

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

FINTIV, INC.,
Patent Owner.

IPR2023-00399
U.S. Patent No. 9,208,488

**DECLARATION OF DR. HENRY HOUH,
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION FOR
INTER PARTES REVIEW**

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I, Henry Houh, do hereby declare as follows:

I. INTRODUCTION

1. I am making this declaration at the request of Apple Inc. in support of an IPR challenge of U.S. Patent No. 9,208,488 (“the ’488 Patent”).

2. I am being compensated for my work in this matter at my customary rate of \$620/hour. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony. My compensation is not contingent on the outcome of this matter or the specifics of my testimony.

3. I have been asked to provide my opinions regarding whether claims 1-22 (“the Challenged Claims”) of the ’488 patent are unpatentable because they would have been obvious to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention, in light of the prior art. After a careful analysis, it is my opinion that the Challenged Claims would have been obvious.

4. In the preparation of this declaration, I have reviewed:

- The ’488 Patent, APPL-1001;
- The prosecution history of the ’488 Patent, APPL-1002;
- U.S. Patent Publication No. 2009/0265272 to Dill et al. (“Dill”), APPL-1005;
- U.S. Patent Publication No. 2010/0133334 to Vadhri (“Vadhri”), APPL-1006;

- U.S. Patent Publication No. 2009/0217047 to Akashika et al.
("Akashika"), APPL-1007;
- "Designing System for Internet Commerce" by G. Winfield Treese
et al. (2003), APPL-1008;
- U.S. Patent Publication No. 2013/0332352 to Imrey et al.
("Imrey"), APPL-1009;
- U.S. Patent Publication No. 2014/0032758 to Barton et al.
("Barton"), APPL-1010;
- U.S. Patent Publication No. 2008/0167988 to Sun et al. ("Sun"),
APPL-1011;
- U.S. Patent No. 7,865,141 to Liao et al. ("Liao"), APPL-1012;
- U.S. Patent Publication No. 2009/0055322 to Bykov et al.
("Bykov"), APPL-1013;
- U.S. Patent Publication No. 2004/0196858 to Tsai et al. ("Tsai"),
APPL-1014; and
- U.S. Patent Publication No. 2012/0117178 to Price et al. ("Price"),
APPL-1015.

5. In forming the opinions expressed below, I have considered:

- a) The documents listed above;

- b) My own knowledge and experience based upon my work in the field of financial transfer systems, as described below; and
- c) The level of skill of a POSITA at the time of the alleged invention of the '488 patent.

II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

6. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which can be found in APPL-1004. The following is a brief summary of my relevant qualifications and professional experience.

7. I received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology (“MIT”) in 1998. I also received a Master of Science degree in Electrical Engineering and Computer Science in 1991, a Bachelor of Science degree in Electrical Engineering and Computer Science in 1989, and a Bachelor of Science degree in Physics in 1990, all from MIT.

8. I am currently self-employed as an independent technical consultant. I am also president of a company, Einstein’s Workshop, that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages.

9. I first entered telecommunications in 1987 when I worked as a summer intern at AT&T Bell Laboratories as part of a five-year dual degree

program at MIT. I continued to work at AT&T Bell Laboratories as part of this MIT program. While at MIT, I was a teaching assistant (“TA”) in the Electrical Engineering and Computer Science Department’s core Computer Architectures course. I first was a TA as a senior for a role typically reserved for graduate students. I later became head TA. The course covered various topics in computer architectures, as well as programming. As a TA, I helped write homework assignments, lab assignments (including those that involved programming), and exams. I also taught in the recitation sections.

10. Later, as part of my doctoral research at MIT from 1991-1998, I was a research assistant in the Telemedia Network Systems (“TNS”) group at the Laboratory for Computer Science. The TNS group built a high-speed gigabit network and created applications that ran over the network. Example applications included ones for remote video capture, processing, and display of video on computer terminals. In addition to working on the design of core network components (which was based on FPGAs), designing and building the high-speed links (which included programmable logic devices), and designing and writing the device drivers for the interface cards (which included programmable logic devices), I also set up the group’s web server. Also, I helped to maintain, install, and upgrade the networking devices used within the group, along with other graduate students.

11. I also helped to build the web pages that initiated the above-mentioned video sessions via a web interface. Vice President Al Gore visited our group in 1996 and received a demonstration of—and remotely drove—a radio-controlled toy car with a wireless video camera mounted on it that was built by our group. This toy car device received commands transmitted over a network from a remote computer, and video data from the toy car was transmitted wirelessly then over a computer network back to the user controller. On occasion, we allowed users visiting our web site to drive the toy car from their remote computer while they watched the video on their computer. The video stream was encoded by TNS-designed hardware, streamed over the TNS-designed network, and displayed using TNS-designed software.

12. I defended and submitted my Ph.D. thesis, titled “Designing Networks for Tomorrow’s Traffic,” in January 1998. As part of my thesis research, I analyzed local area and wide area flows to show a more efficient method for routing packets in a network, based on traffic patterns at the time. The traffic flow data included Ethernet, IP, TCP or UDP, and RTP header information, which I analyzed to come to the conclusions in my thesis.

13. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming

packetized audio over data networks instead of using traditional telephone lines.

NBX was later acquired by 3Com Corporation.

14. As part of my work at NBX, I designed the core audio reconstruction software algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system. The protocol was used for all signaling in the phone system, including for the setup of conference calls. The NBX system also featured a computer interface for initiating phone calls, which could also initiate conference calls. The NBX system also supported the Telephony Application Programming Interface (“TAPI”) that allowed other computer programs to integrate with our system telephony features. We obtained U.S. Patent No. 6,697,963, entitled “Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data,” as part of this work. I also programmed the first prototype of our phone which communicated using IP, and I demonstrated our IP phones working over the Internet when we attended a trade show in California. The phone connected over the Internet to our headquarters in Andover, MA. I also programmed a data capture and analysis system that provided data on the operation of the system.

15. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Empirix was a leader in test tools for telecommunications

protocols and systems, providing functional testing tools as well as load testing tools. From 2000-2001, I conceived and built a test platform for testing Voice-over-IP (VoIP). The first application on this new test platform was a cloud emulator for simulating the effects of transmitting VoIP over a busy network. The test platform was based on a network processor chip, which could be programmed to cut-through packets while processing packet data such as various protocol layer headers including addresses included therein and even packet data contents. I also designed a protocol analyzer built on the same platform. The application captured and performed protocol decoding at various layers in the protocol stacks of captured packets, including detailed Ethernet header decoding, IP header decoding, TCP header decoding, UDP header decoding, RTP header decoding, and many other specified protocols. The application was also designed to reconstruct entire conversations that spanned multiple packets.

16. At Empirix, I also rearchitected the design of the Web Test division's core product, e-Test Suite. E-Test Suite was a software program designed to perform functional and load testing of web applications. I was technical lead on the project, and also worked on programming a Javascript interpreter for the product. Javascript is the flexible programming layer that allows users to interact with web pages through actions such as clicking and dragging that allows web

page programmers to extend the functionality of a web page beyond clicking on links.

17. In 2006, as part of my role at BBN Technologies, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger utilized BBN's speech recognition algorithms to search through the spoken words in audio and video segments. While I was Vice President of Operations and Technology, PodZinger followed its initial prototype with a full streaming audio and video search solution. I also created a social networking web site, which BBN sold to a venture-funded startup company. In the process of creating the web site, I designed and specified the authentication and authorization protocols.

18. I also worked with setting up accounting systems and integrating on-line payment systems on numerous occasions. In 1994, I started a company, Agora Technology Group, that set up web sites for targeted advertising, and later provided consulting services to companies and organizations to set up their web sites. I managed all the finances and bookkeeping for the company, including keeping all the books and ledgers. Starting in the early 2000's, I integrated web payment systems with various web sites.

19. At my educational company, Einstein's Workshop, I created the initial web site and integrated it with online payment solutions. I also evaluated, sourced, and configured the point-of-sale system for the company, which also involved

integration with and setup of mobile shopping terminals. Furthermore, I set up the accounting system, built the web site, integrated various web payment mechanisms with the web site, set up mobile payment systems, and also set up a mobile point of sale system. At Einstein's Workshop, we teach programming to children of all ages, starting with Scratch programming for young elementary students and advancing through programming in Python and for game development for high school students. I conceived many of the programming classes and have taught programming to novice and more advanced students. We also created an educational computer-aided design tool, called BlocksCAD. We received a grant, on which I was the principal investigator, to further develop BlocksCAD and successfully met our grant objectives. BlocksCAD was spun-off from Einstein's Workshop and has been part of various incubator/accelerator programs in education as well as at the MIT Media Lab. Today, BlocksCAD is used worldwide in makerspaces as well as in schools throughout the U.S.

20. I have been awarded several United States patents, including the following examples:

- U.S. Patent No. 7,975,296, "Automated security threat testing of web pages";
- U.S. Patent No. 7,877,736, "Computer language interpretation and optimization for server testing";

- U.S. Patent No. 7,801,910, “Method and apparatus for timed tagging of media content”;
- U.S. Patent 7,590,542, “Method of Generating Test Scripts Using a Voice-Capable Markup Language”; and
- U.S. Patent No. 6,967,963, “Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data.”

III. LEVEL OF ORDINARY SKILL IN THE ART

21. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

22. I am familiar with financial payment systems (including those utilizing mobile wallets). I am also aware of the state of the art at the time the application resulting in the '488 patent was filed. I have been informed by Apple's counsel that the earliest priority date for the '488 patent is November 21, 2011. Based on the technologies disclosed in the '488 patent, I believe that a POSITA would include someone who had a bachelor's degree in electrical engineering, computer science, or equivalent training, and approximately two years of work

experience in software development and at least a basic knowledge of accounting. Lack of work experience can be remedied by additional education, and vice versa.

23. For purposes of this declaration, in general, and unless otherwise noted, my statements and opinions, such as those regarding my experience and the understanding of a POSITA generally (and specifically related to the references I consulted herein), reflect the knowledge that existed in the field as of the priority date of the '488 Patent (i.e., November 21, 2011 ("priority date")). Unless otherwise stated, when I provide my understanding and analysis below, it is consistent with the level of a POSITA prior to the priority date of the '488 Patent.

IV. RELEVANT LEGAL STANDARDS

24. I understand from Apple's counsel that prior art to the '488 patent includes patents and printed publications in the relevant art that predate the priority date of the alleged invention recited in the '488 patent. For purposes of this Declaration, I am applying November 21, 2011 as the priority date.

25. I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '488 patent, I am relying on certain basic legal principles that Apple's counsel has explained to me. These principles are reviewed below.

