

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

FINTIV, INC.,
Patent Owner.

IPR2022-00976
Patent 9,892,386 B2

Before KRISTEN L. DROESCH, MICHAEL R. ZECHER, and
GEORGE R. HOSKINS, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Petitioner, Apple Inc. (“Apple”), filed a Petition requesting an *inter partes* review (“IPR”) of claims 1–3 of U.S. Patent No. 9,892,386 B2 (Ex. 1001, “the ’386 patent”). Paper 2 (“Pet.”). Patent Owner, Fintiv, Inc. (“Fintiv”), filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). Taking into account the arguments presented in Fintiv’s Preliminary Response, we determined that the information presented in the Petition established that there was a reasonable likelihood that Apple would prevail with respect to challenging at least one of claims 1–3 of the ’386 patent as unpatentable. Pursuant to 35 U.S.C. § 314, we instituted this IPR on November 15, 2022, as to all challenged claims and all grounds raised in the Petition. Paper 9 (“Dec. on Inst.”).

During trial, Fintiv filed a Patent Owner Response (Paper 11, “PO Resp.”), Apple filed a Reply to the Patent Owner Response (Paper 17, “Pet. Reply”), and Fintiv filed a Sur-reply to the Reply (Paper 19, “PO Sur-reply”). In addition, an oral argument was held on August 23, 2023, and a transcript of the hearing is included in the record. Paper 25 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–3 of the ’386 patent. For the reasons we identify below, we hold that Apple has demonstrated by a preponderance of the evidence that all challenged claims are unpatentable.

A. Real Party in Interest (“RPI”)

Apple identifies itself as the only RPI. Pet. 1. Fintiv identifies itself as the only RPI. Paper 4 (Fintiv’s Mandatory Notices), 2.¹

B. Related Matters

The parties indicate that the ’386 patent is the subject of the district court case captioned *Fintiv, Inc. v. PayPal Holdings, Inc.*, No. 6:22-cv-00288 (W.D. Tex.) (complaint filed Mar. 17, 2022). Pet. 1; Paper 4, 2.

C. The ’386 Patent

The ’386 patent, titled “Monetary Transaction System,” issued from U.S. Patent Application No. 15/201,152 (“the ’152 application”), filed on July 1, 2016. Ex. 1001, codes (54), (21), (22). The ’152 application includes an extensive chain of priority that ultimately results in it claiming the benefit of U.S. Provisional Patent Application No. 61/493,064 (“the ’064 application”), filed on June 3, 2011. *Id.* at code (60), 1:6–19.

The ’386 patent generally relates to a “monetary transaction system for conducting monetary transactions between transaction system subscribers and other entities.” Ex. 1001, 1:37–38. Figure 2 of the ’386 patent, reproduced below, illustrates one embodiment of a monetary transaction system. *Id.* at 2:37–38.

¹ Fintiv’s Mandatory Notices, filed in accordance with 37 C.F.R. § 42.8, do not include page numbers. Paper 4. We consider the Title page as page 1 and then proceed from there in numerical order.

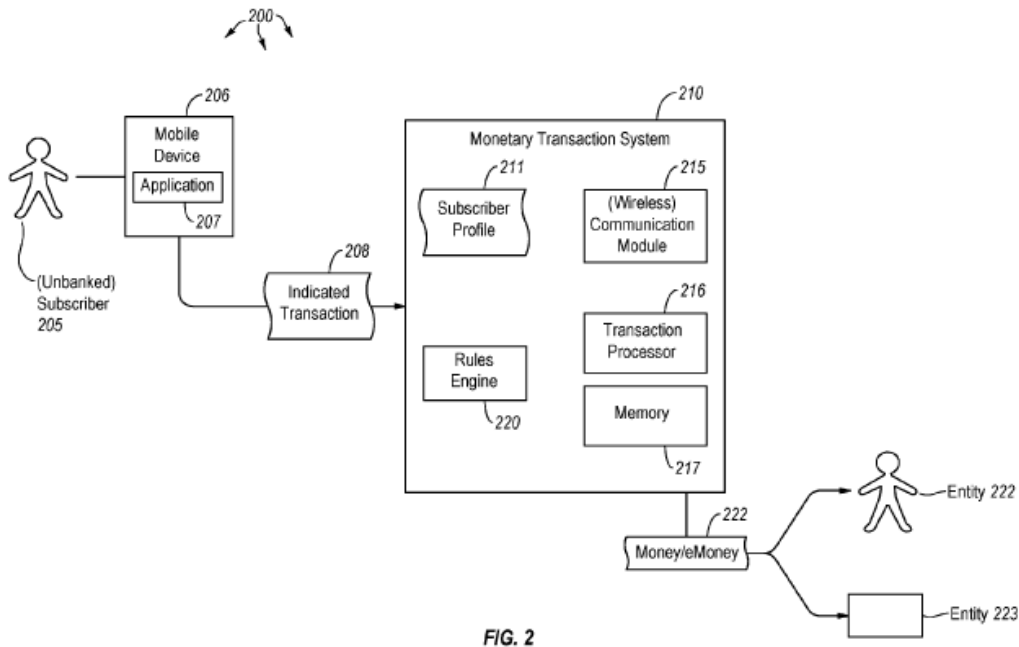


Figure 2 illustrates monetary transaction system 200 that includes first subscriber 205 using mobile device 206 that runs mobile wallet application 207 to conduct indicated transaction 208 with entity 222 or 223, which may be a second subscriber, a retail store, or an agent company. *Id.* at 14:27–64. Using mobile device 206 that runs mobile wallet application 207, first subscriber 205 sends indicated transaction 208 to transaction processor 216 in mobile wallet platform 210, which, in turn, may access subscriber profile information 211 about the first subscriber, and consult rules engine 220 to determine whether the indicated transaction is permissible. *Id.*

D. Challenged Claims

Claims 1–3 are independent claims. Each independent claim is directed to “[a] monetary transaction system for conducting monetary transactions between subscribers and other entities.” Ex. 1001, 30:54–55, 32:3–4, 33:34–35. The parties, however, agree that these three independent claims differ in how the monetary transaction is conducted (i.e., depositing

funds in independent claim 1, withdrawing funds in independent claim 2, and transferring funds in independent claim 3). *Compare* Pet. 6, with Prelim. Resp. 7. Independent claim 1 is illustrative of the challenged claims and is reproduced below:

1. A monetary transaction system for conducting monetary transactions between subscribers and other entities, the system comprising one or more of:
 - an integration tier operable to manage mobile wallet sessions, the integration tier also including a communication application programming interface (API) and other communication mechanisms to accept messages from channels;
 - notification services operable to send notifications through different notification channels including one or more of short message peer-to-peer, short-message services and simple mail transfer protocol emails;
 - business process services operable to implement business workflows, including at least one of executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects;
 - database services operable to store financial transaction details, store customer profiles, and manage money containers;
 - a payment handler service operable to use APIs of different payment processors including one or more APIs of banks, credit and debit cards processors, bill payment processors;
 - a rules engine operable to gather financial transaction statistics and use the gathered financial transaction statistics to enforce constraints including transaction constraints;
 - a security service operable to perform subscriber authentication;
 - at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system: wherein the at least one entity is the agent;
 - wherein the monetary transaction system is implemented to deposit funds at an agent branch, the funds being deposited

by a subscriber at the agent branch using a mobile device configured to run a monetary transaction system application, the monetary transaction system performing the following steps:

- receiving a communication message from the mobile device over one of a plurality of channels connected to the monetary transaction system, the communication message being received by an API associated with the integration tier of the monetary transaction system, the communication message indicating that the subscriber desires to deposit a specified amount of funds into the subscriber's account;

- validating the status of the subscriber's account, wherein validating the status of the subscriber's account comprises communicating from the integration tier to the database services to query attributes of the subscriber's account;

- committing a pending transaction through the business process services, wherein the integration tier communicates a transaction commitment request to the business process services;

- receiving a confirmation from the business process services that the pending transaction has been committed;

- sending, through the notification services, a receipt notification to the mobile device; and

- upon receiving a confirmation of commitment from the business process services, committing the pending transaction to the database services; and

wherein committing the pending transaction further comprises the following steps as orchestrated by the business process services:

- ensuring, via the database services, that the subscriber has an active account;

- validating, through communication with the security services, one or more of a PIN number and an access control list;

- applying with the rules engine, velocity rules;

creating with the database services a new pending transaction history record;
holding funds from the agent account balance using the payment handler,
loading the funds to the subscriber account using the payment handler; and
updating, using the database services, a pending transaction history record to reflect the funds.

Id. at 30:54–32:2.

E. Asserted Prior Art References

Apple relies on the prior art references set forth in the table below.

Name²	Reference	Dates	Exhibit No.
Dill	US 2009/0265272 A1	published Oct. 22, 2009; filed June 3, 2009	1005
Vadhri	US 2010/0133334 A1	published June 3, 2010; filed Dec. 3, 2008	1006
Akashika	US 2009/0217047 A1	published Aug. 27, 2009; filed Nov. 18, 2008	1007
Hansen	US 2004/0230527 A1	published Nov. 18, 2004; filed Apr. 26, 2004	1008
Liao	US 7,865,141 B2	issued Jan. 4, 2011; filed June 7, 2007	1009

F. Asserted Grounds of Unpatentability

Apple asserts that claims 1–3 of the '386 patent would have been unpatentable based on the grounds set forth in the table below. Pet. 6, 8–109.

² For clarity and ease of reference, we only list the first named inventor.

Claims Challenged	35 U.S.C. §	Reference(s)
1, 3	103(a) ³	Dill, Vadhri, Akashika, Hansen
2	103(a)	Dill, Vadhri, Akashika, Hansen, Liao

Apple supports its arguments in the Petition with the testimony of Dr. Henry Houh. Ex. 1003 (Declaration of Dr. Houh in support of Petition). Apple supports its arguments in the Reply with the testimony of Dr. Houh. Ex. 1017 (Supplemental Declaration of Dr. Houh in support of Petitioner’s Reply). Fintiv supports its arguments in the Patent Owner Response with the testimony of Dr. Michael I. Shamos. Ex. 2009 (Declaration of Dr. Shamos in support of Patent Owner’s Response).

II. ANALYSIS

A. Claim Construction

In this IPR, claim terms are construed using the same claim construction standard as in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2021). That is, claim terms generally are construed in accordance with their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art, in view of the specification and the prosecution history pertaining to the patent at issue. *See id.* The ordinary and customary meaning of a claim term “is its meaning

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the ’386 patent claims the benefit of the ’064 application, which was filed before March 16, 2013, and neither party has argued that the provisions of the AIA apply, we apply the pre-AIA version of 35 U.S.C. § 103. *See* Ex. 1001, codes (21), (22), (60), (63).

to the ordinary artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc).

In its Petition, Apple contends that “no claim term requires construction beyond its ordinary and customary meaning.” Pet. 5. Relying on the testimony of Dr. Houh, Apple asserts that “[a person of ordinary skill in the art] would apply the ordinary and customary meaning to all terms in [independent claims 1–3].” *Id.* (citing Ex. 1003 ¶ 43). In its Patent Owner Response, Fintiv contends that, after reading the ’386 patent, a person of ordinary skill in the art would have understood that the following claim terms have specific meanings: (1) “committing a pending transaction”; (2) “at least one of executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform object”; (3) “auditing financial transactions”; (4) “handling errors”;⁴ and (5) “logging platform objects.” PO Resp. 15–24. We address each claim term below.

1. “committing a pending transaction” (independent claims 1–3)

In its Patent Owner Response, Fintiv proposes that we construe the claim term “‘committing’ a pending transaction” as “saving data permanently after a set of tentative changes, rather than rolling back the tentative changes.” PO Resp. 16, 19 (citing Ex. 2009 ¶ 43). To support its

⁴ Fintiv actually proposes a construction for “error handling,” but that term does not appear in the ’386 patent. See PO Resp. 22. Instead, we assume that Fintiv intended to propose a construction for “handling errors,” which is a term explicitly recited in each of independent claims 1–3. See Pet. Reply 14–15 n.4 (assuming the same).

proposed construction, Fintiv argues that “[c]ommitting” is a concept from the database art.” *Id.* at 16. According to Fintiv, “[committing] does not refer to entering into a legal commitment (as in a contract),” but “refers instead to finalizing data so that it can be saved permanently.” *Id.* (citing Ex. 2009 ¶ 39).

Fintiv further contends that the ’386 patent discloses performing financial transactions using “Distributed Transaction Processing.” PO Resp. 16. Relying on extrinsic evidence, Fintiv argues that distributed transaction processing such as that disclosed in the ’386 patent requires a transaction that includes certain properties, one of which is “[a]tomicity” requiring that “[t]he results of the transaction’s execution are either all committed or all rolled back.” *Id.* at 16–17 (quoting Ex. 2010, 3) (citing Ex. 2010, 1; Ex. 2009 ¶ 40). Fintiv further argues that “[c]ommitment” in the context of distributed transaction processing “is the act that ends a transaction and makes permanent all changes to resources specified during that transaction.” *Id.* at 18 (quoting Ex. 2010, 4) (citing Ex. 2009 ¶ 40). Fintiv then asserts that the ’386 patent “achieves atomicity through its series of staged commitments,” but “[i]f committed data is found to be erroneous,” “the data is ‘rolled back.’” *Id.* at 18–19 (citing Ex. 2009 ¶ 41).

In its Reply, Apple maintains that the claim term “‘committing’ a pending transaction” should be accorded its ordinary and customary meaning. Pet. Reply 7–8, 10 (citing Ex. 1017 ¶¶ 11, 18), 12 (citing Ex. 1017 ¶ 11). Apple contends that Fintiv’s proposed construction of “‘committing’ a pending transaction” is incorrect for the following reasons: (1) apart from using the phrase “commit transaction” in a few figures, the terms “committing,” “commit,” and “commitment” do not appear in the

specification of the '386 patent outside the claims, and the extrinsic evidence relied upon by Fintiv to support its proposed construction is divorced from the '386 patent and its prosecution history; (2) the structure of the challenged claims counsels against Fintiv's proposed construction because these claims continually refer to “‘committing’ a pending transaction” through the business process services and the database services, without any reference to “saving data permanently after a set of tentative changes”; and (3) the challenged claims do not require a staged, sequential commitment process, but rather merely require “‘committing’ a pending transaction” through the business process services and the database services. *Id.* at 8–12 (citing Ex. 1001, 3:28–29, 5:32–40, 30:14–23, Figs. 20A–20F; Ex. 2010, 7; Ex. 1017 ¶¶ 13–24). At bottom, Apple asserts that it would be improper to limit the claim term “‘committing’ a pending transaction” by importing additional limitations from the extrinsic evidence introduced by Fintiv. *See id.* at 9.

In its Sur-reply, Fintiv asserts that Apple fails to meet its burden under 37 C.F.R. § 42.104(b)(3) by setting forth in the Petition how the claim term “committing a pending transaction” should be construed in the context of the '386 patent. *See* PO Sur-reply 10–12. Fintiv does not otherwise address Apple's counter arguments presented in the Reply regarding the proper construction of this claim term. *See id.*

As an initial matter, we do not agree with Fintiv's argument that Apple was required to propose a construction for the claim term “committing a pending transaction” in the Petition, itself. *See* PO Sur-reply 10–12. Although 37 C.F.R. §§ 42.104(b)(3)–(4) requires Apple to explain how the challenged claims are to be construed and how the construed claims

are unpatentable over the asserted prior art references, not all claim terms are required to be construed in a petition. This holds true here because it appears Apple did not have notice that Fintiv intended to dispute the claim term “committing a pending transaction” until Fintiv filed its Patent Owner Response in this proceeding. Indeed, the claim term “committing a pending transaction” was not at issue during the preliminary phase of this proceeding, nor does this claim term appear to be one of the claim terms disputed in the related district court case involving the ’386 patent. *See* Dec. on Inst. 16–17; Ex. 2015 (Final Claim Constructions of the Court); *cf.* PO Resp. 24 n.3 (confirming that “[n]one of the claim terms addressed in the Claim Construction section of [its] Patent Owner Response were addressed in that Order”). Moreover, the U.S. Court of Appeals for the Federal Circuit recently stated that, when a new claim construction is advanced by the patent owner or the Board after institution, “the petitioner must be afforded a reasonable opportunity in reply to present argument and evidence under that new construction.” *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1383 (Fed. Cir. 2023). Consequently, Apple’s counter arguments in the Reply were both timely and proper because they are responsive to Fintiv’s claim construction arguments presented for the first time in the Patent Owner Response.

