services. The patent contains no express definition of "transaction type," and dependent claim 2, limiting "transaction type" to one of four types, implies that "transaction type" as recited in claim 1 comprehends a broader scope of distinctions. *See, e.g.*, *SanDisk Corp. v. Kingston Tech. Co.*, 695 F.3d 1348, 1361 (Fed. Cir. 2012) (stating that "[w]here, as here, the sole difference between the independent claim and the dependent claims is the limitation that one party is trying to read into the independent claim, the doctrine of claim differentiation is at its strongest" (internal quotation marks omitted)).

e2 argues that "transaction type" is "the action being requested on an SVC (e.g., redemption)" and that "the *details of the transaction are not a part of the transaction type*." Appellant's Br. 32 (emphasis added). Indeed, it is clear from the dependent claims of the '439 patent that certain details of the transaction are not a part of the "transaction type" authorization. For example, dependent claim 10, which indirectly depends from claim 1, adds another "determining" step wherein the transaction is further authorized by ensuring that the SVC card contains sufficient funds for the transaction (by comparing the "stored value" on the SVC card to the "purchase amount"). '439 patent col. 16 ll. 1–11. Thus, e2 correctly asserts that certain "details of the transaction" are not included in "transaction type." Appellant's Br. 32.

However, the Board's construction—i.e., that a "transaction type" authorization is one that is "broader than, or generic to, a *specific transaction authorization*"—

ensures that those additional "details" are not included in the "transaction type" authorization, because they would fall under the "specific transaction authorization." In other words, the sufficient funds authorization of claim 10 would be considered the "specific transaction authorization" under the Board's construction. We see no error in that conclusion.

Furthermore, although the patent's many embodiments disclose only four "transaction type[s]"—activation, deactivation, recharge, and redemption—the patent repeatedly reminds us that those examples are non-limiting. *See, e.g.*, '439 patent col. 4 ll. 32–33 ("an embodiment of the invention"); *id.* col. 5 l. 48 ("[i]n an exemplary scenario"); *id.* col. 5 l. 66 ("in another exemplary scenario"); *id.* col. 10 ll. 13–14. ("include[s] but [is] not limited to [activation, deactivation, recharge, and redemption]"); *id.* col. 10 l. 41 ("an exemplary method"); *id.* col. 14 ll. 53–58 ("Many embodiments and adaptations of the present invention . . . as well as many variations, modifications, and equivalent arrangements, will be apparent from or reasonably suggested by the present invention . . . without departing from the substance or scope of the invention."); *id.* col. 14 ll. 59–63 ("While the foregoing illustrates and describes exemplary embodiments of this invention, it is to be understood that the invention is not limited to the construction disclosed herein. The invention can be embodied in other specific forms without departing from the spirit or essential attributes.").

Thus, because the patent teaches that the "invention could be embodied in various ways," *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1345 (Fed. Cir. 2001) (internal quotation marks omitted), we conclude that the disclosed embodiments are exemplary only and are non-limiting to the scope of "transaction type," as recited in the Determining Step. *See id.* (holding that the claims were not limited to a disclosed embodiment where "[t]he

inventor was careful to consistently use phrases throughout the written description such as: '[i]n one embodiment . . . ,' '[b]efore one embodiment . . .', 'of other embodiments . . .', 'of a preferred embodiment . . .', or '[i]n the particular embodiment . . .'" and included a disclaimer that "'it is to be understood that the invention is not limited in its application to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings'").

Because the '439 patent disclosure does not expressly define "transaction type" or clearly disclaim a "transaction type" authorization that considers the target of the transaction, the Board considered extrinsic evidence for further clarification, which was within its discretion to do. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1319 (Fed. Cir. 2005) (en banc) (holding that "because extrinsic evidence can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean, it is permissible for the district court *in its sound discretion* to admit and use such evidence" (emphasis added)).

The Board's reliance on extrinsic evidence—Ms. Breitzke's declaration—was a factual determination that warrants deference on review. *See Teva,* 135 S. Ct. at 838. The Board cited a table of the EMV '96 Specification, relied upon by Ms. Breitzke in her declaration, indicating that separate codes should be used for various *purchase* transactions—for example, domestic goods versus domestic services—and interpreted the reference as teaching that those categories constitute *different purchase transactions*, i.e. different transaction types. *See Decision*, 2015 Pat. App. LEXIS 11726, at *24. Thus, the Board concluded that, at least for "*redemption* transaction types," the transaction type can consider the target of the transaction—for example, goods versus services. *Id.* We

see no error in the Board's reliance on the extrinsic evidence, its factual findings relating to that evidence, or the conclusion drawn from that evidence. e2 points to no error in the Board's analysis, other than to disagree with its factual findings. But we do not "reweigh evidence on appeal." *In re NTP, Inc.*, 654 F.3d 1279, 1292 (Fed. Cir. 2011). Thus, we conclude that the Board's interpretation of, and reliance on, Ms. Breitzke's declaration was supported by substantial evidence.

## II.

e2 also argues on appeal that the Board erred in finding that the secondary references teach the Determining Step, and that there was motivation to combine the primary references with the secondary references. However, all of e2's arguments are predicated on its proposed construction of "transaction type." Because we affirm the Board's construction, we need not address e2's arguments regarding the teachings of the secondary references, or their combinability with the primary references.

We therefore affirm the Board's conclusion that claims 1–14, 16–25, and 27–68 of the '439 patent would have been obvious over the cited references.

## CONCLUSION

We have considered e2's remaining arguments but find them to be unpersuasive. For the foregoing reasons, we affirm the decision of the Board.

## **AFFIRMED**