26. I have been informed by Apple's counsel that a claimed invention is unpatentable as obvious under post-AIA 35 U.S.C. § 103 if the differences

between the invention 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 POSITA to which the subject matter pertains. I have also been informed by Apple's counsel that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

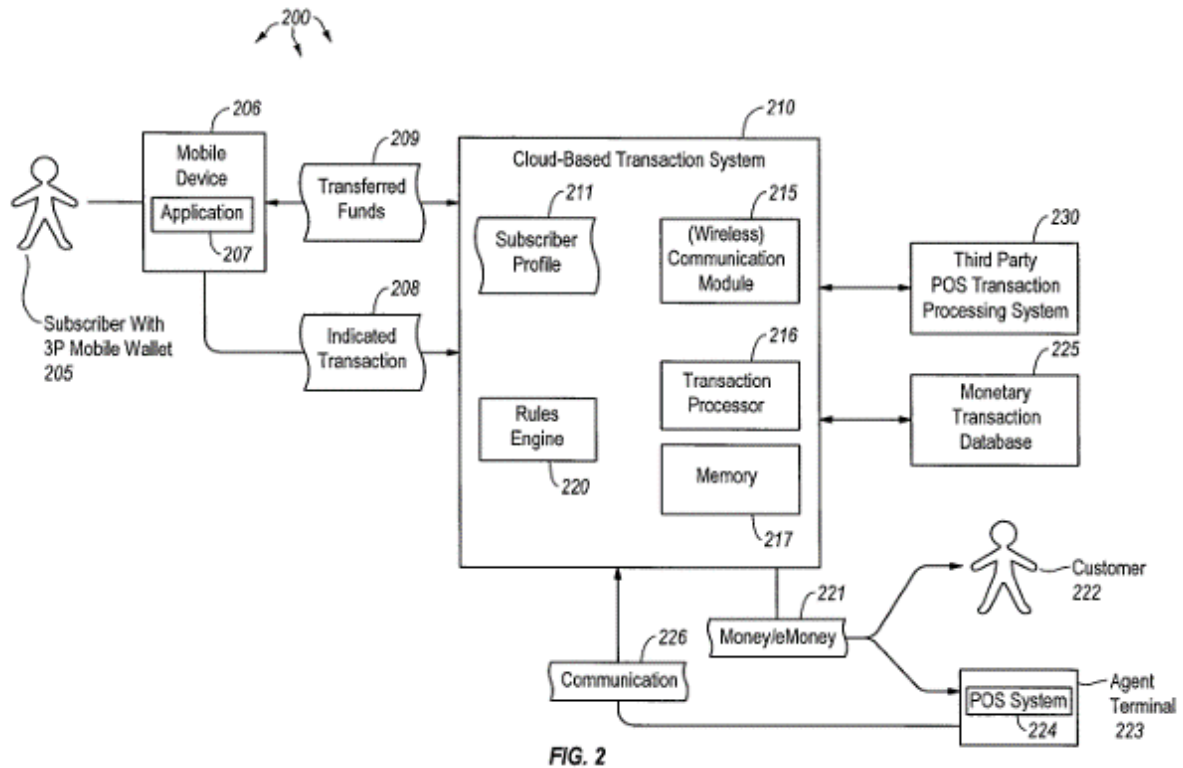
27. I have been informed by Apple's counsel that several rationales are recognized for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve a similar device (method, or product) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and (f) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

V. OVERVIEW OF THE '488 PATENT

A. Summary of the Patent

28. The '488 Patent is directed to “performing a transaction using a third party mobile wallet, performing a transaction using a third party point of sale (POS) system and to making a purchase from a third party mobile wallet provided by a third party mobile wallet provider.” APPL-1001, Abstract. The '488 Patent further provides for “an infrastructure that can be used with third party mobile wallets provided by third party mobile wallet providers.” APPL-1001, 1:32-34. After receiving an indication that a customer desires to perform a mobile wallet transaction, the cloud-based transaction platform “sends the agent communication to a third party mobile wallet platform, receives communication from the third party mobile wallet platform confirming processing of the transaction, and sends communication to the agent terminal over a communication channel connected to the cloud-based transaction platform.” APPL-1001, 1:54-62.

29. An example of the transaction platform of the '488 patent is depicted below in Fig. 2:



APPL-1001, Fig. 2.

30. In the '488 patent, all of the embodiments include “one or more processors,” “system memory,” “an integration tier configured to manage mobile wallet sessions with a mobile device,” “a notification services engine,” “service connectors that are each configured to connect the computing system to different third party system,” “a payment handler that exposes a common API for interacting with different payment processors,” “a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL),” and “a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.” APPL-1001, claims 1, 11, and 22.

B. Prosecution History of the '488 Patent

31. I understand that the '488 patent issued on December 8, 2015 from U.S. Patent Application No. 13/680,824 ("the '824 application") filed on November 19, 2012. APPL-1001. The '488 patent claims the benefit of Provisional Application No. 61/562,301 ("the '301 application") filed on November 21, 2011. APPL-1001, 1:8-17.

32. I understand the '488 application was originally filed with 20 claims with claims 1, 11, and 19 being in independent form. APPL-1002, pp.57-69. A Restriction Requirement was issued on March 20, 2014, requiring election between three species (Species A, claims 1-12; Species B, claims 13-18; and Species C, claims 19-20). APPL-1002, pp.1214-1219. In response to the Restriction Requirement, the Applicant elected Species A without traverse, canceled claims 13-20, and added claims 21-35. APPL-1002, pp.1232-1244.

33. In a first Office Action issued on June 6, 2014, the Examiner rejected all claims as being anticipated by U.S. Patent Publication No. 2012/0290478 to Crofts. *Id.*, pp.1258-1272.

34. On March 4, 2014, the Applicant filed an Information Disclosure Statement (IDS) listing U.S. Patent Publication No. 2009/0265272 to Dill et al. (APPL-1005). APPL-1002, p.1313. There is no indication, however, that the Examiner considered any of the references listed in the IDS, including the Dill reference, because the IDS was not signed by the Examiner. *Id.*, p.1314. This is

further evidenced by the Examiner not applying Dill (or any other prior art reference) against any of the claims during prosecution.

35. In a Response to the first Office Action filed on December 10, 2014, the Applicant amended the independent claims to recite a “third party mobile wallet owned by another entity than the customer” and additional mobile wallet transaction details, as well as adding new independent claim 36. APPL-1002, pp.1409-1421.