Apple argues that the plain language of the challenged claims is controlling as to the ordinary and customary meaning of the claim term “committing a pending transaction.” *See* Pet. Reply 7–12. We agree. Independent claim 1 recites, in relevant part, “committing a pending transaction through the business process services,” and “upon receiving a confirmation of commitment from the business process services, committing

the pending transaction to the database services.” Ex. 1001, 31:41–42, 31:50–52. Independent claim 1 further recites “wherein committing the pending transaction further comprises the following [seven] steps as orchestrated by the business process services:” (1) “ensuring” step; (2) “validating” step; (3) “applying” step; (4) “creating” step; (5) “holding” step; (6) “loading” step; and (7) “updating” step. *Id.* at 31:53–32:2. Independent claims 2 and 3 include similar limitations. *Id.* 33:4–5, 33:13–33, 34:31–32, 34:40–59. Based on the plain language of independent claims 1–3, “committing a pending transaction” includes processing/carrying out a transaction through the business process services and the database services by performing the aforementioned seven steps. Stated differently, the asserted combinations of prior art references would account for “committing a pending transaction” as required by each of independent claims 1–3 if they collectively teach processing/carrying out a transaction through the business process services and the database services by performing the aforementioned seven steps. Nothing more is required.

As Apple correctly notes in its Reply, apart from using the phrase “commit transaction” in a few figures, the terms “committing,” “commit,” and “commitment” do not appear in the specification of the ’386 patent outside the claims. Pet. Reply 8. Although the phrase “commit transaction” is used to describe the relationship between the various components illustrated in Figures 20B, 20E, and 20F, there is no guidance in the corresponding description of these figures as to scope and meaning of this phrase. Ex. 1001, 30:14–23. Consequently, we are left with the plain language of the challenged claims to ascertain the scope and meaning of “committing a pending transaction.”

Although we take into account Exhibit 2010, which is a guide for Distributed Transaction Processing, in determining the proper construction of the claim term “committing a pending transaction,” we must consider the significance of that extrinsic evidence relied on by Fintiv. *See* PO Resp. 16–19. The Federal Circuit has cautioned that, “while extrinsic evidence ‘can shed useful light on the relevant art,’ . . . it is less significant than the intrinsic record in determining the legally operative meaning of claim language.” *See Phillips*, 415 F.3d at 1317 (quotations omitted). Extrinsic evidence is less reliable because, among other reasons, “there is a virtually unbounded universe of potential extrinsic evidence of some marginal relevance that could be brought to bear on any claim construction question.” *Id.* at 1318. Based on the particular circumstances presented here, we determine that Exhibit 2010 is less significant than the intrinsic record and it has marginal, if any, relevance that could be brought to bear on the proper construction of the claim term “committing a pending transaction.”

Fintiv’s reliance on Exhibit 2010 is predicated on the notion that “committing” is a concept from the database art. *See* PO Resp. 16. We disagree. The ’386 patent is titled “Monetary Transaction System,” and it generally relates to a “monetary transaction system for conducting monetary transactions between transaction system subscribers and other entities.” Ex. 1001, code (54), 1:37–39. Although the challenged claims require “committing the pending transaction to the database services” and “updating, using the database services, a pending transaction history record to reflect the funds,” these limitations, without more, are not enough to confine “committing” to the database art. *See, e.g., id.* at 31:51–52, 32:1–2 (relevant limitations of independent claim 1). Instead, when considering the

challenged claims as a whole, we view the concept of “committing” as being more applicable to art directed to conducting monetary transactions. *See* Tr. 9:21–10:4 (Apple’s counsel arguing that “[t]he relevant field of endeavor . . . is financial transactions”).

In addition, Fintiv inextricably links the concept of “committing” in the database art to distributed transaction processing. *See* PO Resp. 16. The specification of the ’386 patent, however, makes clear that only some embodiments may be practiced in distributed system environments. Ex. 1001, 5:24–40. Consequently, we decline to limit the claim term “committing a pending transaction” to these embodiments, especially without a clear indication in the intrinsic record that the challenged claims were meant to be so limiting. *See SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“[A] particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”).

In summary, upon weighing all the evidence bearing on the construction of the claim term “committing a pending transaction,” we apply the ordinary and customary meaning of this claim term as dictated by plain language of the challenged claims, which is not limited to the database art.

2. “*at least one of executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform object*” (independent claims 1–3)

In the Patent Owner Response, Fintiv contends that the claim term “at least one of” together with the use of the word “and” requires “*at least one instance from each category in the list* [to] be present.” PO Resp. 19. Consequently, Fintiv asserts that the claim term “at least one of executing

financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform object” requires that the business process services be operable to implement “*at least one financial transaction, handling at least one error, and logging at least one platform object.*” *Id.* at 20. In its Reply, Apple contends that we need not address Fintiv’s proposed claim construction for this claim term “because Dill discloses the business process services performing each of the listed functions.” Pet. Reply 19 (citing Pet. 27–31; Ex. 1003 ¶¶ 96–102).

Based on the fully developed trial record, we need not address Fintiv’s proposed construction for the claim term “at least one of executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform object.” *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Even if we were to agree with Fintiv that this claim term requires the business process services to perform at least one financial transaction, handle at least one error, and log at least one platform object, Apple provides arguments and evidence explaining how the combined teachings of Dill, Vadhri, Akashika, and Hansen (with or without the teachings of Liao) accounts for each of the claimed functions. Pet. 27–31, 85; Ex. 1003 ¶¶ 96–102, 201; *see infra* Sections II.B.7, 7.e, and 7.f.

3. “*auditing financial transactions*” (*independent claims 1–3*)

In its Patent Owner Response, Fintiv proposes that we construe the claim term “auditing financial transactions” as “performing retrospective

inspection and verification of financial transactions.” PO Resp. 21–22 (citing Ex. 2009 ¶¶ 46–48). To support its proposed construction, Fintiv introduces a textbook that purportedly sets forth the ordinary and customary meaning of auditing as, among other things, an “official examination of accounts.” *Id.* at 21 (quoting Ex. 2011, 3⁵).

In its Reply, Apple maintains that the claim term “auditing financial transactions” should be accorded its ordinary and customary meaning. Pet. Reply 13 (citing Ex. 1017 ¶ 25). Apple contends that Fintiv’s proposed construction of the claim term “auditing financial transactions” is incorrect because this term appears once in the specification of the ’386 patent outside the challenged claims, but it is only repeated verbatim without being ascribed a specific meaning. *Id.* at 12–13 (citing Ex. 1001, 13:25–29). Apple also argues that Fintiv improperly relies on extrinsic evidence to arrive at its proposed construction. *Id.* at 13. Apple asserts that the word “retrospective” does not appear anywhere within the four corners of the document that is Exhibit 2011, nor does this document suggest that “auditing” must include both “inspection” and “verification.” *Id.* at 13–14 (citing Ex. 1017 ¶ 28). Contrary to Fintiv’s proposed construction, Apple argues that a person of ordinary skill in the art would have known that auditing a financial transaction in an electronic payment system may not be retrospective, but could be performed as part of the transaction prior to completion. *Id.* at 14 (citing Ex. 1017 ¶¶ 29, 30; Ex. 1019, 5:27–34).

⁵ All references to the page numbers in the textbook titled “Auditing Principles & Techniques” refer to the page numbers inserted by Fintiv in the bottom, right-hand corner of each page in Exhibit 2011.

In its Sur-reply, Fintiv reiterates that we construe the claim term “auditing financial transactions” as “performing retrospective inspection and verification of financial transactions.” PO Sur-reply 12 (citing PO Resp. 21–22). Fintiv maintains that its proposed construction is supported by the document that is Exhibit 2011, as well as the testimony of its declarant, Dr. Shamos. *Id.* (citing Ex. 2011; Ex. 2009 ¶¶ 46–48). According to Fintiv, Apple “does not cite any authority for its unarticulated claim construction of this term.” *Id.*

We begin our analysis with a review of the specification of the ’386 patent, which includes the challenged claims. *See Phillips*, 415 F.3d at 1315 (stating that “the specification is ‘the single best guide to the meaning of a disputed term’” (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996))). The plain language of the challenged claims provides little, if any, guidance because the challenged claims do not provide any additional explanation as to how the business process services is operable to implement the function of “auditing financial transactions.” Ex. 1001, 30:65–31:3, 32:16–20, 33:46–50. As Apple correctly notes in its Reply, the claim term “auditing financial transactions” appears once in the specification of the ’386 patent outside the claims. *See* Pet. Reply 12–13. This single instance in the specification also provides little, if any, guidance because it merely repeats “auditing financial transactions” verbatim. Ex. 1001, 13:25–29. Absent a clear indication in the intrinsic record that the claim term “auditing financial transactions” should be limited in any way, we decline to impose any temporal restriction, much less re-write this term to require “inspection and verification” in lieu of “auditing.”

Although we take into account Exhibit 2011, which is a textbook titled “Auditing Principles & Techniques,” in determining the proper construction of the claim term “auditing financial transactions,” we must consider the significance of that extrinsic evidence relied on by Fintiv. *See* PO Resp. 21–22; PO Sur-reply 12. Similar to our claim construction analysis of claim term “committing a pending transaction” above, we determine that Exhibit 2011 is less significant than the intrinsic record and it has marginal relevance that could be brought to bear on the proper construction of the claim term “auditing financial transactions.” *See Phillips*, 415 F.3d at 1317–18. Fintiv does not explain in its Patent Owner Response nor its Sur-reply why there is a need to interject a temporal requirement into the construction of this claim term. In any event, Exhibit 2011 does not support interjecting a temporal requirement because it does not dictate that the function of “auditing” must be performed retrospectively, as asserted by Fintiv. Although Exhibit 2011 states that “[i]t is *possible* to perform this function by inspecting, comparing, checking, reviewing, scrutinizing the vouchers supporting the transactions” (Ex. 2011, 3 (emphasis added)), it does not state that every audit must include both “inspection” and “verification,” as asserted by Fintiv. *See id.* (stating “[t]he dictionary meaning of audit is official examination of accounts”).

In summary, upon weighing all the evidence bearing on the construction of the claim term “auditing financial transactions,” we apply the ordinary and customary meaning of this claim term as merely the official examination of financial transactions. Contrary to Fintiv’s assertions, the ordinary and customary meaning of this claim term does not require any

temporal restriction nor does it require replacing the word “auditing” with the words “inspection and verification.”

4. “*handling errors*” (*independent claims 1–3*)

In its Patent Owner Response, Fintiv proposes that we construe the claim term “handling errors” as “procedures for responding to and recovering from errors.” PO Resp. 22 (citing Ex. 2009 ¶¶ 49–52). To support its proposed construction, Fintiv introduces a textbook that defines error handling as “responding to errors,” which may include, among other things, “log[ging] the error to a file, database, or the Windows Event Log.” *Id.* at 22 (quoting Ex. 2012, 3⁶). Fintiv also asserts that the rollback processes in the ’386 patent are examples of handling errors because they provide a process for recovering from errors. *Id.* (citing Ex. 2009 ¶ 51).

In its Reply, Apple maintains that the claim term “handling errors” should be accorded its ordinary and customary meaning. Pet. Reply 15 (citing Ex. 1017 ¶ 32). Apple contends that Fintiv’s proposed construction of the claim term “handling errors” is incorrect because this term appears once in the specification of the ’386 patent outside the challenged claims, but it is only repeated verbatim without being ascribed a specific meaning. *Id.* (citing Ex. 1001, 13:25–29). Apple also argues that Fintiv’s reliance on extrinsic evidence to arrive at its proposed construction is unavailing. *Id.* at 16. Apple asserts that the document that is Exhibit 2012 does not indicate that handling errors requires “recovering” from the error. *Id.* (citing

⁶ All references to the page numbers in the textbook titled “VBScript Programmer’s Reference, Second Edition” refer to the page numbers inserted by Fintiv in the bottom, right-hand corner of each page in Exhibit 2012.

Ex. 1017 ¶ 37). According to Apple, even Fintiv’s declarant, Dr. Shamos, acknowledged that Exhibit 2012 does not support the “recovering” aspect of Fintiv’s proposed construction. *Id.* (citing Ex. 1018, 108:12–109:2).

In its Sur-reply, Fintiv reiterates that we should construe the claim term “handling errors” as “procedures for responding to and recovering from errors.” PO Sur-reply 13 (citing PO Resp. 22). Fintiv maintains that its proposed construction is supported by the rollback processes illustrated in Figures 20C and 20E of the ’386 patent, each of which purportedly provides an example of “handling errors,” the document that is Exhibit 2012, and the testimony of Dr. Shamos. *Id.* at 13–14 (citing Ex. 2012; Ex. 2009 ¶¶ 49–52). According to Fintiv, Apple “does not cite any authority for its unarticulated claim construction of this term.” *Id.* at 14.

We begin our analysis with a review of the specification of the ’386 patent, which includes the challenged claims. *See Phillips*, 415 F.3d at 1315. The plain language of the challenged claims provides little, if any, guidance because, once again, it does not provide any additional explanation as to how the business process services is operable to implement the function of “handling errors.” Ex. 1001, 30:65–31:3, 32:16–20, 33:46–50. As Apple correctly notes in its Reply, the claim term “handling errors” appears once in the specification of the ’386 patent outside the claims. *See* Pet. Reply 15. This single instance in the specification also provides little, if any, guidance because it merely repeats “handling errors” verbatim. Ex. 1001, 13:25–29.

We do not agree with Fintiv’s argument that the rollback processes illustrated in Figures 20C and 20E supports its proposed construction by providing sufficient examples of “handling errors” required by the

challenged claims. *See* PO Resp. 22; PO Sur-reply 13. Although the phrase “On Error” is used to describe messages sent between the various components illustrated in Figures 20C and 20E, there is no guidance in the corresponding description of these figures as to the scope and meaning of this phrase. Ex. 1001, 30:14–23. Consequently, we are unable to glean from the specification how the rollback processes illustrated in Figure 20C and 20E implicates the “handling errors” required by the challenged claims. Absent a clear indication in the intrinsic record that the claim term “handling error” should be limited in any way, we decline to impose a recovery procedure, much less re-write this term to require “responding to . . . errors” in lieu of “handling errors.”

Although we take into account Exhibit 2012, which is a textbook titled “VBScript Programmer’s Reference, Second Edition,” in determining the proper construction of the claim term “handling errors,” we must consider the significance of that extrinsic evidence relied on by Fintiv. *See* PO Resp. 22; PO Sur-reply 13–14. Similar to our claim construction analysis of the claim term “committing a pending transaction” above, we determine that Exhibit 2012 is less significant than the intrinsic record and it has marginal relevance that could be brought to bear on the proper construction of the claim term “handling errors.” *See Phillips*, 415 F.3d at 1317–18. Fintiv does not explain in its Patent Owner Response nor its Sur-reply why there is a need to interject a recovery procedure into the construction of this claim term. That is, apart from disclosing “a ‘global’ error handling scheme” that, among other things, “log[s] the error to a file, database, or the Windows Event Log” (Ex. 2012, 3), this textbook is silent as

to why its error handling scheme must also include a recovery procedure, as asserted by Fintiv.

In summary, upon weighing all the evidence bearing on the construction of the claim term “handling errors,” we apply the ordinary and customary meaning of this claim term as merely an error handling scheme. Contrary to Fintiv’s assertions, the ordinary and customary meaning of this claim term does not require a recovery procedure nor does it require replacing the words “handling errors” with the words “responding to . . . errors.”

5. “*logging platform objects*” (*independent claims 1–3*)

In its Patent Owner Response, Fintiv proposes that we construe the claim term “logging platform objects” as “storing or recording platform objects in a log.” PO Resp. 23–24 (citing Ex. 2009 ¶¶ 53–56). According to Fintiv, the terms “logging” and “logs” are used thirty times in the specification of the ’386 patent and, in each instance, these terms mean storing or recording. *Id.* at 23 (citing Ex. 1001, 8:53–56, 10:4–8, 13:24–29, 16:5–10, 17:1–4; Ex. 2009 ¶¶ 53, 54). As further support for its proposed construction, Fintiv introduces a general-purpose dictionary definition of “logging” as “enter (something) in a log” or “make a systematic recording of events.” *Id.* at 23–24 (quoting Ex. 2013,4⁷). Fintiv then asserts that logging may occur in connection with handling errors by logging an error in a database or file. *Id.* at 24 (citing Ex. 2012).

⁷ All references to the page numbers in the general-purpose dictionary titled “Concise Oxford English Dictionary” refer to the page numbers inserted by Fintiv in the bottom, right-hand corner of each page in Exhibit 2013.

In its Reply, Apple maintains that the claim term “logging platform objects” should be accorded its ordinary and customary meaning. Pet. Reply 17 (citing Ex. 1017 ¶ 39). Apple contends that Fintiv’s proposed construction of the claim term “logging platform objects” is incorrect because neither the challenged claims nor the specification of the ’386 patent specifically require logging platform objects “in a log.” *Id.* (citing Ex. 1017 ¶¶ 40, 41). Apple argues that none of the disclosures in the specification relied on by Fintiv are dispositive because (1) there is no connection to platform objects in those disclosures; and (2) they merely state that one of the system components “logs the transaction” without more. *Id.* at 17–18. Apple also argues that Fintiv’s reliance on extrinsic evidence to arrive at its proposed construction is improper because Fintiv adds an unnecessary limitation (i.e., logging “in a log”) that is not consistent with how the claim term “logging platform objects” is used in the context of the ’386 patent. *Id.* at 18 (citing Ex. 1017 ¶ 42).

In its Sur-reply, Fintiv reiterates that we should construe the claim term “[l]ogging’ platform objects” as “storing or recording platform objects in a log.” PO Sur-reply 16 (citing PO Resp. 23–24). Fintiv maintains that its proposed construction is supported by the use of the terms “logging” and “logs” thirty times in the specification of the ’386 patent, the general-purpose dictionary that is Exhibit 2013, and the testimony of Dr. Shamos. *Id.* (citing Ex. 2013; Ex. 2009 ¶¶ 53, 54). According to Fintiv, Apple “does not cite any authority for its unarticulated claim construction of this term.” *Id.*

We begin our analysis with a review of the specification of the ’386 patent, which includes the challenged claims. *See Phillips*, 415 F.3d at

1315. The plain language of the challenged claims provides little, if any, guidance because, once again, these claims do not provide any additional explanation as to how the business process services is operable to implement the function of “logging platform objects.” Ex. 1001, 30:65–31:3, 32:16–20, 33:46–50. The term “logging platform objects” appears once in the specification of the ’386 patent outside the claims. This single instance in the specification also provides little, if any, guidance because it merely repeats “logging platform objects” verbatim. *Id.* at 13:25–29. Although the terms “logs” and “object” appear separately in several disclosures throughout the specification, none of these disclosures provide sufficient guidance as to the scope and meaning of “logging platform objects.” *See, e.g., id.* at 13:52–56 (disclosing how name matching engine 110 matches “different objects,” which includes “find[ing] similarities between names, addresses, etc.”), 16:5–10 (“The subscriber gives cash to [the] agent manager or agent, and the mFS platform processes the request, updates the agent branch and subscriber’s eMoney balances, logs the transaction, and sends details,” such as “transaction logs.”). Absent a clear indication in the intrinsic record that the claim term “logging platform objects” should be limited in any way, we decline to require logging platform objects “in a log,” much less re-write this claim term to require “storing or recording” in lieu of “logging.”

Although we take into account Exhibit 2013, which is a general-purpose dictionary, in determining the proper construction of the claim term “logging platform objects,” we must consider the significance of that extrinsic evidence relied on by Fintiv. *See* PO Resp. 23–24; PO Sur-reply 16. Similar to our claim construction analysis of the claim term “committing

a pending transaction” above, we determine that Exhibit 2013 is less significant than the intrinsic record in determining the proper construction for the claim term “logging platform errors.” *See Phillips*, 415 F.3d at 1317–18. Fintiv does not explain in its Patent Owner Response nor its Sur-reply why there is a need to interject logging platform objects “in a log” into the construction of this claim term. At best, the general-purpose dictionary definition of a “log” set forth in Exhibit 2013 suggests that “logging” is synonymous with “storing or recording” because “logging” is nothing more than “a systematic recording of events.” Ex. 2013, 4. This, without more, does not dictate that we should replace the “logging” function chosen by the patentee to define the precise scope of the claimed invention with the functions of “storing or recording.” When the language of a claim term is clear, such as here, we decline to re-write the term to require synonymous functions. *See K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999) (“Courts do not rewrite claims; instead, [they] give effect to the terms chosen by the patentee.”).

In summary, upon weighing all the evidence bearing on the construction of the claim term “logging platform objects,” we apply the ordinary and customary meaning of this claim term as merely a systematic logging of events. Contrary to Fintiv’s assertions, the ordinary and customary meaning of this claim term does not require logging platform objects “in a log” nor does it require replacing the function of “logging” with the synonymous functions of “storing or recording.”

*B. Obviousness Over the Combined Teachings of
Dill, Vadhri, Akashika, and Hansen*

Apple contends that independent claims 1 and 3 of the '386 patent are unpatentable under § 103(a) as obvious over the combined teachings of Dill, Vadhri, Akashika, and Hansen. Pet. 14–94. Apple contends that the teachings of Dill, Vadhri, Akashika, and Hansen account for the subject matter of each challenged claim, and provides reasoning as to why a person of ordinary skill in the art would have been prompted to combine the teachings of these references. *Id.* During trial, Fintiv contends that Dill fails to teach the following: (1) the deposit transaction required by independent claim 1; (2) “a communication message from the mobile device . . . indicating that the subscriber desires to deposit a specified amount of funds into the subscriber’s account,” as recited in independent claim 1; (3) the commitment process required by each of independent claims 1 and 3; and (4) the “business process services operable to implement business workflows, including at least one of . . . auditing financial transactions, . . . handling errors, and logging platform objects,” as recited in each of independent claims 1 and 3. PO Resp. 26–42, 44–45; PO Sur-reply 1–8, 17–20.

Based on the fully developed trial record, we determine that Apple has shown by a preponderance of the evidence that claims 1 and 3 of the '386 patent are unpatentable as obvious over the combined teachings of Dill, Vadhri, Akashika, and Hansen. We begin our analysis with the principles of law that generally apply to an obviousness ground, next we assess the level of skill in the art, followed by brief overviews of Dill, Vadhri, Akashika, and

Hansen, and then we address the parties' contentions with respect to the challenged claims.

1. Principles of Law

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations, such as commercial success, long-felt but unsolved needs, failure of others, etc.).⁸ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze the asserted grounds based on obviousness with the principles identified above in mind.

2. Level of Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The “person having

⁸ During trial, Fintiv does not present arguments or evidence of secondary considerations. See PO Resp.

ordinary skill in the art” is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.* at 696–97.

Based on the fully developed trial record, we are able to determine the knowledge level of a person of ordinary skill in the art. Relying on the testimony of Dr. Houh, Apple argues the following:

[a] person of ordinary skill in the art . . . in June 2011 would have had a working knowledge of mobile payment techniques pertinent to the ’386 patent, including software development in the field of mobile payment techniques. Such [a person of ordinary skill in the art] would have had a bachelor’s degree in electrical engineering, computer science, or equivalent training, and approximately two years of work experience in software development. Lack of work experience can be remedied by additional education, and vice versa.

Pet. 4 (citing Ex. 1003 ¶¶ 21, 22). In its Patent Owner Response, Fintiv does not address the level of ordinary skill in the art. *See* PO Resp.

Accordingly, we maintain our preliminary determination regarding the level of ordinary skill in the art. Dec. on Inst. 18–20. That is, we adopt

Apple’s proposed assessment of the level of ordinary skill in the art because Dr. Houh’s supporting testimony is consistent with the ’386 patent and the asserted prior art. We apply this assessment of the level of ordinary skill in the art in our obviousness evaluations below.

3. Overview of Dill

Dill generally relates to “financial transfers” and, in particular, “to financial transfers utilizing a unique identifier to facilitate flexible payment options for the transaction.” Ex. 1005 ¶ 2. Figure 9 of Dill, reproduced below, illustrates an “exemplary system for making financial transfers according to one embodiment.” *Id.* ¶ 25.

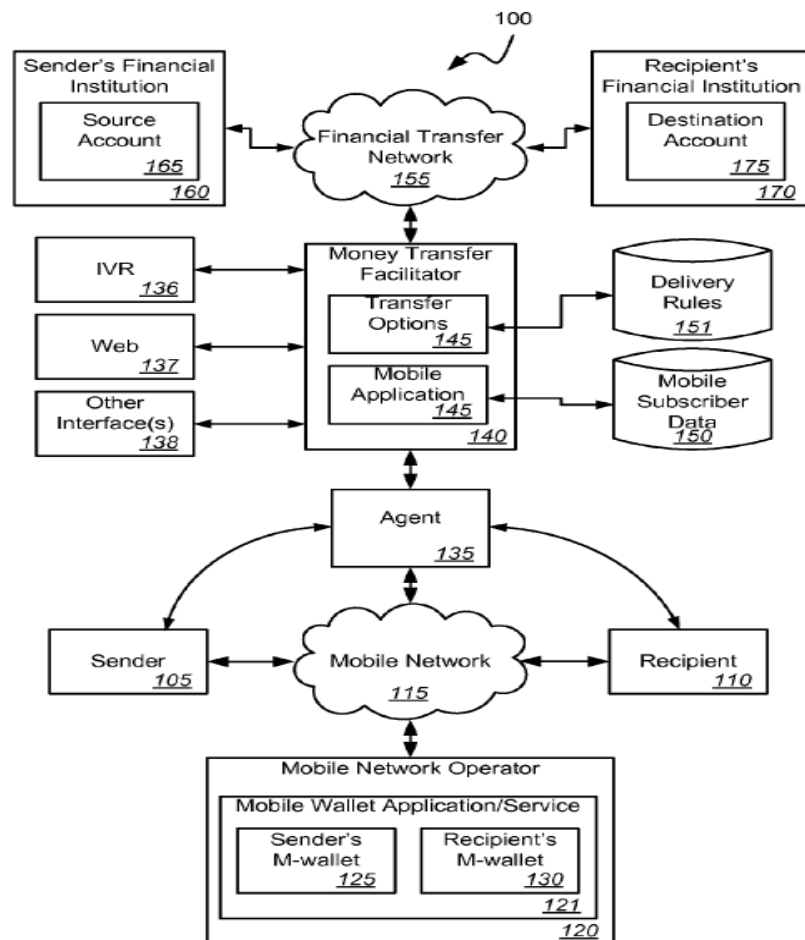


FIG. 9

Figure 9 illustrates system 100 that includes, among other things, sender 105 initiating a money transfer transaction (e.g., payment) to recipient 110 via mobile wallet application 121 of mobile network operator 120. *Id.* ¶ 54; *see id.* Fig. 9, ¶ 100 (stating that system 100 in Figure 9 “can comprise a system as described above with reference to [Figure 1] and can include some or all of the same components and may perform some or all of the same functions”). Money transfer facilitator 140 receives the money transaction information from mobile wallet application 121 via mobile network 115. *Id.* ¶ 100. Money transfer facilitator 140⁹ is coupled to financial transfer network 155 such that it is capable of transferring money in accordance with the money transfer transaction between source account 165 in sender’s financial institution 160 and destination account 175 in recipient’s financial institution 170. *Id.* ¶ 49.

4. Overview of Vadhri

Vadhri generally relates to “value holding accounts” and, in particular, “to systems and methods for accessing a value holding account” that “may hold anything considered valuable.” Ex. 1006 ¶¶ 1, 2. Figure 5 of Vadhri, reproduced below, illustrates a network diagram of “a client-server system, within which example embodiments may be deployed.” *Id.* ¶ 8.

⁹ Money transfer facilitator 140 includes two components that are both labeled using the same numerical identifier—transfer options module 145 and mobile application 145. Ex. 1005 ¶¶ 50, 101, 102, Fig. 9.

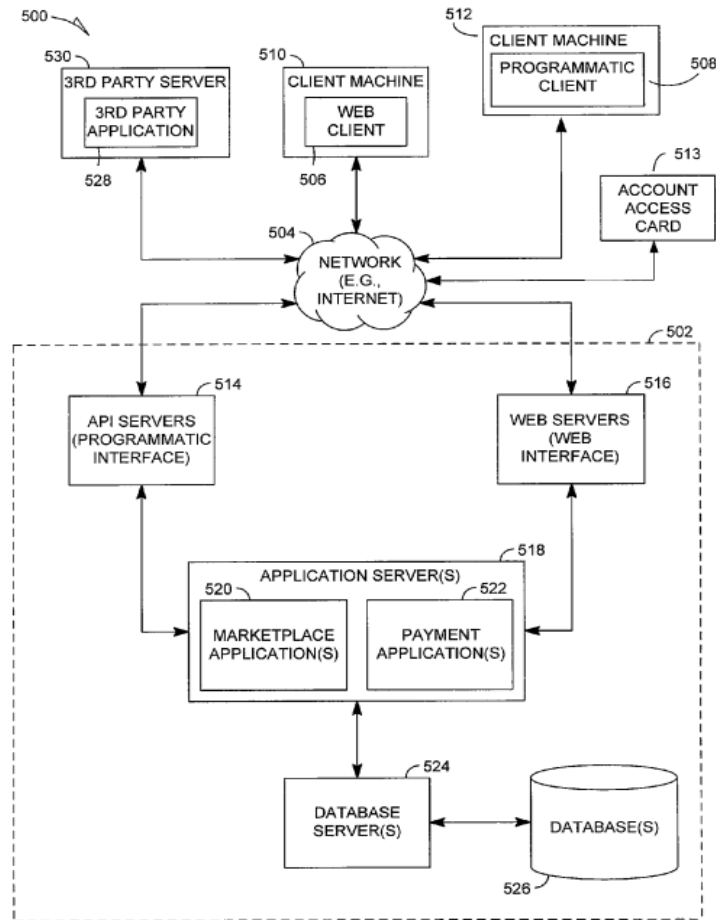


FIG. 5

Figure 5 illustrates client-server system 500 that includes networked system 502 that manages payment services between various applications and accounts. *Id.* ¶¶ 47–50. Networked system 502 includes, among other things, “Application Program Interface (API) server 514” that provides a “programmatic interface” between programmatic client 508 (e.g., a “seller application” such as “eBay”) executing on client machine 512 and “marketplace and payment applications 520 and 522” hosted by application server 518. *Id.* ¶¶ 48, 50, 52.

5. Overview of Akashika

Akashika generally relates to “a service providing system, a service providing server and an information terminal device.” Ex. 1007 ¶ 3. More specifically, Akashika is directed to an access control system that promotes secure communications by protecting sensitive data such as “electronic money or important personal information.” *Id.* ¶¶ 7, 9. In one embodiment, Akashika discloses an “area management server” that includes “an access control list generation section generating an access control list.” *Id.* ¶ 17.

Figure 3 of the Akashika, reproduced below, illustrates “an area management server according to [one] embodiment.” Ex. 1007 ¶ 29.

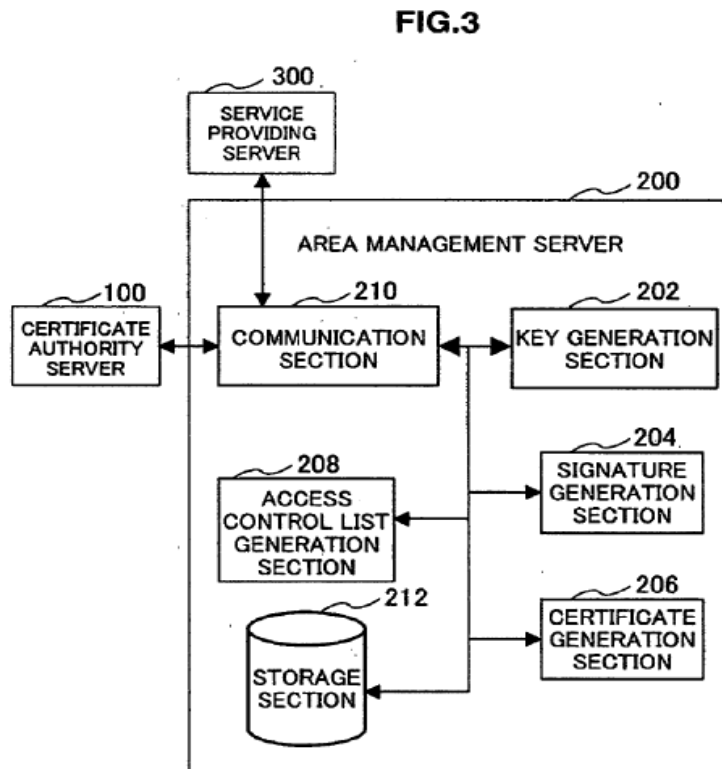


Figure 3 illustrates certificate authority server 100, area management server 200, and service providing server 300. *Id.* ¶¶ 51, 52, 57, 58. Area management server 200 includes, among other things, “access control list

generation section 208 [that] generates an access control list” identifying “the scope of . . . access right[s]” to client device 400 (not illustrated in Figure 3 above). *Id.* ¶ 60. The access control list identifies “[t]he access right[s]” (e.g., “read permission, write permission, restriction on frequency of access”) permitted for a secure area. *Id.* ¶ 62.

6. Overview of Hansen

Hansen generally relates to “online money transfers” and, in particular, “to payment authentication for online money transfers.” Ex. 1008 ¶ 2. Figure 6A of Hansen, reproduced below, illustrates a block diagram of “a process for performing a money transfer” according to one embodiment. *Id.* ¶ 15.