36. In a second Office Action issued on February 6, 2015, the Examiner again rejected all claims as being anticipated by U.S. Patent Publication No. 2012/0290478 to Crofts. *Id.*, pp.1456-1469.

37. In a Response to the second Office Action filed on August 6, 2015, the Applicant amended the independent claims to include “an integration tier,” “a notification services engine,” “a payment handler that exposes a common API,” “a security services engine,” and “a rules engine” as well as additional amendments. APPL-1002, pp.1746-1763.

38. A Notice of Allowance was issued on September 18, 2015 stating that the Applicant’s amendments and arguments, as well as an additional Examiner’s Amendment correcting informalities. *Id.*, pp.1775-1792. According to the Examiner, none of the considered prior art disclosed all of the limitations in the claims. *Id.*, p.1791.

39. The prior art presented in this IPR was not cited or relied on by the Examiner during prosecution. APPL-1002, pp.1258-1272, 1456-1469, 1775-1792.

40. As I explain below, the concept of performing a transaction using a cloud-based transaction platform for mobile devices was well known by the earliest possible priority date of the '488 patent. APPL-1005, Figs. 1, 9, [0005], [0049], [0100]. For example, Dill (APPL-1005) teaches similar financial transaction systems configured to conduct transactions with a mobile wallet. APPL-1005, Figs. 1, 9, [0049], [0100]. Moreover, the prior art shows that it was well known for such a transaction platform to receive indications of a customer's desire for a mobile wallet transaction, to receive communication from a third party mobile wallet platform confirming processing of the transaction, and to send communication to the agent terminal over a communication channel indicating confirmation of the processing of the transaction. APPL-1005, Figs. 1, 9, [0049], [0100]. Therefore, all claims of the '488 patent should be found unpatentable.

VI. CLAIM CONSTRUCTION

41. In order to properly evaluate the '488 Patent, the terms of the claims must first be construed. It is my understanding from Apple's counsel that for the purposes of this *inter partes* review, the claims are to be construed under the so-called *Phillips* standard, under which claim terms are given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in

light of the specification and prosecution history, unless the inventor has set forth a special meaning for a term.

42. As discussed below, the definitions offered below are how a POSITA would understand these terms in light of the specification of the '488 patent, as well as the prior art.

A. “*debit the mobile wallet by the specified amount of funds*”

43. It is my opinion that, in the context of the '488 patent, a POSITA would have understood the phrase “*debit the mobile wallet by the specified amount of funds*” to mean “transfer the specified amount of funds from the stored value on a mobile device.”

44. The specification of the '488 patent supports the proposed construction. First, a POSITA would have understood that there are various types of mobile wallet—1) where a mobile device holds value (such as on a secure chip) and 2) where the value is stored in an external account. *See e.g.*, APPL-1001, 9:9-19; APPL-1011, [0009], [0022]. The '488 patent refers to the first type of mobile wallet. APPL-1001, 9:9-19. For example, the specification states that the “term ‘mobile wallet’ or ‘mobile wallet account’ refers to a stored value account or prepaid access account (PPA) that allows the owner (or “subscriber”) to pay for goods and services on the mFS platform from his or her mobile wallet account.” APPL-1001, 9:9-19.

45. Although not defined with more detail, the term “stored value” as relating to mobile wallets is a well-known term in the field of financial transactions and refers to value stored on a mobile device (such as in a secure memory) as evidenced by Sun (APPL-1011). *See* APPL-1011, [0009], [0022] (“Mobile communication devices used in the architecture described herein are characterized by secure memory usable for storing value and a controller which manages the secure memory,” “stored value represented by data on the mobile communication device”). The ’488 patent does not provide technical details of how its mobile wallet is debited other than to say that “[t]he cloud-based transaction platform then debits the customer’s third party mobile wallet by the specified amount of funds to complete the purchase.” APPL-1001, 2:33-36.

46. Based on this limited disclosure, a POSITA would have understood this phrase to mean transferring the specified amount of funds from the stored value on a mobile device.

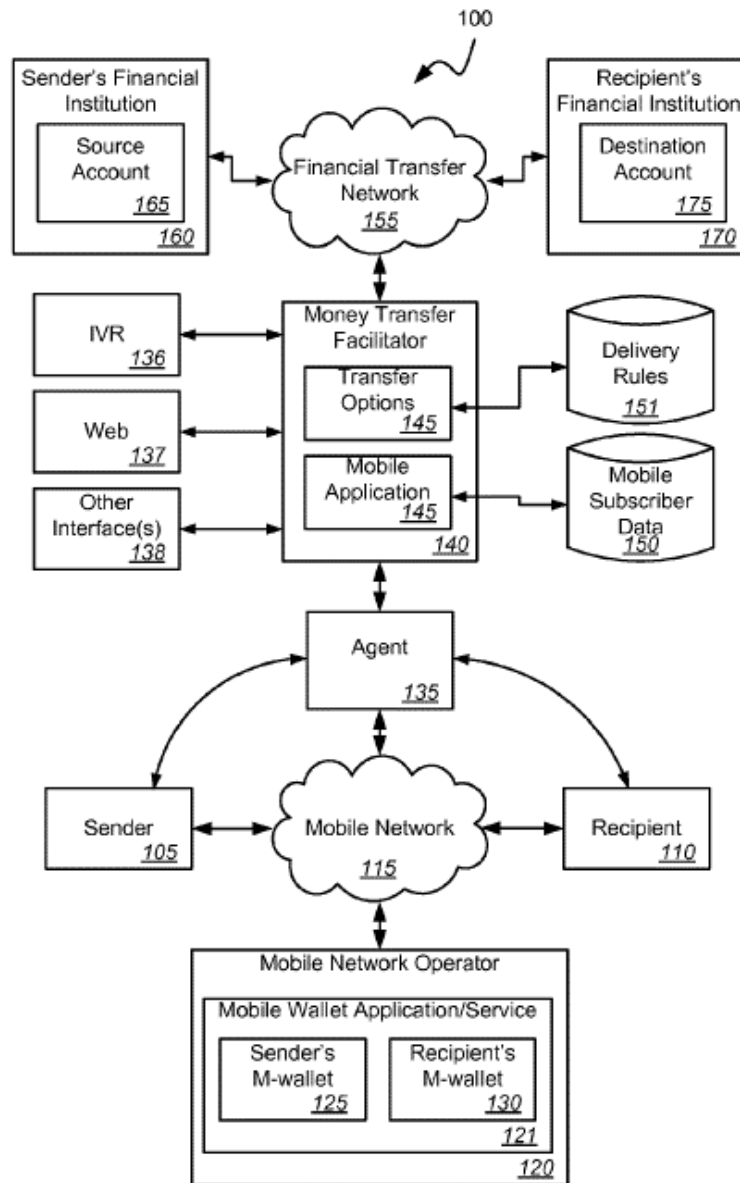
VII. IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE

47. It is my opinion that claims 1-22 of the ’488 patent would have been obvious over U.S. Publication No. 2009/0265272 to Dill et al. (APPL-1005, “Dill”), in view of U.S. Publication No. 2010/0133333 to Vadhri (APPL-1006, “Vadhri”), and further in view of U.S. Publication No. 2009/0217047 to Akashika (APPL-1007, “Akashika”).

A. Summary of Dill (APPL-1005)

48. Similar to the '488 patent, Dill teaches a financial transfer system for supporting “flexible payment options” for a financial transaction. APPL-1005, Abstract, [0002], [0010]. Dill’s financial transfer system facilitates transactions between mobile devices and includes “a mobile communications network and a mobile device communicatively coupled with the mobile communications network” where the “mobile device can execute a mobile wallet application.” APPL-1005, [0010], [0005].

49. One embodiment of Dill’s financial transfer system particularly relevant to the claims of the '488 patent is depicted in Fig. 9:

**FIG. 9**

APPL-1005, Fig. 9.

50. In Fig. 9, the financial transfer system 100 includes a money transfer facilitator system 140 that is configured to receive transaction information from a mobile wallet application 121 including mobile wallets 125, 130. APPL-1005, Fig. 9, [0100]. The money transfer facilitator system 140 includes a transfer options

module 145 and a mobile application 145 that are communicatively coupled with interfaces 136-138 as well as an agent 135 for conducting money transfers. APPL-1005, Fig. 9, [0101]. The transfer options module 145 and mobile application 145 are configured to conduct transactions between senders and recipients through various communication channels, as well as sending notifications of request and transactions. APPL-1005, Fig. 9, [0100]-[0104].

B. Summary of Vadhri (APPL-1007)

51. Vadhri generally discusses “systems and methods for accessing a value holding account.” APPL-1006, [0001]. Vadhri teaches a networked system 502 (also referred to as a “network-based marketplace or publication system”) that manages payments between various applications and accounts, similar to the financial transaction systems of the ’488 patent and Dill. APPL-1006, [0047]-[0050]; APPL-1001, 1:58-60; APPL-1005, [0100]. Vadhri also teaches methods for accessing a value-holding account within the networked system 502 that include “access[ing] the payment applications via the API server (*e.g.*, using API calls) or through the web servers 516 to engage in account access operations.” APPL-1006, [0054].

52. Fig. 5 depicts Vadhri’s networked system 520 with API servers 514:

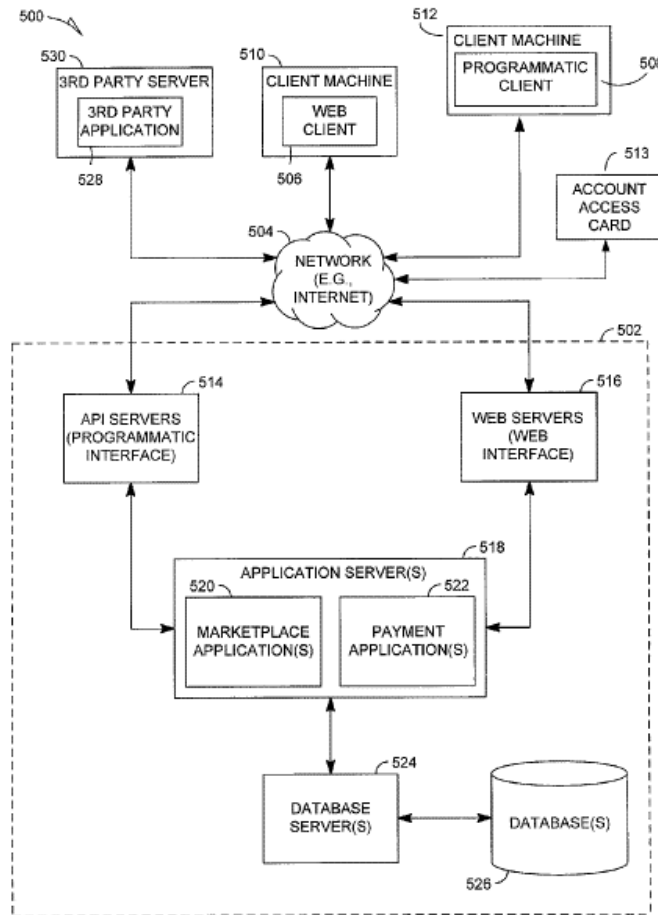


FIG. 5

APPL-1005, Fig. 5.