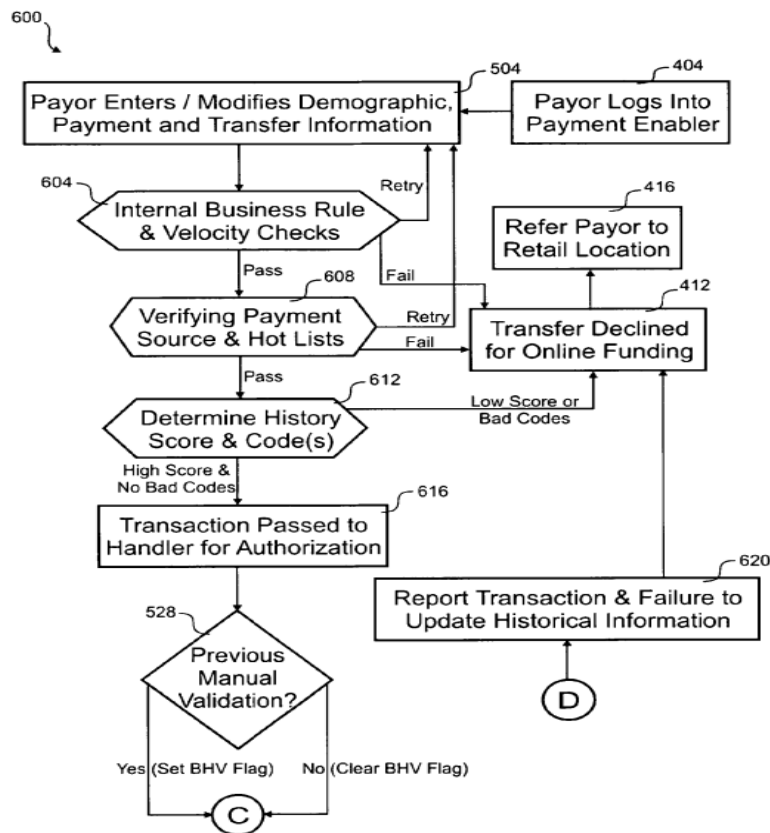


Fig. 6A

Figure 6A illustrates process 600 for performing a money transfer. *Id.* ¶ 78. Process 600 includes, among other things, checking internal business rules along with velocity checks at step 604. *Id.* Hansen discloses that “velocity checks could include a limit on the amount of a single transaction, a limit on the aggregate amount for various transactions over a time period, a limit on the number of transactions during a time period, etc.” *Id.*

7. Claim 1

For purposes of consistency and added clarity, we address each limitation of independent claim 1 in turn by relying on the bracketed annotations provided by Apple in the Petition. Pet. 113–16 (Claims App’x). The preamble of independent claim 1 recites limitation [1.0]—“[a] monetary transaction system for conducting monetary transactions between subscribers and other entities, the system comprising one or more of.” Ex. 1001, 30:54–56. To the extent the preamble should be treated as limiting, Apple contends that Dill teaches limitation [1.0] because Figure 9 of Dill illustrates system 100 for conducting monetary transactions between subscribers, such as sender 105 and recipient 110, and other entities, such as agent 135 and financial institutions 160 and 170. Pet. 14–16 (citing Ex. 1005 ¶¶ 49, 51, 53, 100, Fig. 9; Ex. 1003 ¶¶ 73–76).

Independent claim 1 recites limitation [1.1.1]—“an integration tier operable to manage mobile wallet sessions.” Ex. 1001, 30:57–58. Apple contends that Dill teaches limitation [1.1.1] because Dill’s transfer options module 145 manages mobile wallet sessions when it sends and receives transaction details between mobile wallets 125 and 130 within mobile wallet application 121, and each transaction corresponds to a mobile wallet session tied to the unique transaction identifier assigned by mobile network operator

120. Pet. 16–19 (citing Ex. 1005 ¶¶ 100–02, 105, Fig. 9; Ex. 1003 ¶¶ 77–79).

Independent claim 1 recites limitation [1.1.2]—“the integration tier also including a communication application programming interface (API) and other communication mechanisms to accept messages from channels.” Ex. 1001, 30:58–61. Apple contends that the combination of Dill and Vadhri teaches limitation [1.1.2] because Dill discloses that transfer options module 145 “[is] communicatively coupled” to one or more interfaces 136–138 and, therefore, includes multiple communication mechanisms for accepting messages from different channels. Pet. 18–20 (quoting Ex. 1005 ¶ 101) (citing Ex. 1005 ¶¶ 51, 101, Fig. 9; Ex. 1003 ¶¶ 80–83). Apple turns to Vadhri’s API server 514 that provides an interface with different services and functions in a marketplace to teach that communication APIs were well-known in the art. *Id.* at 20–21 (citing Ex. 1006 ¶¶ 1, 47–50, 52, 55, Fig. 5; Ex. 1003 ¶¶ 84, 85). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill’s transfer options module 145 to include a communication API to facilitate flexible communication with different parties, as taught by Vadhri, because Dill recognizes the need for flexible payment systems that may be used by different parties, and Vadhri’s API server 514 provides for increased flexibility by providing access to different services and functions in a marketplace through its API interface. *Id.* at 22–23 (citing Ex. 1005 ¶¶ 4, 49; Ex. 1006 ¶¶ 50, 52, 53; Ex. 1003 ¶¶ 86–88).

Apple contends that combining the teachings of Dill and Vadhri in this way would have been the combination of prior art elements (i.e., combining “Dill’s transfer options module 145 with Vadhri’s API

interface”) according to known methods (i.e., “configuring a web interface to utilize a communication API, as taught by Vadhri”) to yield the predictable result of “expanding the types of services that Dill’s transfer options module 145 may communicate” (e.g., via web interface 137). Pet. 23–24 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶¶ 88, 89). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Dill’s transfer options module 145 to include Vadhri’s API interface because “it was well-known to utilize APIs in payment systems” and “payment APIs were commonly used.” *Id.* at 24 (citing Ex. 1003 ¶¶ 88, 90).

Independent claim 1 recites limitation [1.2]—“notification services operable to send notifications through different notification channels including one or more of short message peer-to-peer, short-message services [(“SMS”)] and simple mail transfer protocol emails.” Ex. 1001, 30:62–65. Apple contends that Dill teaches limitation [1.2] because it discloses that mobile application 145 sends messages through different channels, including by email or SMS. Pet. 25–27 (citing Ex. 1005 ¶¶ 80, 104, Fig. 9; Ex. 1003 ¶¶ 92–95).

Independent claim 1 recites limitation [1.3]—“business process services operable to implement business workflows, including at least one of executing financial transactions, auditing financial transactions, invoking third-party services, handling errors, and logging platform objects.” Ex. 1001, 30:66–31:3. Apple contends that Dill teaches limitation [1.3] because it discloses that money transfer facilitator 140 implements business workflows, including executing financial transactions (e.g., by delivering funds to the bank account of recipient 110 such as destination account 175 of

recipient's financial institution 170), auditing financial transactions (e.g., by assigning and verifying a unique transaction identifier to a transaction), invoking third-party services (e.g., by disclosing that money transfer facilitator 140 may include systems operated by Western Union), handling errors (e.g., by only processing transactions when sender 105's transfer request has been verified), and logging platform objects (e.g., by looking up in a database whether recipient 110 is registered and logging that information in the database). Pet. 27–31 (citing Ex. 1005 ¶¶ 34, 41, 49, 77, 78, 101, 105, Figs. 5 (step 520), 9; Ex. 1003 ¶¶ 96–101).

Independent claim 1 recites limitation [1.4]—“database services operable to store financial transaction details, store customer profiles, and manage money containers.” Ex. 1001, 31:4–6. Apple contends that Dill teaches limitation [1.4] because it discloses that mobile subscriber data 150 stores transaction details in the form of unique customer identifiers for structured settlements, it identifies entities/accounts based on mobile subscriber data, and it manages accounts based on the mobile subscriber data. Pet. 30–33 (citing Ex. 1005 ¶¶ 50, 57; Ex. 1003 ¶¶ 103–07).

Independent claim 1 recites limitation [1.5]—“a payment handler service operable to use APIs of different payment processors including one or more APIs of banks, credit and debit cards processors, bill payment processors.” Ex. 1001, 31:7–10. Apple contends that the combination of Dill and Vadhri teaches limitation [1.5] because Dill discloses that money transfer facilitator 140 processes transactions with numerous financial institutions, including payment processors associated with banks, credit cards, debit cards, and payment services such as PayPal, eBay, Western Union, or bill payment. Pet. 33–34 (citing Ex. 1005 ¶¶ 49, 56, 71, 90, 103,

Fig. 9; Ex. 1003 ¶¶ 108–11). Once again, Apple turns to Vadhri’s API server 514 that provides an interface with payment processors (e.g., marketplace and payment applications 520 and 522) to teach that communication APIs were well-known in the art. *Id.* at 36–37 (citing Ex. 1006 ¶¶ 47–50, 52, 55, Fig. 5; Ex. 1003 ¶¶ 112, 113). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill’s money transfer facilitator 140, which includes transfer options module 145, to use APIs of different payment processors, as taught by Vadhri, because Dill recognizes the need for flexible payment systems that may be used by different parties, and Vadhri’s API server 514 provides for increased flexibility by providing access to different services and functions in a marketplace through its API interface. *Id.* at 38–39 (citing Ex. 1005 ¶¶ 4, 49, 56, 71, 90, 103; Ex. 1006 ¶¶ 50, 52; Ex. 1003 ¶¶ 114–16).

Apple contends that combining the teachings of Dill and Vadhri in this way would have been the combination of prior art elements (i.e., combining “Dill’s money transfer facilitator 140 with Vadhri’s API programmatic interface”) according to known methods (i.e., “configuring a payment interface to utilize an API of different payment processors, as taught by Vadhri”) to yield the predictable result of “expanding the types of services with which Dill’s money transfer facilitator 140 would be configured to communicate.” Pet. 39 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶ 117). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Dill’s money transfer facilitator 140 to include Vadhri’s APIs of different payment processors because “it was well-known to utilize APIs in payment systems.” *Id.* (citing Ex. 1003 ¶ 118).

Independent claim 1 recites limitation [1.6]—“a rules engine operable to gather financial transaction statistics and use the gathered financial transaction statistics to enforce constraints including transaction constraints.” Ex. 1001, 31:11–14. Apple contends that Dill teaches limitation [1.6] because it discloses that transfer options module 145 gathers financial transaction statistics (e.g., information about a transaction such as amount, involved subscribers, and transaction conditions), and then uses the gathered financial transaction statistics to enforce delivery rules 151 that may place restrictions on delivery or impose restrictions from “various governmental and/or banking rules, service conditions, etc.” Pet. 40–42 (quoting Ex. 1005 ¶ 104) (citing Ex. 1005 ¶¶ 77, 102, Fig. 9; Ex. 1003 ¶¶ 120–23).

Independent claim 1 recites limitation [1.7]—“a security service operable to perform subscriber authentication.” Ex. 1001, 31:15–16. Apple contends that Dill teaches limitation [1.7] because it discloses mobile wallet application 121 executes mobile application 145 that verifies a subscriber by using a personal identification number (“PIN”). Pet. 42–44 (citing Ex. 1005 ¶¶ 13, 94, Fig. 9; Ex. 1003 ¶¶ 124, 125).

Independent claim 1 recites limitation [1.8]—“at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system: wherein the at least one entity is the agent.” Ex. 1001, 31:17–20. Apple contends that Dill teaches limitation [1.8] because it discloses several entities that may be involved in a transaction, including agent 135 (who has a profile with system 100) who issues a unique customer identifier to recipient 110, initiates a transaction, and has a corresponding location at which the recipient may pick up

transferred funds. Pet. 45–47 (citing Ex. 1005 ¶¶ 33, 51, 52, 54, Fig. 9; Ex. 1003 ¶¶ 126–29).

Independent claim 1 recites limitation [1.9.1]—“wherein the monetary transaction system is implemented to deposit funds at an agent branch.” Ex. 1001, 31:21–22. Apple contends that Dill teaches limitation [1.9.1] because it discloses that sender 105 may complete a monetary transfer transaction by visiting the branch of agent 135, and it contemplates that one of the monetary transfer transactions includes “delivering funds to a bank account.” Pet. 48 (quoting Ex. 1005 ¶ 101) (citing Ex. 1005 ¶¶ 3, 33, 51, 52; Ex. 1003 ¶¶ 130, 131). Apple also argues that Dill’s system 100 is not limited to “sender” and “receiver” transactions because it contemplates that sender 105 and recipient 110 may be the same party in the same transaction. *See id.* (citing Ex. 1005 ¶ 52; Ex. 1003 ¶ 132).

Independent claim 1 recites limitation [1.9.2]—“the funds being deposited by a subscriber at the agent branch using a mobile device configured to run a monetary transaction system application, the monetary transaction system performing the following steps.” Ex. 1001, 31:22–26. Apple contends that Dill teaches limitation [1.9.2] because it discloses that sender 105 may deposit funds at the branch of agent 135 using the sender’s mobile device configured to run sender’s mobile wallet 125. Pet. 49–52 (citing Ex. 1005 ¶¶ 51, 53, 55, 77, Figs. 5 (step 515), 9; Ex. 1003 ¶¶ 134–38).

Independent claim 1 recites limitation [1.10.1]—“receiving a communication message from the mobile device over one of a plurality of channels connected to the monetary transaction system.” Ex. 1001, 31:27–29. Apple contends that Dill teaches limitation [1.10.1] because it discloses

that money transfer facilitator 140 is capable of receiving a request to initiate a money transfer transaction from the sender's mobile wallet 125 over a plurality of channels, including via mobile network 115 and/or agent 135. Pet. 52–53 (citing Ex. 1005 ¶¶ 51, 54, 101, Fig. 9; Ex. 1003 ¶¶ 139, 140).

Independent claim 1 recites limitation [1.10.2]—“the communication message being received by an API associated with the integration tier of the monetary transaction system.” Ex. 1001, 31:29–32. Apple contends that the combination of Dill and Vadhri teaches limitation [1.10.2] because, as it identifies above with respect to limitation [1.1.2], a person of ordinary skill in the art would have been motivated to modify Dill's transfer options module 145 (which is part of money transfer facilitator 140) to use Vadhri's API to receive transaction information from sender 105 or recipient 110. Pet. 54–55 (citing Ex. 1005 ¶¶ 100, 101, Fig. 9; Ex. 1006 ¶ 52; Ex. 1003 ¶¶ 141, 142).

Independent claim 1 recites limitation [1.10.3]—“the communication message indicating that the subscriber desires to deposit a specified amount of funds into the subscriber's account.” Ex. 1001, 31:32–34. Apple contends that Dill teaches limitation [1.10.3] because it discloses that the sender's mobile wallet application 125 initiates a transaction by sending a request specifying the amount of the desired transaction to mobile application 145. Pet. 56–57 (citing Ex. 1005 ¶ 77, Fig. 5 (step 515); Ex. 1003 ¶ 143). Apple also argues that, as it identifies above with respect to limitation [1.9.1], Dill teaches that the request may include sender 105 depositing funds into his/her own account. *Id.* at 57 (citing Ex. 1005 ¶ 101; Ex. 1003 ¶¶ 144, 145).

Independent claim 1 recites limitation [1.10.4]—“validating the status of the subscriber’s account, wherein validating the status of the subscriber’s account comprises communicating from the integration tier to the database services to query attributes of the subscriber’s account.” Ex. 1001, 31:35–39. Apple contends that Dill teaches limitation [1.10.4] because it discloses that money transfer facilitator 140, of which transfer options module 145 is a part, validates the status of the account owned by sender 105 or recipient 110 by determining whether the sender or recipient is enrolled in a mobile wallet with system 100, and then communicates with mobile subscriber data 150 to query attributes of the sender’s or recipient’s account. Pet. 58–59 (citing Ex. 1005 ¶¶ 34, 50, Fig. 9; Ex. 1003 ¶¶ 146, 147).

Independent claim 1 recites limitation [1.10.5]—“committing a pending transaction through the business process services.” Ex. 1001, 31:40–41. Apple contends that Dill teaches limitation [1.10.5] because it discloses a “mobile-to-mobile transaction” where mobile application 145 commits a pending transaction through money transfer facilitator 140. Pet. 60–61 (quoting Ex. 1005 ¶ 78) (citing Ex. 1005 ¶ 79, Fig. 5 (step 525); Ex. 1003 ¶¶ 148, 149).

Independent claim 1 recites limitation [1.10.6]—“wherein the integration tier communicates a transaction commitment request to the business process services.” Ex. 1001, 31:41–43. Apple contends that Dill teaches limitation [1.10.6] because it discloses that transfer options module 145 of money transfer facilitator 140 provides a notification of a transaction to recipient 110 and selects “one or more delivery options” for completing the transaction. Pet. 61 (quoting Ex. 1005 ¶ 101). According to Apple, Dill’s selection of “one or more delivery options” for the transaction teaches

communicating “a transaction commitment request to the business process services” because transfer options module 145 communicates the selection to money transfer facilitator 140, which, in turn, accesses the source and destination accounts 165, 175 to affect transfer. *Id.* at 61–62 (quoting Ex. 1005 ¶ 101) (citing Ex. 1005 ¶ 49; Ex. 1003 ¶¶ 150, 151).

Independent claim 1 recites limitation [1.10.7]—“receiving a confirmation from the business process services that the pending transaction has been committed.” Ex. 1001, 31:44–46. Apple contends that Dill teaches limitation [1.10.7] because it discloses that mobile wallet application 121 receives a money transfer control number (“MTCN”) from money transfer facilitator 140 “indicating that the transaction is available for payout.” Pet. 62–63 (quoting Ex. 1005 ¶ 80) (citing Ex. 1005 ¶ 79, Fig. 5 (step 545); Ex. 1003 ¶¶ 152–54).

Independent claim 1 recites limitation [1.10.8]—“sending, through the notification services, a receipt notification to the mobile device.” Ex. 1001, 31:47–48. Apple contends that Dill teaches limitation [1.10.8] because it discloses that mobile application 145 sends the MTCN to money transfer facilitator 140, which, in turn, sends the MTCN to mobile wallet application 121 that includes both sender’s mobile wallet 125 and recipient’s mobile wallet 130. Pet. 63–64 (citing Ex. 1005 ¶ 80, Fig. 5 (step 550); Ex. 1003 ¶¶ 155, 156).

Independent claim 1 recites limitation [1.10.9]—“upon receiving a confirmation of commitment from the business process services, committing the pending transaction to the database services.” Ex. 1001, 31:49–51. Apple contends that Dill teaches limitation [1.10.9] because it discloses, upon mobile wallet application 121 receiving the MTCN from money

transfer facilitator 140, accessing and updating mobile subscriber data 150 with the “structured settlement” between sender 105 and recipient 110. Pet. 64–68 (quoting Ex. 1005 ¶ 57) (citing Ex. 1005 ¶¶ 50, 57, 80, Fig. 5 (steps 545, 550); Ex. 1003 ¶¶ 157–61).

Independent claim 1 recites limitation [1.11.1]—“wherein committing the pending transaction further comprises the following steps as orchestrated by the business process services.” Ex. 1001, 31:52–54. Apple contends that Dill teaches limitation [1.11.1] because, as it identifies above with respect to limitation [1.10.5], money transfer facilitator 140 commits the pending transaction. Pet. 68 (citing Ex. 1003 ¶ 162).

Independent claim 1 recites limitation [1.11.2]—“ensuring, via the database services, that the subscriber has an active account.” Ex. 1001, 31:55–56. Apple contends that Dill teaches limitation [1.11.2] because it discloses that, upon receipt of a money transfer request, money transfer facilitator 140 accesses mobile subscriber data 150 to determine whether sender 105 or recipient 110 has an account for the transfer of the specified funds. Pet. 68–69 (citing Ex. 1005 ¶¶ 34, 50; Ex. 1003 ¶¶ 163, 164).

Independent claim 1 recites limitation [1.11.3]—“validating, through communication with the security services, one or more of a PIN number and an access control list.” Ex. 1001, 31:57–59. Apple contends that the combination of Dill and Akashika teaches limitation [1.11.3] because Dill discloses that mobile wallet application 121 verifies a PIN entered by recipient 110. Pet. 69–70 (citing Ex. 1005 ¶¶ 13, 94; Ex. 1003 ¶ 165). Apple turns to Akashika’s access control list generation section 208 that generates an access control list capable of identifying, among other things, read permissions, write permissions, and restrictions on frequency of access

to demonstrate that it was well-known to use an access control list (“ACL”) to promote security of money transfer systems. *Id.* at 70–71 (citing Ex. 1007 ¶¶ 60, 62, 117; Ex. 1003 ¶¶ 166, 167). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill’s money transfer facilitator 140 to incorporate the benefits of Akashika’s ACL “to assist in authenticating users and limiting access to secure information of the subscribers.” *Id.* at 71 (citing Ex. 1003 ¶ 168). Apple further argues that a person of ordinary skill in the art would have understood that implementing Akashika’s ACL in Dill’s money transfer facilitator 140 would be an extension of using Dill’s unique customer identifiers to identify sender 105 and recipient 110 to promote or enhance security. Pet. 71–72 (citing Ex. 1005 ¶ 35; Ex. 1003 ¶ 169).

Apple contends that combining the teachings of Dill and Akashika in this way would have been the combination of prior art elements (i.e., combining “Dill’s money transfer facilitator 140 with Akashika’s [ACL]”) according to known methods (i.e., “configuring an interface to utilize an [ACL], as taught by Akashika”) to yield the predictable result of “limiting transactions to authorized users identified in the [ACL].” Pet. 72 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶ 169). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Dill’s money transfer facilitator 140 to include Akashika’s ACL because “Dill utilizes secure information to authenticate subscribers,” such as unique customer identifiers for sender 105 and recipient 110. *Id.* (citing Ex. 1005 ¶ 35; Ex. 1003 ¶¶ 169, 170).

Independent claim 1 recites limitation [1.11.4]—“applying with the rules engine, velocity rules.” Ex. 1001, 31:60. Apple contends that the

combination of Dill and Hansen teaches limitation [1.11.4] because, as identified above with respect to limitation [1.6], Dill's transfer options module 145 enforces delivery rules 151 defined by recipient 110 on sender 105. Pet. 73–74 (citing Ex. 1005 ¶ 102, Fig. 9; Ex. 1003 ¶¶ 172, 173). Apple turns to Hansen's payment enabler 170 that enforces "internal business rules," including "velocity checks" such as "a limit on the number of transactions during a time period," to teach that velocity rules were well-known in the art. *Id.* at 75–76 (quoting Ex. 1008 ¶ 78) (citing Ex. 1008 ¶¶ 22, 24, Figs. 1, 6A (step 604); Ex. 1003 ¶¶ 174–76). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill's money transfer facilitator 140, which includes transfer options module 145, to enforce Hansen's velocity rules that limit the number of transactions a subscriber may perform in a time period to promote additional security in Dill's system 100. *Id.* at 77 (citing Ex. 1003 ¶ 178).

Apple contends that combining the teachings of Dill and Hansen in this way would have been the combination of prior art elements (i.e., "Dill's money transfer facilitator 140 enforcing 'velocity rules' (e.g., time limits) on the sender 105 in the rules database 150") according to known methods (i.e., "defining rules in the rule database 150, as taught by Dill, with rules specifying 'a limit on the number of transactions during a time period,' as taught by Hansen") to yield the predictable result of "applying time-based rules for sender transactions." Pet. 77 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶ 178). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Dill's money transfer facilitator 140, which, once again, includes transfer options

module 145, to include Hansen's velocity rules because Dill defines rules for sender 105. *Id.* at 77–78 (citing Ex. 1005 ¶ 102; Ex. 1003 ¶¶ 178, 179).

Independent claim 1 recites limitation [1.11.5]—“creating with the database services a new pending transaction history record.” Ex. 1001, 31:61–62. Apple contends that Dill teaches limitation [1.11.5] because, as it identifies above with respect to limitation [1.4], Dill's money transfer facilitator 140 uses information in mobile subscriber data 150 to transfer money to recipient 110, updates the recipient's balance, and creates a new MTCN record of the transfer. Pet. 78–79 (citing Ex. 1005 ¶¶ 57, 80, Fig. 5 (step 545); Ex. 1003 ¶¶ 180, 181).

Independent claim 1 recites limitation [1.11.6]—“holding funds from the agent account balance using the payment handler.” Ex. 1001, 31:63–64. Apple contends that Dill teaches limitation [1.11.6] because funds from the account for agent 135 are held for recipient 110 to pick up from the agent's retail location. Pet. 79–80 (citing Ex. 1005 ¶ 51; Ex. 1003 ¶ 182). Apple further argues that, after notifying recipient 110 of the transfer, Dill discloses holding funds in the account of agent 135 and then releasing the funds after the recipient requests initiation of the transfer. *Id.* at 80–81 (citing Ex. 1005 ¶¶ 80–82, Fig. 5 (steps 550, 565, 570); Ex. 1003 ¶¶ 183, 184).

Independent claim 1 recites limitation [1.11.7]—“loading the funds to the subscriber account using the payment handler.” Ex. 1001, 31:65–66. Apple contends that Dill teaches limitation [1.11.7] because, upon receiving a transfer request, mobile application 145 of money transfer facilitator 140 transfers funds to destination account 175 of recipient 110 and then sends a notification message to the recipient's mobile wallet application 130

indicating success or failure of the transfer. Pet. 81–82 (citing Ex. 1005 ¶¶ 81, 82, Fig. 5 (steps 565, 570); Ex. 1003 ¶¶ 185–87).

Independent claim 1 recites limitation [1.11.8]—“updating, using the database services, a pending transaction history record to reflect the funds.” Ex. 1001, 32:1–2. Apple contends that Dill teaches limitation [1.11.8] because, upon completion of a structured settlement between sender 105 and recipient 110, money transfer facilitator 140 uses information stored in mobile subscriber data 150 to transfer money to the recipient’s account and updates his/her balance accordingly. Pet. 83 (citing Ex. 1005 ¶¶ 57, 82, Fig. 5 (steps 570, 575, 580, 585); Ex. 1003 ¶¶ 188–90).

During trial, Fintiv contends that Dill fails to teach the following: (1) the deposit transaction required by independent claim 1; (2) “a communication message from the mobile device . . . indicating that the subscriber desires to deposit a specified amount of funds into the subscriber’s account,” as recited in independent claim 1; (3) the commitment process required by independent claim 1; and (4) “the business process services operable to implement business workflows, including at least one of . . . auditing financial transactions, . . . handling errors, and logging platform objects,” as recited in independent claim 1. PO Resp. 26–42; PO Sur-reply 1–8, 17–20. Notwithstanding Fintiv’s arguments to the contrary, Apple has shown by a preponderance of the evidence that the combined teachings of Dill, Vadhri, Akashika, and Hansen account for all the limitations of independent claim 1. We address Fintiv’s arguments in turn.

a. deposit transaction

In its Patent Owner Response, Fintiv contends that independent claim 1 requires a subscriber to deposit funds into his/her own account.

PO Resp. 26. Fintiv argues that, instead of explaining how Dill teaches this particular deposit transaction, Apple explains how Dill performs a transaction where a subscriber transfers funds to another party. *Id.* Fintiv argues that Apple’s reliance on Figure 5 of Dill is misplaced because it merely illustrates a sender who sends money to a recipient, rather than a deposit transaction where a subscriber deposits money into his/her own account. *Id.* at 27–28 (citing Pet. 50–51; Ex. 1005, Fig. 5). Fintiv also argues that Apple’s attempt to argue that sender 105 and recipient 110 in Dill are one and the same “effectively re-writes” Dill’s disclosure. *Id.* at 28 (citing Pet. 48; Ex. 1005 ¶ 52). According to Fintiv, the disclosure in paragraph 52 of Dill “simply means that a party that acts as a sender in one transaction can alternatively act as a recipient in another (different) transaction.” *Id.* (citing Ex. 2009 ¶¶ 71–73). In addition, Fintiv argues that Dill expressly precludes sender 105 and recipient 110 from being one and the same because it discloses “provid[ing] a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130, or between the sending cash retail location and receiving mobile wallet 130.” *Id.* at 28–29 (quoting Ex. 1005 ¶ 57). Fintiv asserts that the disclosure in paragraph 57 of Dill is an explicit statement that sender’s mobile wallet 125 is unrelated to recipient’s mobile wallet 130. *Id.* at 29 (citing Ex. 2009 ¶¶ 74, 75).

In its Reply, Apple maintains that Dill teaches a subscriber depositing funds in his/her own account. Pet. Reply 20 (citing Pet. 48, 56–57). Apple contends that Dill’s disclosure of “deliver[ing] funds to a funds withholding system” and then transferring those funds to an account encompasses a deposit transaction where a sender deposits funds into his/her account. *Id.*

(quoting Ex. 1005 ¶ 101) (citing Pet. 57; Ex. 1005 ¶ 3). According to Apple, Dill's system is not limited to sender/recipient transactions, but instead expressly states that any entity and/or device associated with the entity "can alternately act as sender or recipient." *Id.* at 20 (quoting Ex. 1005 ¶ 52).

Apple further contends that Fintiv's "reading of Dill is overly narrow and not supported" because the language in paragraph 52 of Dill expressly relates to "time"—not a "transaction." Pet. Reply 20–21 (quoting Ex. 1005 ¶ 52). Moreover, when considering that Dill uses the names "sender" and "recipient" interchangeably, Apple asserts that "an entity and/or device associated with that entity may act as a 'sender' *at a first time* in the transaction and a 'recipient' *at a second time* in the same transaction." *Id.* at 21 (citing Ex. 1005 ¶ 52). Lastly, Apple argues that Fintiv's reliance on paragraph 57 of Dill to support its argument that Dill precludes any interpretation where sender 105 and recipient 110 are one and the same is "wrong" because this paragraph merely discloses an example of a transaction where the sender and recipient are "unrelated entities." *Id.* at 21–22 (quoting Ex. 1005 ¶ 57). According to Apple, paragraph 57 of Dill does not mandate that sender 105 and recipient 110 are "unrelated entities" "in *every* situation" or "*all* instances." *Id.* at 22.

In its Sur-reply, Fintiv reiterates its contention that Dill only discloses a transaction where one party labeled as sender 105 sends money to a different party labeled as recipient 110, rather than a deposit transaction where sender 105 deposits money into his/her own account. PO Sur-reply 1–2 (citing Pet. 50–51; Ex. 1005, Fig. 5). Fintiv argues that its declarant, Dr. Shamos, unequivocally states that "[n]owhere does Dill disclose or suggest that the 'sender' and 'receiver' or 'recipient' can be the

same party in the same transaction.” *Id.* at 2 (quoting Ex. 2009 ¶ 73). Fintiv argues that Apple’s Reply is based on attorney argument rather than testimony from its declarant, Dr. Houh, because both his original and reply declarations are silent as to whether the “sender” and “recipient” can be the same party in the same transaction. *Id.* at 2–4 (citing Pet. Reply 21, 24; Ex. 1003; Ex. 1017). Fintiv acknowledges that Dr. Houh’s original declaration quotes disclosures in paragraph 52 of Dill, but Fintiv asserts that he stops short of testifying that sender 105 and recipient 110 can be the same party to the same transaction. *Id.* at 4–6 (citing Ex. 1003 ¶¶ 130–33, 143–45).

Fintiv also argues that Apple’s reliance on the passage “delivering funds to a funds withholding system” in paragraph 101 of Dill is taken out of context because this passage refers to a transaction between sender 105 and recipient 110—it does not imply that sender 105 and recipient 110 are the same party. PO Sur-reply 6–7 (quoting Ex. 1005 ¶ 101). Lastly, Fintiv argues that the disclosure in paragraph 57 of Dill that indicates sender 105 and recipient 110 are “unrelated entities” is not characterized as an embodiment or an example, as asserted by Apple. *Id.* at 8 (quoting Ex. 1005 ¶ 57). In any event, Fintiv argues that, even if this disclosure in paragraph 57 were an example, Apple has not met its burden of demonstrating that Dill affirmatively teaches that sender 105 and recipient 110 are the same party in the same transaction. *Id.*

Based on the fully developed trial record, we agree with Apple that Dill contemplates a deposit transaction where the sender and the recipient are the same party. Pet. 48, 56–57; Pet. Reply 20–22. Dill makes clear that its use of the terms sender and recipient when describing a transaction is

only limited temporally—not by transaction type. The relevant disclosure in Dill is reproduced below:

the names sender and recipient are used only to illustrate a particular entity's and/or device's function at a given time and are not intended to imply any limitations on the functions that can be performed by a given entity and/or device. That is, any given entity and/or device associated with that entity can alternately act as sender or recipient.

Ex. 1005 ¶ 52 (emphases added). Stated differently, Dill contemplates that “any given entity” such as a sender “can alternately” act as a recipient such that the sender and recipient are the same party in the same transaction. *Id.* Contrary to Fintiv’s assertion, we do not read this cited disclosure in Dill as applying to different transactions where a sender in one transaction can be a recipient in another transaction. *See* PO Resp. 28. Reading Dill in this way would effectively limit Dill’s use of sender and recipient in a manner not explicitly contemplated by Dill itself.

Dill further discloses that sender 105 initiates a transaction through sender’s mobile wallet 125 by sending a request to mobile application 145 of money transfer facilitator 140. Ex. 1005 ¶ 77, Fig. 5, step 515. Dill discloses one or more delivery options for completing such a transaction, including “delivering funds to a funds withholding system.” *Id.* ¶ 101. Apple’s declarant, Dr. Houh, testifies that “delivering funds” in this particular context teaches “‘deposit[ing] funds’ because funds are transferred to an account.” Ex. 1003 ¶ 131 (citing Ex. 1005 ¶¶ 3, 101). We credit Dr. Houh’s testimony in this regard because it is consistent with the background disclosure in Dill of a sender “wiring” money to a receiver (otherwise known as the recipient) using a money order that is “deposited with the third party.” Ex. 1005 ¶ 3. Taking into account our analysis above in which Dill

contemplates that the sender and recipient may be the same party in the same transaction, we find that Dill teaches or fairly suggests a deposit transaction where the sender deposits money into his/her own account, as required by independent claim 1.

We do not agree with Fintiv's reading of paragraph 57 of Dill as precluding the sender and recipient from being the same party. *See* PO Resp. 28–29; PO Sur-reply 8. For convenience, paragraph 57 of Dill is reproduced below:

[s]uch a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping database 150, to provide a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130, or between the sending cash retail location and receiving mobile wallet 130. It need not be a closed-loop system that allows mobile remittance only for consumers who are enrolled in the same mobile wallet system but rather allows entities that are unrelated to allow their enrolled consumers to send a mobile money transaction to a consumer either enrolled under another entity or not enrolled—in which case they are able to enroll in a mobile wallet service, pick up cash at a retail location of the money transfer facilitator or other cash retail outlet or designate a destination for receipt of the money transfer.