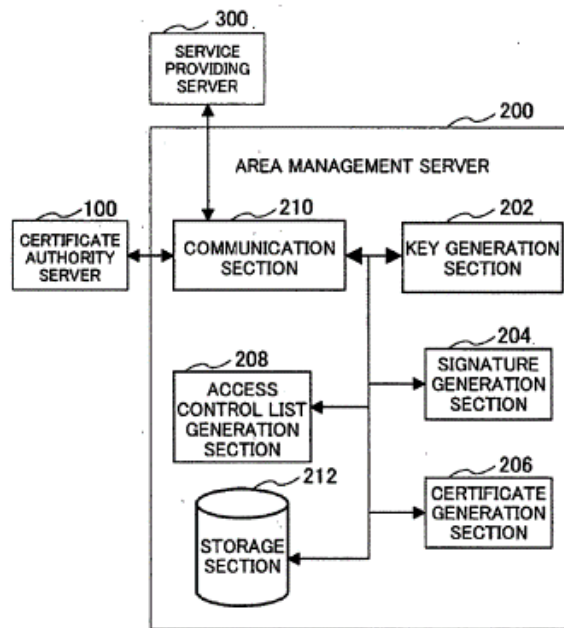
53. Vadhri explains that the use of the API server provides a programmatic interface for the payment applications to access various services and functions of the marketplace. APPL-1006, [0052]. This interface allows for the use of seller applications such as eBay in the networked system 502, as well as “enabl[ing] sellers to author and manage listings on the networked system 502 in an off-line manner, and to perform batch-mode communications between the programmatic client 508 and the network system.” APPL-1006, [0052].

54. Vadhri also teaches the use of a secure temporary code to provide additional security during transactions by limiting the amount of time that a code is available. APPL-1006, [0015]. It further describes steps to determine the validity of the secure temporary code and notify a user accordingly. APPL-1006, Fig. 4, [0048]. Vadhri also teaches the integration of a “‘cloud computing’ environment” in its transaction systems. APPL-1006, [0089].

C. Summary of Akashika (APPL-1008)

55. Akashika discloses “a new and improved service providing system, a service providing server and an information terminal device capable of realizing a secure access to a secure chip based on a script.” APPL-1007, [0010]. Akashika’s security systems are configured to protect a wide variety of data on a secure chip including “the remaining amount or the settlement information of electronic money.” APPL-1007, [0007]. To protect this data, Akashika’s systems include an area management server which includes an access control list (ACL) generation section to create a ACL that sets access rights to the secure data for each user of the system. APPL-1007, [0060]. These features are shown in Fig. 3, which has been reproduced below for reference.

FIG.3



APPL-1007, Fig. 3.

56. The access rights set by the ACL include access to the secure chip as well as “read permission, write permission, restriction on frequency of access permitted for the same area” and executing script data (such as ECMAScript or JavaScript) on the secure chip. APPL-1007, [0017], [0062], [0070]. By implementing an ACL with these predetermined access rights, “unauthorized access to the secure chip 500 can be prevented.” APPL-1007, [0117].

D. Motivation to Combine Dill and Vadhri

57. It is my opinion that a POSITA would have been motivated to incorporate Vadhri’s API server into Dill’s financial network system for a number of reasons.

58. First, Dill recognizes the need for flexible financial systems that may be used by different parties. *See* APPL-1005, [0004] (“there is a need in the art for improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions”).

59. The use of Application Program Interfaces (APIs) in payment systems is well known in the art, as evidenced by “Designing Systems for Internet Commerce” by Treese et al. (“Treese,” APPL-1008). In particular, Treese states that “[i]nternet payment technology is changing rapidly, with debit cards, electronic funds transfer, and electronic checks gaining acceptance.” APPL-1008, p.417. Treese also references a “payment API” as a solution to add “new payment systems and additional implementations of old ones ... without the necessity of updating any content servers.” *Id.*

60. Vadhri teaches achieving a financial system configured for enhanced flexibility in sharing data between different parties using its API server. *See* APPL-1006, [0056] ([t]he applications themselves are communicatively coupled (*e.g.*, via appropriate interfaces) to each other and to various data sources, so as to allow information to be passed between the applications or so as to allow the applications to share and access common data”). The API server in particular allows for increased flexibility by providing access to “various services and functions provided by the marketplace” through its interface, including access for third-party

marketplaces such as eBay, as well as features such as managing listings offline and batch-mode communications. APPL-1006, [0052]. A POSITA would have understood that Vadhri's API server uses a common API (which as discussed above allows for additional payment options without requiring additional servers (APPL-1008, p.417)) and allows for interaction with different payment processors (such as eBay).

61. Second, a POSITA would have been further motivated to combine Vadhri's API server to Dill's financial payment system to yield the predictable result of increased access for clients and an increase in available payment options. As discussed above, the use of payment APIs to add new payment systems without the necessity of adding additional servers was well known in the art. APPL-1008, p.417. It would have been obvious for a POSITA to include this technology (via Vadhri's API server) into Dill's system based on the recognized need for flexibility. APPL-1005, [0004]; APPL-1006, [0052].

62. Third, a POSITA would also have been motivated to incorporate the cloud computing environment of Vadhri to Dill's financial system to achieve the well-known benefits of cloud computing as this would provide the predictable result of offering more support and options to users of the financial system. APPL-1010, [0067]-[0069], APPL-1005, [0004]. For example, a POSITA would have understood that the integration of such a cloud computing environment would

“provid[e] customers with computational resources, data storage services, networking capabilities, and computer platform and application support” as well as access to “security systems, development environments, user interfaces and the like,” accordingly to Barton (APPL-1010).

63. A POSITA would have understood that he or she would have had a reasonable expectation of success in implementing a cloud computing environment in Dill’s financial system because many examples of cloud-based financial systems were available to a POSITA. APPL-1010, [0069], [0214]); APPL-1006, [0089]). Additionally, both Dill and Vadhri include processors and a network used to implement such a cloud computing environment (APPL-1005, [0060]-[0061]; APPL-1006, [0089]) and such a combination would also have been within the skill of a POSITA to implement.