Ex. 1005 ¶ 57. This cited disclosure indicates that Dill's system 100 is not “a closed-loop system” that is restricted to just “enrolled consumers,” but permits transactions with “unrelated entities” not otherwise enrolled with the system. More importantly, we agree with Apple that paragraph 57 of Dill does not mandate that a sender and recipient must be “unrelated entities.” *See* Pet. Reply 22. Instead, as we explain above, Dill contemplates that “any given entity” such as a sender “can alternately” act as a recipient such that

the sender and recipient are the same party in the same transaction.

Ex. 1005 ¶ 52.

Lastly, we decline to credit the testimony of Fintiv's declarant, Dr. Shamos, on this particular issue because his supporting testimony is not consistent with Dill. *See* PO Sur-reply 1–6. As one example, Dr. Shamos testifies that “[n]owhere does Dill disclose or suggest that the ‘sender’ and ‘receiver’ or ‘recipient’ can be the same party in the same transaction.”

Ex. 2009 ¶ 73. This testimony, however, is not consistent with the disclosure in Dill because, as we explain above, paragraph 52 of Dill contemplates that “any given entity” such as a sender “can alternately” act as a recipient such that the sender and recipient are the same party in the same transaction. Ex. 1005 ¶ 52. As another example, Dr. Shamos testifies that “Dill restricts its transactions [to] taking place between *unrelated entities*,” which, in turn, “precludes the sender and receiver in Dill from being the same party.” Ex. 2009 ¶ 75. This testimony, however, relies exclusively on paragraph 57 of Dill. *See id.* ¶ 74. Dr. Shamos's testimony in this regard is not consistent with the disclosure in Dill because, as we explain above, paragraph 57 of Dill states that system 100 is not “a closed-loop system” that is restricted to just “enrolled consumers,” but permits transactions with “unrelated entities” not otherwise enrolled with the system. This paragraph does not mandate that a sender and recipient must be “unrelated entities.” Ex. 1005 ¶ 57.

b. “a communication message from the mobile device . . . indicating that the subscriber desires to deposit a specified amount of funds into the subscriber’s account”

In its Patent Owner Response, Fintiv contends that Dill fails to teach “a communication message from the mobile device . . . indicating that the subscriber desires to deposit a specified amount of funds into the subscriber’s account,” as recited in independent claim 1. PO Resp. 30. Fintiv argues that Dill’s system 100 transfers funds from sender 105 to recipient 110 by transmitting a message identifying the transfer amount and the intended recipient to money transfer facilitator 140. *Id.* at 30–32 (citing Ex. 1005 ¶¶ 54–56, Fig. 1). Fintiv, however, argues that Dill is “wholly silent” with respect to sender 105 transmitting a message to money transfer facilitator 140 indicating the sender desires to deposit funds into his/her own account. *Id.* at 32 (citing Ex. 2009 ¶ 76).

In its Reply, Apple maintains that that Dill teaches sender’s mobile wallet 125 executing on the sender’s mobile device initiating a deposit transaction into his/her own account by sending a request that specifies the amount of the deposit to mobile application 145. Pet. Reply 22 (citing Pet. 56; Ex. 1005 ¶ 77, Fig. 5, step 515). Apple disagrees with Fintiv’s argument that Dill only discloses sender 105 sending money to recipient 110 because, as it explains above with respect to the deposit transaction required by independent claim 1, Dill teaches the sender depositing funds into his/her own account. *Id.* at 22–23 (citing Pet. 48, 56–57, 81–82; Ex. 1005 ¶¶ 77, 81, 82; Ex. 1003 ¶¶ 143, 186).

Based on the fully developed trial record, we agree with Apple that Dill contemplates a deposit transaction in which sender 105 seeks to deposit

funds into his/her own account by transmitting a request indicating the amount of the transaction from sender's mobile wallet 125 executing on the sender's mobile device to mobile application 145. Pet. 48, 56–57; Pet. Reply 22–23. As we note above, Dill discloses that sender 105 initiates a transaction through sender's mobile wallet 125 executing on the sender's mobile device by sending a request to mobile application 145. Ex. 1005 ¶ 77, Fig. 5, step 515; *see also id.* at ¶¶ 10, 13, 45 (“The mobile device can execute a mobile wallet application.”). This request includes, among other things, information identifying sender 105, information identifying recipient 110, and transaction information (e.g., the amount). *Id.* ¶ 77. Upon receipt of the request, Dill's money application 145 performs the transaction by transferring the funds to identified account 175 of recipient 110. *Id.* ¶ 82, Fig. 5, step 570. Taking into account our analysis above in which Dill contemplates that the sender and recipient may be the same party in the same transaction (*id.* ¶ 52), we find that Dill teaches or fairly suggests sender 105 transmitting a request from sender's mobile wallet 125 executing on the sender's mobile device to mobile application 145 indicating the sender's desire to deposit a specified amount of funds in the his/her own account, as required by independent claim 1.

Fintiv's arguments are predicated on the notion that Dill is silent with respect to sender 105 transmitting a message to money transfer facilitator 140 indicating the sender desires to deposit funds into his/her own account. *See* PO Resp. 30–32. For the same reasons we identify above in our analysis of the deposit transaction required by independent claim 1, we do not agree with Fintiv's arguments. *See supra* Section II.B.7.a.

c. commitment process

In its Patent Owner Response, Fintiv contends Dill fails to teach the commitment process required by independent claim 1 for two reasons: (1) the Petition fails to map Dill to the limitations of independent claim 1 using Fintiv’s proposed construction of “committing a pending transaction”; and (2) Dill does not teach an explicit transmission of a “transaction commitment request” from the integration tier to the business process services, as required by limitations [1.10.5] and [1.10.6] of independent claim 1. PO Resp. 33–34. Beginning with the first argument, Fintiv asserts that “commit” is not synonymous with “perform,” but in the context of the ’386 patent means “saving data permanently after a set of tentative changes, rather than rolling back the tentative changes.” *Id.* at 34 (citing Ex. 2009 ¶ 84). According to Fintiv, Apple does not apply the appropriate definition of “commit” in its claim mapping set forth in the Petition. *Id.* (citing Ex. 2009 ¶¶ 86–91).

Turning to the second argument, Fintiv asserts that Apple improperly maps Dill’s money transfer facilitator 140 to separate elements required by independent claim 1. PO Resp. 34–35 (citing Pet. 17, 27, 35, 41; Ex. 2009 ¶ 85). After explaining how the claimed “commitment” process occurs through the business process services as reflected in the plain language of limitation [1.10.5] of independent claim 1, Fintiv argues that Dill’s transfer options module 145 “providing ‘a notification of the transaction to a recipient of the transaction,’” and selecting “one or more delivery options for completing the . . . transaction,” does not teach the claimed “transaction commitment request” because this communication must be between the integration tier and the business service processes—not from the integration

tier to the recipient. *Id.* at 36 (quoting Ex. 1005 ¶ 101) (citing Ex. 2009 ¶ 89).

In its Reply, Apple maintains that Dill teaches “committing a pending transaction.” Pet. Reply 26–27 (citing Pet. 60–62). Apple disagrees with Fintiv’s first argument because it reiterates that Fintiv’s proposed construction of this claim term is improper. *Id.* at 26. Apple also disagrees with Fintiv’s second argument because, at step 525 of Figure 5, Dill’s mobile application 145 commits a pending transaction through money transfer facilitator 140, which Apple maps to the claimed “business process services.” *Id.* at 27 (citing Pet. 60; Ex. 1005 ¶¶ 78, 79; Ex. 1003 ¶ 148). Apple also argues that Dill teaches the claimed “transaction commitment request” because Dill’s transfer options module 145, which it maps to the claimed “integration tier,” communicates a selection of “one or more delivery” options for completing the transaction. *Id.* (quoting Ex. 1005 ¶ 101) (citing Pet. 61). Apple asserts that the selection of a delivery option in Dill teaches communicating a transaction commitment request to the business process services because it is a communication from Dill’s transfer options module 145 to money transfer facilitator 140. *Id.* (citing Pet. 60–61; Ex. 1005 ¶ 49; Ex. 1003 ¶ 150).

Based on the fully developed trial record, we agree with Apple that Dill teaches “committing a pending transaction” per limitations [1.10.5] and [1.10.9] because it processes/carries out a transaction through money transfer facilitator 140 and mobile subscriber data 150 by performing the following steps required by limitations [1.11.1]–[1.11.8]: (1) “ensuring” step; (2) “validating” step; (3) “applying” step; (4) “creating” step; (5) “holding” step; (6) “loading” step; and (7) “updating” step. Pet. 60–62, 64–

84. Notably, Dill discloses that, after mobile application 145 verifies the information in sender's 105 request at step 520 of Figure 5, the mobile application processes/carries out the pending transaction through money transfer facilitator 140 by providing a response to mobile wallet application 121, of which sender's mobile wallet 125 is a part of, at step 525. Ex. 1005 ¶ 78, Fig. 5, steps 520, 525. Dill further discloses that transfer options module 145 included within money transfer facilitator 140 provides a notification of the transaction to recipient 110, which, as we explain above, may be the same party as sender 105 (*id.* ¶ 52), and then selects one or more delivery options for completing the transaction. *Id.* ¶ 101; *see also* Fig. 9 (illustrating transfer options module 145 included within and, therefore, connected to money transfer facilitator 140). After selecting a delivery option, transfer options module 145 communicates with money transfer facilitator 140, which, in turn, accesses source and destination accounts 165, 175 to affect transfer. *Id.* ¶ 49. Apple argues—and we agree—Dill's transfer options modules 145 selecting a delivery option and communicating the selection to money transfer facilitator 140 teaches the integration tier communicating a “transaction commitment request” to the business process services, as required by limitation [1.10.6] of independent claim 1. *See* Pet. 61–62; *see also* Tr. 23:20–24:6, 48:7–13 (clarifying that Dill's selection and communication of the delivery options teaches the claimed “transaction commitment request”).

We do not agree with Fintiv's first argument that Apple does not apply the appropriate definition of “commit” in its claim mapping set forth in the Petition. *See* PO Resp. 34. As we explain above in our claim construction analysis, we decline to adopt Fintiv's proposed construction of

the claim term “committing a pending transaction” for the following reasons: (1) Fintiv confines its proposed construction of this claim term to the database art; and (2) Fintiv limits this claim term to specific embodiments in the specification of the ’386 patent, without a clear indication in the intrinsic record that the challenged claims were meant to be so limiting. *See supra* Section II.A.1.

We also disagree with Fintiv’s argument that Apple improperly maps Dill’s money transfer facilitator 140 to separate elements required by independent claim 1. *See* PO Resp. 34–35. Contrary to Fintiv’s argument, we understand Apple to map Dill’s transfer options module 145 to the claimed “integration tier” (Pet. 17 (arguing “Dill teaches that the transfer options module 145 (*‘integration tier’*) *manages mobile wallet sessions*”)); Dill’s money transfer facilitator 140 to the claimed “business process services” (*id.* at 27 (arguing “Dill’s money transfer facilitator 140 provides *business process services*”)); Dill’s money transfer facilitator 140 together with Vadhri’s APIs to the claimed “payment handler service” (*id.* at 38 (arguing “a [person of ordinary skill in the art] would have been motivated to modify Dill’s money transfer facilitator 140 (*‘payment handler service’*) to use *APIs* of different payment processors,” as taught by Vadhri)); and Dill’s transfer options module 145 together with delivery rules 151 to the claimed “*rules engine*” (*id.* at 40 (arguing “[t]he transfer options module 145 enforcing the delivery rules [151] teaches the claimed *rules engine*”)). Fintiv does not direct us to, nor can we determine, any inconsistencies in Apple’s explanation as to how the various components of Dill’s system 100 account for the separate elements required by independent claim 1.

Lastly, Fintiv’s argument that Dill’s transfer options module 145 providing a notification of the transaction to recipient 110 and selecting one or more delivery options for completing the transaction does not teach the claimed “transaction commitment request” is misplaced. *See* PO Resp. 36. Fintiv’s argument in this regard narrowly focuses on Dill’s transfer options module 145 providing a notification of the transaction to recipient 110. Ex. 1005 ¶ 101. Fintiv, however, does not address squarely Apple’s argument set forth in the Petition. That is, as we explain above, Apple relies on Dill’s transfer options modules 145 selecting a delivery option and communicating the selection to money transfer facilitator 140, which, in turn, accesses the source and recipient accounts 165 and 175 to affect transfer, to teach the claimed “transaction commitment request.” *See* Pet. 61–62.

d. “auditing financial transactions”

In its Patent Owner Response, Fintiv contends that, when applying its proposed construction of the claim term “auditing financial transaction,” Dill’s disclosure of using a transaction identifier “to determine delivery of the transfer” fails to teach this claim term because determining delivery does not constitute a retrospective examination and verification of a financial transaction. PO Resp. 38–39 (quoting Ex. 1005 ¶ 105) (citing Pet. 28–29; Ex. 2009 ¶¶ 94–97). According to Fintiv, auditing requires “performing retrospective inspection and verification of financial transactions,” and Dill is “wholly silent” with respect to using any identifier after completing the transfer of funds from sender 105 to recipient 110. *Id.* at 39 (citing Ex. 2009 ¶¶ 96, 97).

In its Reply, Apple maintains that, when applying its ordinary and customary meaning, Dill teaches the claim term “auditing financial transactions.” Pet. Reply 28 (citing Pet. 28–29). Apple contends that a transaction identifier may be used to identify sender 105, recipient 110, or both together with the delivery option. *Id.* (citing Pet. 28–29; Ex. 1005 ¶ 105). Apple further argues that Dill’s money transfer facilitator 140 receives and verifies the transaction identifier, and then sends a recipient identifier to mobile wallet application 121 indicating the intended recipient. *Id.* at 28–29 (citing Pet. 29; Ex. 1005 ¶ 41). According to Apple, this is how Dill’s money transfer facilitator 140 performs the function of “auditing financial transactions.” *Id.* at 29 (citing Pet. 29; Ex. 1003 ¶ 97).

In its Sur-reply, Fintiv reiterates that, when applying its proposed construction of the claim term “auditing financial transaction,” Dill’s disclosure of using a transaction identifier “to determine delivery of the transfer” fails to teach this claim term because determining delivery does not constitute a retrospective examination and verification of a financial transaction. PO Sur-reply 18 (citing Ex. 2009 ¶¶ 94–97). Fintiv contends that, at best, Dill teaches using a transaction identifier “*prospectively* to determine the recipient of the funds transfer prior to the transferring of the funds,” but “auditing is a *retrospective* process that is completed after the transaction has been performed.” *Id.*

Based on the fully developed trial record, we agree with Apple that Dill’s money transfer facilitator 140 performs the function of “auditing financial transactions.” Pet. 28–29; Pet. Reply 28–29. As we explain above in our claim construction analysis of the claim term “auditing financial transactions,” the intrinsic record does not limit in any way how the business

process services performs this function and, as a result, we accord this claim term the ordinary and customary meaning of the official examination of financial transactions. *See supra* Section II.A.3. Dill discloses assigning a transaction identifier to a transaction, which, in turn, may be used to (1) identify sender 105, recipient 110, or both; and (2) determine delivery of the transfer. Ex. 1005 ¶ 105. Dill further discloses that money transfer facilitator 140 receives and verifies the transaction identifier and, in response to verifying the transaction identifier, sends a recipient identifier to mobile wallet application 121 indicating the intended recipient. *Id.* ¶ 41. Based on these disclosures, we find that Dill’s money transfer facilitator’s 140 verifying a transaction by using a transaction identifier sufficiently implicates the official examination of financial transactions and, therefore, teaches “auditing financial transactions,” as recited in independent claim 1.

Fintiv’s arguments are predicated on us adopting its proposed construction of the claim term “auditing financial transactions.” *See* PO Resp. 38–39; PO Sur-reply 18. As we explain in above in our claim construction analysis of the claim term “auditing financial transactions,” we decline to adopt Fintiv’s proposed construction for the following reasons: (1) it imposes a temporal restriction; and (2) it requires replacing the word “auditing” with the words “inspection and verification.” *See supra* Section II.A.3.

e. “handling errors”

In its Patent Owner Response, Fintiv contends that, when applying its proposed construction of the claim term “handling errors,” Dill’s disclosure of proceeding with a transaction only after it is verified “may suggest a way of preventing errors from occurring, but it fails to teach that Dill is operable

to handle errors that do occur.” PO Resp. 40. According to Fintiv, one example of handling errors in the ’386 patent is the rolling back of tentative changes following an error. *Id.* (citing Ex. 2009 ¶¶ 100–02). In contrast, Fintiv asserts that Dill is “wholly silent” with respect to money transfer facilitator 140 taking any actions after an error has occurred. *Id.* at 41 (citing Ex. 2009 ¶ 102).

In its Reply, Apple maintains that it has demonstrated in the Petition how Dill’s money transfer facilitator 140 performs the function of “handling errors.” Pet. Reply 29 (citing Pet. 29). Apple contends that Dill’s mobile application 145 of money transfer facilitator 140 only proceeds with a transaction if the information pertaining to the transaction has been verified. *Id.* (citing Ex. 1005 ¶ 78, Fig. 5, step 520). Apple, therefore, asserts that Dill’s money transfer facilitator 140 “handles errors” by preventing the transaction from proceeding if the information pertaining to the transaction is not verified. *Id.* (citing Pet. 29; Ex. 1003 ¶ 98).

In its Sur-reply, Fintiv contends a person of ordinary skill in the art would have understood that “detecting errors” and “handling errors” are different. PO Sur-reply 18–19. Fintiv asserts that “[o]nly after an error occurs and is detected can error handling be implemented.” *Id.* 19 (citing PO Resp. 40–41; Ex. 2009 ¶¶ 100–02). Fintiv then reiterates that, when applying its proposed construction of the claim term “handling errors,” Dill’s disclosure of proceeding with a transaction only after it is verified “may suggest a way of preventing errors from occurring, but it fails to teach that Dill is operable to handle errors that do occur.” *Id.*

Based on the fully developed trial record, we agree with Apple that Dill’s money transfer facilitator 140 performs the function of “handling

errors.” Pet. 29; Pet. Reply 29. As we explain above in our claim construction analysis of the claim term “handling errors,” the intrinsic record does not limit in any way how the business process services performs this function and, as a result, we accord this claim term the ordinary and customary meaning of an error handling scheme. *See supra* Section II.A.4. Dill discloses the mobile application 145 of money transfer facilitator 140 only proceeds with a transaction after verifying the information in sender’s 105 request. Ex. 1005 ¶ 78, Fig. 5, step 520. By proceeding with the transaction only upon verifying the information in sender’s 105 request, we find that Dill’s money transfer facilitator 140 effectively prevents the transaction from proceeding if the information in sender’s 105 request is unverified. In our view, this verification process sufficiently implicates an error handling scheme and, therefore, teaches “handling errors,” as recited in independent claim 1.

Fintiv’s arguments are predicated on us adopting its proposed construction of the claim term “handling errors.” *See* PO Resp. 40–41; PO Sur-reply 18–19. As we explain above in our claim construction analysis of the claim term “handling errors,” we decline to adopt Fintiv’s proposed construction for the following reasons: (1) it imposes a recovery procedure; and (2) it requires replacing the words “handling errors” with the words “responding to . . . errors.” *See supra* Section II.A.4.

f. “logging platform objects”

In its Patent Owner Response, Fintiv contends that, when applying its proposed construction of the claim term “logging platform objects,” Dill’s disclosure of “[a] database lookup is not the same as ‘logging’ — which requires the storing or recording of information in a log.” PO Resp. 41–42

(citing Ex. 2009 ¶¶ 104, 105). Fintiv contends that Dill is “wholly silent” with respect to storing information about the state of money transfer facilitator 140, sender 105, recipient 110, or mobile network operator 120 in a log. *Id.* at 42 (citing Ex. 2009 ¶¶ 105, 106).

In its Reply, Apple maintains that it has demonstrated in the Petition how Dill’s money transfer facilitator 140 performs the function of “‘logging’ platform objects.” Pet. Reply 29 (citing Pet. 30–31). Apple contends that it explains how Dill’s money transfer facilitator 140 “reference[s] external and/or internal databases to identify the recipient’s [110] mobile network operator and country.” *Id.* (emphasis omitted) (quoting Ex. 1005 ¶ 34) (citing Pet. 30–31). Apple argues that, if this database lookup confirms “recipient [110] is a mobile subscriber for a mobile network operator with whom money transfer facilitator [140] has a relationship and is enrolled in the operator’s mobile wallet,” then the recipient is notified that the funds are available in recipient’s mobile wallet 130. *Id.* at 29–30 (quoting Ex. 1005 ¶ 34) (citing Pet. 31). In this way, Apple asserts that Dill’s money transfer facilitator 140 performs a database lookup to confirm whether recipient 110 is registered and then “logs” this information in a database. *See id.* at 30 (citing Pet. 31; Ex. 1003 ¶ 101).

In its Sur-reply, Fintiv contends that Dill “refers only to a database lookup.” PO Sur-reply 19–20 (citing Ex. 1005 ¶ 34). Fintiv then reiterates that, when applying its proposed construction of the claim term “‘logging’ platform objects,” Dill’s disclosure of “[a] database lookup is not the same as ‘logging’ — which requires the storing or recording of information in a log.” *Id.* at 20.

Based on the fully developed trial record, we agree with Apple that Dill's money transfer facilitator 140 performs the function of "logging platform objects." Pet. 30–31; Pet. Reply 29–30. As we explain above in our claim construction analysis of the claim term "logging platform objects," the intrinsic record does not limit in any way how the business process services performs this function and, as a result, we accord this claim term the ordinary and customary meaning of a systematic logging of events. *See supra* Section II.A.5. Dill discloses that money transfer facilitator 140 accesses both external and internal databases to perform database lookups of recipient's 110 mobile network operator and country to determine whether the recipient subscribes to a mobile network operator that has a relationship with mobile network operator 120. Ex. 1005 ¶ 34. Dill specifically contemplates, if the database lookups indicate recipient 110 is not enrolled in a mobile wallet, enrolling the recipient in a mobile wallet so that he/she can receive the funds in an associated bank account. *Id.* One example of a database internal to Dill's system 100 is mobile subscriber data 150 that is maintained in a database or other repository. *Id.* ¶ 50. By accessing both external and internal databases to perform certain database lookup operations together with the enrollment and maintenance of new recipients, it follows that money transfer facilitator 140 systematically log events to those databases (e.g., the enrollment of new recipients in mobile subscriber data 150) and, therefore, teaches "logging platform objects," as recited in independent claim 1.

Fintiv's arguments are predicated on us adopting its proposed construction of the claim term "'logging' platform objects." *See* PO Resp. 41–42; PO Sur-reply 19–20. As we explain in above in our claim

construction analysis of the claim term “logging platform objects,” we decline to adopt Fintiv’s proposed construction for the following reasons: (1) it imposes a requirement of logging platform objects “in a log”; and (2) it requires replacing the word “logging” with the synonymous functions of “storing or recording.” *See supra* Section II.A.5.

g. Summary

In summary, Apple has demonstrated by a preponderance of the evidence that the subject matter of independent claim 1 would have been obvious over the combined teachings of Dill, Vadhri, Akashika, and Hansen.

8. Claim 3

With the exception of a few limitations, independent claim 3 includes the same limitations as independent claim 1. *Compare* Ex. 1001, 30:54–32:2, *with id.* at 33:34–34:59. For the most part, Apple’s arguments and evidence with respect to independent claim 1 equally apply to independent claim 3. Pet. 84–86. We address the unique limitations of independent claim 3 in turn.

Independent claim 3 recites limitation [3.1.1]—“an integration tier operable to manage mobile wallet sessions and maintain the integrity of financial transactions.” Ex. 1001, 33:37–38. Apple contends that Dill teaches the additional limitation of “maintain[ing] the integrity of financial transactions” because it discloses that transfer options module 145 selects one or more delivery options for completing a transaction, which includes delivering funds to destination account 175 of recipient 110. Pet. 86 (citing Ex. 1005 ¶ 101). According to Apple, by transferring money from the account of sender 105 to the account of recipient 110, Dill’s transfer options

module 145 is “operable to maintain the integrity of financial transactions.” *Id.* (emphasis omitted) (citing Ex. 1003 ¶¶ 196–98).

Independent claim 3 recites limitation [3.5.1]—“a monetary transaction system subscriber that has a profile with the monetary transaction system the subscriber profile stored in the database of the monetary transaction system.” Ex. 1001, 33:55–57. Apple contends that Dill teaches limitation [3.5.1] because it discloses that sender 105 and recipient 110 each amount to a “subscriber” in “monetary transaction system” 100. Pet. 87 (citing Ex. 1005 ¶ 51; Ex. 1003 ¶ 223). Apple further argues that Dill discloses storing profile information for sender 105 and recipient 110 as mobile subscriber data 150 maintained in a database, which, according to Apple, teaches the claimed “database.” *Id.* at 88–89 (citing Ex. 1005 ¶ 50, Fig. 9; Ex. 1003 ¶¶ 223–25).

Independent claim 3 recites limitation [3.5.2]—“wherein the subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system.” Ex. 1001, 33:57–60. Apple contends that Dill teaches limitation [3.5.2] because it discloses that sender 105 requests a transaction using its mobile wallet 125 and, upon completion of the transaction, money transfer facilitator 140 provides a structured settlement between sender 105 and recipient 110 to their mobile wallets 125 and 130, respectively. Pet. 89 (citing Ex. 1005 ¶ 57; Ex. 1003 ¶¶ 226, 227).

Independent claim 3 recites limitation [3.7]—“a rules engine operable to gather financial transaction statistics and use the gathered financial transaction statistics to enforce business constraints including transaction constraints.” Ex. 1001, 34:5–8. Apple relies on the same arguments and

evidence it identifies above with respect to limitation [1.6] to argue that Dill teaches limitation [3.7]. Pet. 86. Apple also asserts that “[t]he constraints are ‘business’ constraints (i.e., constraints relating to money transfer).” *Id.* at 86–87 (citing Ex. 1003 ¶ 205).

Independent claim 3 recites limitation [3.10.1]—“wherein the monetary transaction system is implemented to transfer funds using the mobile device configured to run a monetary transaction system application, including performing the following steps.” Ex. 1001, 34:15–19. Apple contends that Dill teaches limitation [3.10.1] because it discloses that money transfer facilitator 140 accesses source account 165 of financial institution 160 and destination account 175 of financial institution 170 to transfer funds between these two accounts via financial transfer network 155. Pet. 90 (citing Ex. 1005 ¶ 49; Ex. 1003 ¶ 228). Apple further argues that Dill’s sender 105 uses his/her mobile device to interact with sender’s mobile wallet 125, which, in turn, interacts with mobile wallet application 121 to send a transfer request to money transfer facilitator 140. *Id.* at 90–92 (citing Ex. 1005 ¶ 53, Figs. 5 (step 515), 9; Ex. 1003 ¶¶ 229–32).

Independent claim 3 recites limitation [3.10.4]—“the communication message indicating that the subscriber desires to transfer a specified amount of funds from the subscriber’s account to a recipient.” Ex. 1001, 34:24–26. Apple contends that Dill teaches the additional limitation of the “subscriber desires to transfer a specified amount of funds from the subscriber’s account to a recipient” because it discloses that sender 105 initiates a transaction to send money from its source account 165 to destination account 175 of recipient 110. Pet. 92–93 (citing Ex. 1005 ¶ 51, Fig. 9; Ex. 1003 ¶ 233). Apple further contends that Dill teaches the claimed “communication

message indicating” the desired transfer amount because it discloses that the sender’s mobile wallet 125 initiates a transaction by sending the request to mobile wallet application 121. *Id.* at 93–94 (citing Ex. 1005 ¶ 77, Fig. 5 (step 515); Ex. 1003 ¶¶ 233, 234).

During trial, Fintiv relies on the same arguments presented above with respect to independent claim 1 to rebut Apple’s explanation as to how the teachings of Dill account for the following: (1) the commitment process required by independent claim 3; and (2) the “business process services operable to implement business workflows, including at least one of . . . auditing financial transactions, . . . handling errors, and logging platform objects,” as recited in independent claim 3. PO Resp. 44–45; PO Sur-reply 17–20. For the same reasons we identify above in our analysis of independent claim 1, we do not agree with Fintiv’s arguments. *See supra* Section II.B.7.c–f. Accordingly, Apple has demonstrated by a preponderance of the evidence that the subject matter of independent claim 3 would have been obvious over the combined teachings of Dill, Vadhri, Akashika, and Hansen.

*C. Obviousness Over the Combined Teachings of
Dill, Vadhri, Akashika, Hansen, and Liao*

Apple also contends that independent claim 2 of the ’386 patent is unpatentable under § 103(a) as obvious over the combined teachings of Dill, Vadhri, Akashika, Hansen, and Liao. Pet. 84–89, 95–109. Apple contends that the teachings of Dill, Vadhri, Akashika, Hansen, and Liao account for the subject matter of independent claim 2, and provides reasoning as to why a person of ordinary skill in the art would have been prompted to combine the teachings of these references. *Id.* During trial, Fintiv presents the

following arguments: (1) Dill alone, or in combination with Liao, fails to teach the withdrawal transaction required by independent claim 2; (2) Dill fails to teach the commitment process required by independent claim 2; and (3) Dill fails to teach the “business process services operable to implement business workflows, including at least one of . . . auditing financial transactions, . . . handling errors, and logging platform objects,” as recited in independent claim 2. PO Resp. 43–45; PO Sur-reply 9–10, 17–20.

Based on the fully developed trial record, we determine that Apple has shown by a preponderance of the evidence that independent claim 2 of the ’386 patent is unpatentable as obvious over the combined teachings of Dill, Vadhri, Akashika, Hansen, and Liao. We begin our analysis with a brief overview of Liao, and then we address the parties’ contentions with respect to this challenged claim.

1. Overview of Liao

Liao generally relates to “a chipset for a mobile wallet system” and, in particular, “to a chipset implemented into a [subscriber identity module] card in a communication terminal,” which, in turn, communicates “with a contactless reader.” Ex. 1009, 1:17–20. Figure 3 of Liao, reproduced below, illustrates “a preferred architecture of a chipset” according to one embodiment. *Id.* at 4:7–8.

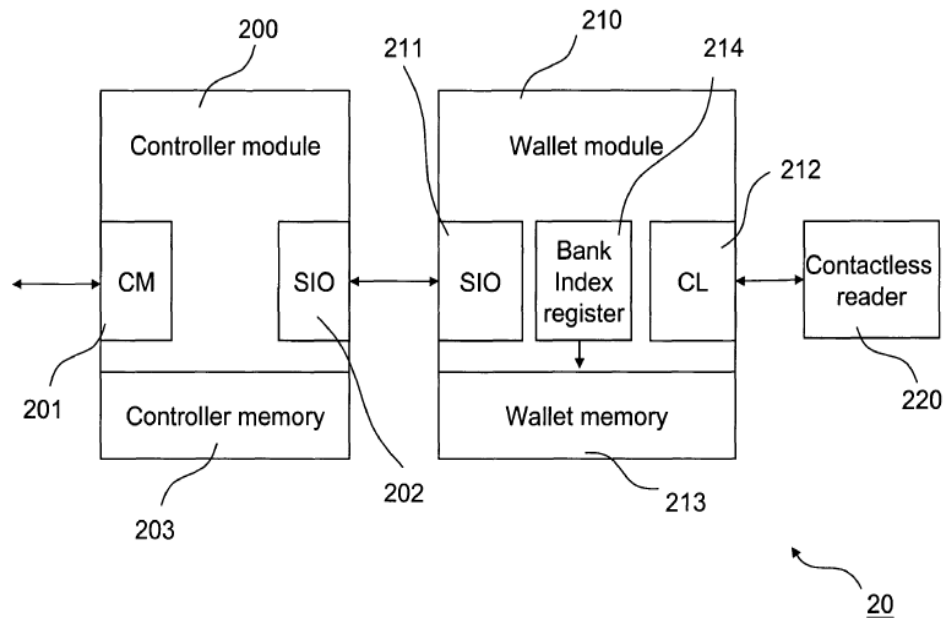


Figure 3 of Liao illustrates chipset 20 that includes, among other things, mobile wallet application software running on controller module 200 to “withdraw money from a bank account.” Ex. 1009, 5:44–55.

2. Claim 2

With the exception of a few limitations, independent claim 2 includes the same limitations as independent claims 1 and 3. *Compare* Ex. 1001, 30:54–32:2, *with id.* at 32:3–34:59. For the most part, Apple’s arguments and evidence with respect to independent claims 1 and 3 equally apply to independent claim 2. Pet. 84–89. We address the unique limitations of independent claim 2 in turn.

Independent claim 2 recites limitation [2.6]—“a mobile device configured to run a monetary transaction system application.” Ex. 1001, 32:27–28. Apple contends that Dill teaches limitation [2.6] because it discloses that sender 105 and recipient 110 each have a mobile device. Pet. 95 (citing Ex. 1005 ¶ 52; Ex. 1003 ¶ 235). Apple also argues that Dill discloses that sender 105 and recipient 110 use their mobile wallets 125 and

130, respectively, both of which are examples of a “monetary transaction system application.” *Id.* at 95–96 (citing Ex. 1005 ¶ 53, Fig. 9; Ex. 1003 ¶¶ 236, 237).

Independent claim 2 recites limitation [2.12.1]—“wherein the monetary transaction system is implemented to withdraw funds at an agent branch using the mobile device configured to run a monetary transaction system application, including performing the following steps.” Ex. 1001, 32:51–54. Apple contends that the combination of Dill and Liao teaches limitation [2.12.1]. Pet. 96. More specifically, Apple argues that Dill teaches “the monetary transaction system is implemented at an agent branch” because it discloses that sender 105 may complete a transfer by visiting the branch of agent 135 and paying the transfer amount. *Id.* at 96–97 (emphasis omitted) (citing Ex. 1005 ¶¶ 33, 51; Ex. 1003 ¶ 238). Apple also argues that Dill contemplates a “withdraw” transaction because it discloses (1) delivering funds to destination account 175 of financial institution 170, and (2) making funds available for pick up at the branch of agent 135. *Id.* at 97 (citing Ex. 1005 ¶ 101). Relying on the testimony of Dr. Houh, Apple asserts that a person of ordinary skill in the art would have understood that these two types of transactions involve withdrawing funds. *Id.* (citing Ex. 1003 ¶ 239).

Apple turns to Liao’s mobile wallet application software running on controller module 200, which is used to withdraw money from a bank account, as evidence that withdrawing funds from an account associated with a mobile device user was well-known in the art. Pet. 97–98 (citing Ex. 1009, 5:44–55; Ex. 1003 ¶¶ 241–43). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill so that

sender 105 (or recipient 110) may withdraw funds because Dill’s stated objective is to use mobile devices to conduct “money transfer services” and, as evidenced by Liao, using a mobile device to make a withdrawal is one type of “money transfer service[]” that would be desirable to provide “improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.” *Id.* at 98–99 (quoting Ex. 1005 ¶ 4) (citing Ex. 1003 ¶ 245).

Apple contends that combining the teachings of Dill and Liao in this way would have been the combination of prior art elements (i.e., combining “Dill’s money transfer facilitation system with Liao’s withdrawal using a mobile phone”) according to known methods (i.e., “withdrawing funds with a mobile phone, as taught by Liao”) to yield the predictable result of “permitting Dill’s sender [105] (or [recipient 110]) to withdraw funds from her account.” Pet. 99 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶ 246). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Dill’s “money transfer” transactions to include a withdrawal of funds by sender 105 (or recipient 110) because Liao teaches that the mobile device user employs “mobile wallet application software” to “withdraw money from a bank account.” *Id.* (quoting Ex. 1009, 5:44–55) (citing Ex. 1003 ¶ 247).

Independent claim 2 recites limitation [2.12.4]—“the communication message indicating that the subscriber desires to withdraw a specified amount of funds from an account associated with the subscriber.” Ex. 1001, 32:60–63. Apple contends that the combination of Dill and Liao teaches limitation [2.12.4]. Pet. 100. More specifically, Apple argues that Dill teaches the “communication message indicating that the subscriber desires

[to authorize a transaction for] a specified amount of funds” because it discloses that sender’s mobile wallet 125 initiates a transaction by sending a request, including the amount, to mobile application 145. *Id.* at 100–01 (citing Ex. 1005 ¶ 77, Fig. 5 (step 515); Ex. 1003 ¶ 249). Apple further argues that the combination of Dill and Liao teaches “withdraw[ing] . . . funds” at the branch of agent 135 because, as it identifies above with respect to limitation [2.12.1], a person of ordinary skill in the art would have been motivated to modify Dill so that sender 105 (or recipient 110) may withdraw funds from an account associated with the sender (or recipient), as taught by Liao. *Id.* at 101 (citing Ex. 1003 ¶ 250).

Independent claim 2 recites limitation [2.12.5]—“the communication comprising a secure, perishable code.” Ex. 1001, 32:63–64. Apple contends that the combination of Dill and Vadhri teaches limitation [2.12.5] because, as it identifies above with respect to limitation [2.12.4], Dill discloses the claimed “communication.” Pet. 101 (emphasis omitted) (citing Ex. 1003 ¶ 251). Apple turns to Vadhri’s temporary code 103 as evidence that a secure, perishable code was well-known in the art. *Id.* at 102 (citing Ex. 1006 ¶¶ 15, 46; Fig. 1; Ex. 1003 ¶¶ 252–53). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill so that the money transfer request of sender 105 includes a secure, perishable code, as taught by Vadhri, “to enhance security by limiting the amount of time that the transaction message is valid” and “to reduce the risk of fraud.” *Id.* at 103 (citing Ex. 1006 ¶ 15).

Apple contends that combining the teachings of Dill and Vadhri in this way would have been the combination of prior art elements (i.e., combining “Dill’s sender-initiated transfer request with Vadhri’s temporary

code [103]”) according to known methods (i.e., “including the temporary code [103] in a communication, as taught by Vadhri”) to yield the predictable result of “reducing the risk of fraud by incorporating the temporary code [103] in the sender-initiated transfer request.” Pet. 103 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶ 254). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Dill’s sender-initiated transfer request to include Vadhri’s temporary code 103 because Vadhri discloses including the temporary code in a communication message, and the temporary code is used to “purchase goods and/or services.” *Id.* (quoting Ex. 1006 ¶ 46) (citing Ex. 1006 ¶ 23; Ex. 1003 ¶ 255).

Independent claim 2 recites limitation [2.12.6]—“determining that the transaction is valid and in progress.” Ex. 1001, 32:65–66. Apple contends that Dill teaches “determining that the transaction is valid” because it discloses that, upon receiving a money transfer request from sender 105, mobile application 145 verifies that the data in the request provided by mobile wallet application 121 is valid. Pet. 104 (citing Ex. 1005 ¶ 78, Fig. 5 (steps 515, 520); Ex. 1003 ¶ 257). Apple also argues that Dill teaches “determining that the transaction is . . . in progress” because it discloses that, upon receiving a second money transfer request after a confirmation, mobile application 145 returns a MTCN to mobile wallet application 121, indicating that the transaction is available for payout to recipient 110. *Id.* at 104–05 (emphasis omitted) (citing Ex. 1005 ¶ 80, Fig. 5 (step 545); Ex. 1003 ¶¶ 258, 259).

Independent claim 2 recites limitation [2.12.7]—“wherein determining that the transaction is valid comprises validating the secure,

perishable code and communicating from the integration tier to the database services to query attributes of the subscriber's account.” Ex. 1001, 32:66–33:3. Apple contends that the combination of Dill and Vadhri teaches limitation [2.12.7]. Pet. 105. More specifically, Apple argues that, as it identifies above with respect to limitation [2.12.5], the combination of Dill and Vadhri teaches a money transfer request that includes a “secure, perishable code” and, as it identifies above with respect to limitation [2.12.6], Dill teaches “determining that the transaction is valid.” *Id.* Apple also argues that, as it identifies above with respect to limitation [1.10.4], Dill teaches “communicating from the integration tier to the database services to query attributes of the subscriber's account” because it discloses that validating the status of a subscriber's account includes communications between money transfer facilitator 140, of which transfer options module 145 is a part, and mobile subscriber data 150 to query the attributes of the subscriber's account. *Id.* at 105–06 (citing Ex. 1003 ¶ 260).

Apple turns to Vadhri's disclosure of validating temporary code 103/203¹⁰ as evidence that validating a secure, perishable code was well-known in the art. Pet. 106–07 n.5 (citing Ex. 1006 ¶¶ 27, 45, Fig. 4 (step 406); Ex. 1003 ¶ 261). According to Apple, a person of ordinary skill in the art would have been motivated to modify Dill to determine that a transaction is valid by validating Vadhri's temporary code 103/203 because, as it identifies above with respect to limitation [2.12.5], Vadhri discloses that

¹⁰ Apple asserts that “Vadhri's temporary account code 203 in Figure 2 corresponds to the temporary account code 103 in Figure 1.” Pet. 106 n.5 (citing Ex. 1006 ¶ 27).

temporary code 103/203 may be used to authorize the purchase of goods and/or services. *Id.* at 108–09 (citing Ex. 1006 ¶ 46).

Apple contends that combining the teachings of Dill and Vadhri in this way would have been the combination of prior art elements (i.e., combining “Dill’s transaction validation with account/subscriber information using Vadhri’s temporary code [103/203]”) according to known methods (i.e., “validating . . . temporary code [103/203], as taught by Vadhri”) to yield the predictable result of “validating a transaction based on account information, subscriber information, and a temporary code.”

Pet. 109 (citing *KSR*, 550 U.S. at 401; Ex. 1003 ¶ 263). Apple asserts that a person of ordinary skill in the art would have had a reasonable expectation of success in making this modification because Dill discloses validating a transaction by using a look-up operation to verify subscriber and account information and, in the same vein, Vadhri discloses associating temporary code 103/203 with a subscriber and an account. *Id.* (citing Ex. 1005 ¶ 78; Ex. 1006 ¶¶ 79, 80; Ex. 1003 ¶ 264).

During trial, Fintiv presents the following arguments: (1) Dill alone, or in combination with Liao, fails to teach the withdrawal transaction required by independent claim 2; (2) Dill fails to teach the commitment process required by independent claim 2; and (3) Dill fails to teach the “business process services operable to implement business workflows, including at least one of . . . auditing financial transactions, . . . handling errors, and logging platform objects,” as recited in independent claim 2. PO Resp. 43–45; PO Sur-reply 9–10, 17–20. Notwithstanding Fintiv’s arguments to the contrary, Apple has shown by a preponderance of the evidence that the combined teachings of Dill, Vadhri, Akashika, Hansen,

and Liao account for all the limitations of independent claim 2. We address Fintiv's arguments in turn.

a. withdrawal transaction

In its Patent Owner Response, Fintiv contends that Dill does not contemplate the withdrawal transaction required by independent claim 2 because, as it explains above with respect to independent claim 1, Dill only discloses a transaction where one party labeled as sender 105 sends money to another party labeled as recipient 110. PO Resp. 43–44. According to Fintiv, a person of ordinary skill in the art would not characterize Dill's money transfer from sender 105 to recipient 110 as a withdrawal transaction, but rather would have understood that, in a withdrawal transaction, “the funds being withdrawn go to the party withdrawing the funds” instead of an unrelated party like recipient 110. *Id.* at 44 (citing Ex. 2009 ¶¶ 109–111). To the extent Apple relies on the combined teachings of Dill and Liao to account for the withdrawal transaction required by independent claim 2, Fintiv contends that Apple's argument is, once again, predicated on the notion that Dill contemplates a withdrawal transaction. *Id.* (citing Ex. 2009 ¶¶ 109–111). Because of this purported “erroneous foundation,” Fintiv argues that Apple does not articulate a sufficient rationale for combining the teachings of Dill with those of Liao to teach the withdrawal transaction required by independent claim 2. *Id.*

In its Reply, Apple maintains that Dill contemplates the withdrawal transaction required by independent claim 2. Pet. Reply 23 (citing Pet. 97). Apple contends that Dill discloses “delivering funds to a bank account of a recipient” and “making funds available for pick up at an agent location,” both of which are transactions that involve withdrawing funds. *Id.* at 23–24

(quoting Ex. 1005 ¶ 101) (citing Pet. 97; Ex. 1003 ¶ 239). Apple also disagrees with Fintiv’s argument that Dill only discloses transferring funds from sender 105 to recipient 110 because, according to Apple, Fintiv fails to consider that Dill discloses that sender 105 and recipient 110 can be the same party in the same transaction. *Id.* at 24 (citing Ex. 1005 ¶ 52).

Alternatively, Apple contends that Liao discloses using a mobile wallet “to withdraw funds from an account of the mobile device user.” Pet. Reply 24 (quoting Pet. 97) (citing Ex. 1009, 5:44–55). Apple argues that Fintiv does not address the substance of Liao’s disclosures, but instead nakedly asserts that Apple fails to articulate a sufficient rationale for combining the teachings of Dill with those of Liao. *Id.* at 24–25. Apple argues that Fintiv improperly attacks Dill in isolation. *Id.* at 25. Apple also argues that modifying Dill’s money transfer transactions to include a withdrawal transaction, as taught by Liao, would have been desirable because Dill emphasizes the importance of providing “improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.” *Id.* (quoting Ex. 1005 ¶ 4) (citing Pet. 99; Ex. 1003 ¶ 245). Apple asserts that there would have been a reasonable expectation of success modifying Dill in this way because Liao teaches that a mobile device use may use “mobile wallet application software” to “withdraw money from a bank account.” *Id.* at 25–26 (quoting Ex. 1009, 5:54–55) (citing Pet. 98; Ex. 1003 ¶ 247).

In its Sur-reply, Fintiv reiterates that Apple’s proposed rationale for combining the teachings of Dill with those of Liao is based on Apple’s erroneous assertion that Dill contemplates a withdrawal transaction. PO Sur-reply 9 (citing Pet. 96–97). Fintiv, however, maintains that Dill does

not contemplate a withdrawal transaction because all the transactions in Dill are between sender 105 and unrelated recipient 110. *Id.* at 9–10 (citing PO Resp. 43–44; Ex. 2009 ¶¶ 109–111). Fintiv also asserts that it is not attacking Dill in isolation, but rather it is attacking “the premise that Dill ‘contemplates a withdrawal transaction.’” *Id.* at 10.

Based on the fully developed trial record, we agree with Apple that Dill contemplates the withdrawal transaction required by independent claim 2. Pet. 97; Pet. Reply 23–24. Dill discloses various delivery options for completing a transaction, including “delivering funds to a bank account of . . . recipient [110] such as destination account 175 of . . . recipient’s financial institution 170” and “making funds available for pick up at an agent location.” Ex. 1005 ¶ 101. Apple’s declarant, Dr. Houh, testifies that a person of ordinary skill in the art “would have understood that these types of transactions involve withdrawing funds.” Ex. 1003 ¶ 239. We credit Dr. Houh’s testimony in this regard because it is consistent with Dill’s disclosure, particularly its objective that “there is a need in the art for improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.” Ex. 1005 ¶ 4. Moreover, as we explain above, Dill contemplates that the sender and recipient may be the same party in the same transaction. *See supra* Section II.B.7.a (citing Ex. 1005 ¶ 52). With this in mind, we find that Dill teaches or fairly suggests a withdrawal transaction where sender 105 (or recipient 110) withdraws money from his/her own account, as required by independent claim 2.

Alternatively, we also agree with Apple that Liao teaches that it is well-known to use a mobile wallet to withdraw funds from an account of a mobile device user. Indeed, Liao discloses using mobile wallet application

software running on controller module 200 to withdraw money from a bank account of a mobile device user. Ex. 1009, 5:44–55. We also agree with Apple that a person of ordinary skill in the art would have been motivated to modify Dill so that sender 105 (or recipient 110) may withdraw funds from his/her own account because Dill’s stated objective is to use mobile devices to conduct “money transfer services” and, as evidenced by Liao, using a mobile device to make a withdrawal is one type of “money transfer service[]” that would be desirable to provide “improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.” Ex. 1005 ¶ 4; Ex. 1003 ¶ 245. In our view, there would have been a reasonable expectation of success in modifying Dill in this way because Liao teaches that the mobile device user employs “mobile wallet application software” to “withdraw money from a bank account.” Ex. 1009, 5:44–55; Ex. 1003 ¶ 247.

We do not agree with Fintiv’s argument that all the transactions in Dill are between one party labeled sender 105 and an unrelated party labeled recipient 110. *See* PO Resp. 43–44; PO Sur-reply 9–10. Once again, Fintiv’s argument in this regard is predicated on the notion that sender 105 and recipient 110 are different, unrelated parties. As we explain above in our analysis of independent claim 1, Dill contemplates that the sender and recipient may be the same party in the same transaction. *See supra* Section II.B.7.a.

We also do not agree with Fintiv’s argument that Apple does not articulate a sufficient rationale for combining the teachings of Dill with those of Liao to teach the withdrawal transaction required by independent claim 2. *See* PO Resp. 44; PO Sur-reply 9–10. Fintiv acknowledges this

argument turns on whether Dill contemplates a withdrawal transaction. PO Sur-reply 10 (“[Fintiv] is attacking . . . the premise that Dill ‘contemplates a withdrawal transaction’”). As we explain above, taking into account that Dill contemplates that the sender and recipient may be the same party in the same transaction, we find that Dill teaches or fairly suggests a withdrawal transaction where sender 105 (or recipient 110) withdraws money from his/her own account, as required by independent claim 2.

b. Remaining arguments

During trial, Fintiv relies on the same arguments presented above with respect to independent claim 1 to rebut Apple’s explanation as to how the teachings of Dill account for the following: (1) the commitment process required by independent claim 2; and (2) the “business process services operable to implement business workflows, including at least one of . . . auditing financial transactions, . . . handling errors, and logging platform objects,” as recited in independent claim 2. PO Resp. 44–45; PO Sur-reply 17–20. For the same reasons we identify above in our analysis of independent claim 1, we do not agree with Fintiv’s arguments. *See supra* Section II.B.7.c–f.

c. Summary

In summary, Apple has demonstrated by a preponderance of the evidence that the subject matter of independent claim 2 would have been obvious over the combined teachings of Dill, Vadhri, Akashika, Hansen, and Liao.

III.CONCLUSIONS¹¹

Based on the fully developed record, Apple has demonstrated by a preponderance of the evidence that claims 1–3 of the '386 patent are unpatentable under § 103(a) as obvious. A summary of our conclusions is set forth in the table below.

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 3	103(a)	Dill, Vadhri, Akashika, Hansen	1, 3	
2	103(a)	Dill, Vadhri, Akashika, Hansen, Liao	2	
Overall Outcome			1–3	

¹¹ Should Fintiv wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Fintiv's attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Fintiv chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Fintiv of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

In consideration of the foregoing, it is
ORDERED that claims 1–3 of the '386 patent have been shown to be
unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision,
parties to this proceeding seeking judicial review of our decision must
comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 9,892,386 B2

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