E. Motivation to Combine Dill, Vadhri, and Akashika

64. It is also my opinion that a POSITA would have been motivated to incorporate Akashika’s access control list (ACL) generator into the servers of Dill’s financial network system to provide enhanced security for financial transactions.

65. First, Akashika’s teaches that the implementation of a ACL provides “high security” for data such as “settlement information of electronic money or important personal information.” APPL-1007, [0007]. A POSITA would have

understood that Dill's financial transfer system also requires security protocols to protect clients and assets alike. *See* APPL-1007, [0007] ("a secure chip stores data, such as the remaining amount or the settlement information of electronic money or important personal information, and so high security for such data is required").

This need is clearly shown by the numerous security protocols implemented in Dill's system such as steps to validate Personal Identification Numbers (PINs), transaction identifiers, and recipient identifiers. APPL-1005, [0004]-[0007]. Dill also shows attention to security measures by defining and implementing rules for transactions. APPL-1005, [0102]-[0104]. A POSITA would have also understood that security is a concern when sharing data (and in particular, financial data) between parties, as taught by Vadhri. APPL-1006, [0056]. Therefore, a POSITA would have been motivated to implement the additional security protocols provided by Akashika's ACL generator into Dill's financial system, especially when providing the added flexibility afforded by Vadhri's API server.

66. Second, the use of access control lists, like those of Akashika, to control access to sensitive systems was well known in the art. *See* APPL-1008, [0185]-[0186] (Once added to the access control list, the individual may log into the system using standard, typically secure Internet protocols ... The method and system for adding third parties to an access control list is generally understood by those skilled in the art.). Thus, the benefits of implementing an ACL as taught by

Akashika into Dill's financial system would have been obvious to a POSITA. In fact, a POSITA would have understood that the implementation of an access control list is merely an extension of the rules defined by Dill's money transfer facilitator. *See e.g.*, APPL-1005, [0102]-[0105]; APPL-1007, [0017]. As such, a POSITA would have had a reasonable expectation of success in implementing an ACL in Dill's financial transfer system.

67. Based on the foregoing reasons, a POSITA would have found it obvious, desirable, and predictable to implement Vadhri's API server, secure code, and cloud computing environment as well as Akashika's access control list into Dill's financial transfer system.

68. The combinations discussed in this declaration would have been predictable and there would have been a reasonable expectation of success in making these combinations given that all of the references discussed pertain to software applications, and combining the references would have required nothing more than providing software instructions corresponding to implementation of the respective aspects of each reference, and accessing those instructions when required.

69. In analyzing this combination, I am relying on the teachings of the references, and I do not suggest that physical or bodily incorporation of elements is

required. Physical or bodily incorporation, however, would have been possible and well within the skill-set of a POSITA.

F. Claim 1

[1.0] A computing system for facilitating management of a mobile wallet, including:

70. To the extent that the preamble is found to be limiting, Dill discloses it. For example, Dill teaches a financial transfer system with a money transfer facilitator 104 (“computing system”) that is configured to manage mobile wallets 125, 130 (“mobile wallet”) in a mobile network.

71. Dill generally describes systems for financial transfers with a mobile wallet:

Methods, systems, and machine-readable media **are disclosed for financial transfers utilizing a unique identifier to facilitate flexible payment options for the transaction**. According to one embodiment, a method for supporting a money transfer transaction can comprise receiving a Personal Identification Number (PIN) and a transaction identifier for a previously initiated money transfer transaction at a mobile wallet application. The PIN can be verified with **the mobile wallet application** and, in response to verifying the PIN, the transaction identifier can be sent to an application of a money

APPL-1005, [0005].

72. One embodiment of Dill's financial transaction system 100 is shown in Fig. 9, which includes a money transfer facilitator system 140 that is configured to manage a mobile wallet.

FIG. 9 is a block diagram illustrating another exemplary system for making financial transfers according to one embodiment of the present invention. Generally speaking, the system 100 illustrated here can comprise a system as described above with reference to FIG. 1 and can include some or all of the same components and may perform some or all of the same functions. For example, **the system 100 can include a money transfer facilitator system 140 as described above that may be adapted to receive transaction information from a mobile wallet application 121 via a mobile network 115** as described in detail above.

APPL-1005, [0100].

73. Dill also teaches that a computer system 200 provides the functions of its transfer facilitator system 140:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. **This example illustrates a computer system 200** such as may be used, in whole, in part, or with various modifications, **to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, **the money transfer facilitator system 140**, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

74. Fig. 9 of Dill is shown below including the money transfer facilitator 140 and mobile wallet application/service 121 with mobile wallets 125, 130:

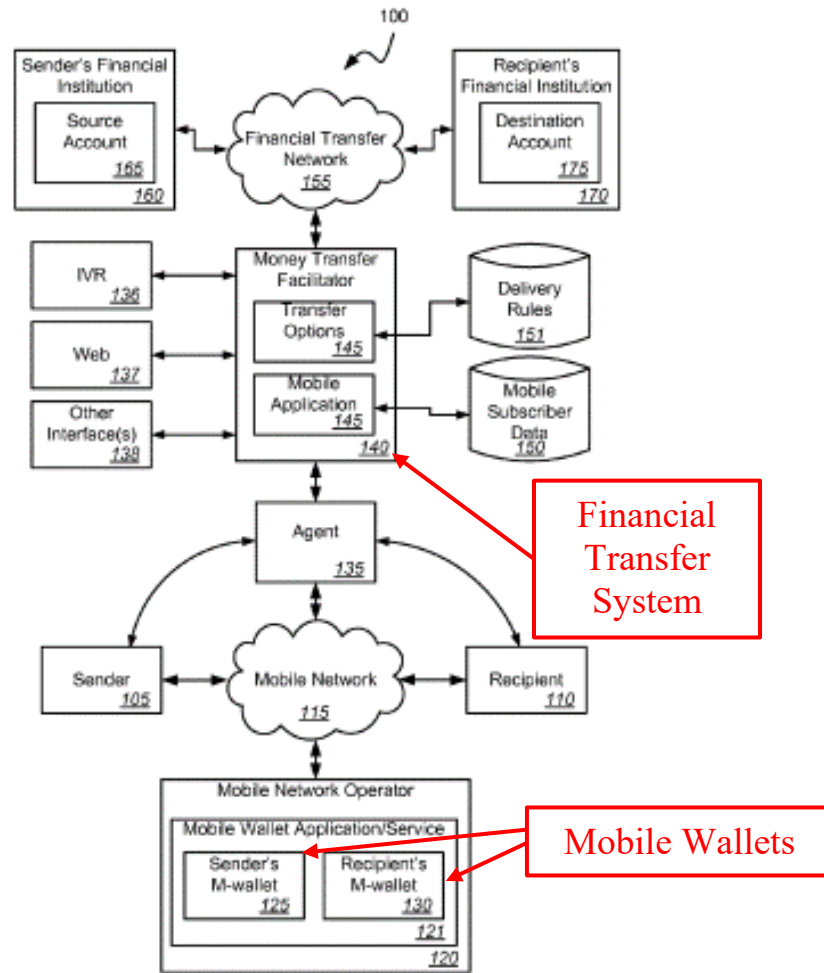


FIG. 9

APPL-1005, Fig. 9 (annotated).

75. Based on this disclosure, a POSITA would have understood Dill's financial transfer system 100 including money transfer facilitator 104 to be a

“computing system” as recited. Dill gives further details of the money transfer facilitator providing transactions between mobile wallets 125, 130:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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.

APPL-1005, [0057].

76. Therefore, a POSITA would have understood Dill’s financial transfer system 100 with a money transfer facilitator 140 to be a “*computing system for facilitating management of a mobile wallet*” as recited by the preamble of the claim.

[1.1] one or more processors;

77. Dill discloses this limitation. For example, Dill’s financial payment systems, including its transfer facilitator system 140, are carried out on an exemplary computer system 200 which includes one more central processing units 210 (“one or more processors”).

78. First, Dill teaches that a computer system 200 provides the functions of its transfer facilitator system 140:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be

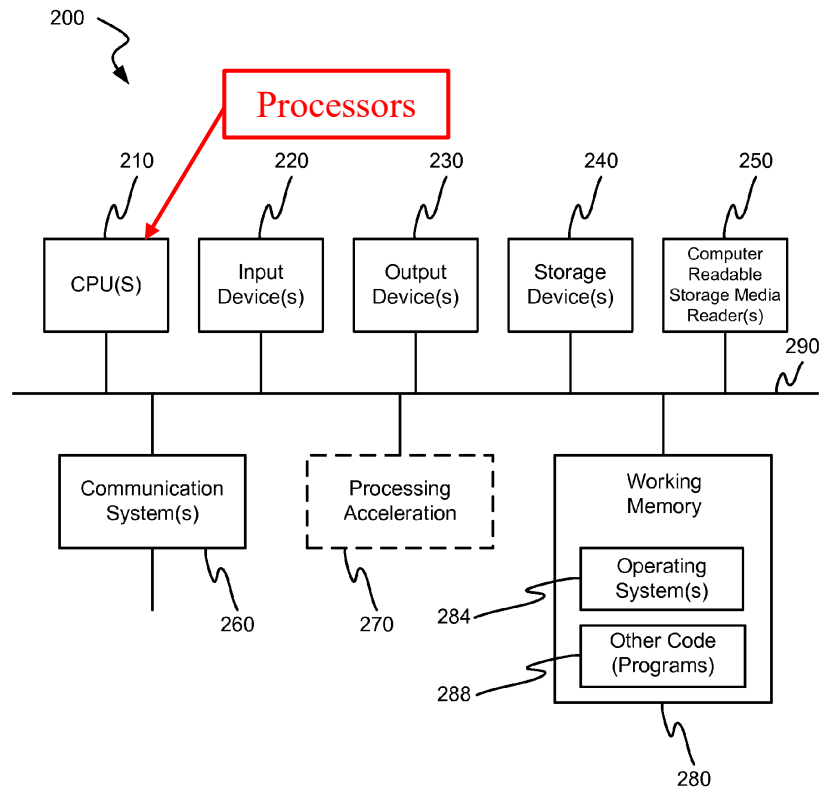
implemented. **This example illustrates a computer system 200** such as may be used, in whole, in part, or with various modifications, **to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, **the money transfer facilitator system 140**, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

79. Second, the computer system includes central processing units 210:

The computer system 200 is shown comprising hardware elements that may be electrically coupled via a bus 290. **The hardware elements may include one or more central processing units 210**, one or more input devices 220 (e.g., a mouse, a keyboard, etc.), and one or more output devices 230 (e.g., a display device, a printer, etc.). The computer system 200 may also include one or more storage device 240. By way of example, storage device(s) 240 may be disk drives, optical storage devices, solid-state storage device such as a random access memory (“RAM”) and/or a read-only memory (“ROM”), which can be programmable, flash-updateable and/or the like.

APPL-1005, [0060]. The central processing units 210 are shown in Fig. 2 which has been reproduced below.



APPL-1005, Fig. 2 (annotated).

80. A POSITA would have understood Dill's CPUs to be processors. Dill also further explains that its embodiments are performed by processor(s):

Furthermore, embodiments may be implemented by hardware, Software, firmware, middleware, microcode, hardware description languages, or any combination thereof. When implemented in software, firmware, middleware or microcode, the program code or code segments to perform the necessary tasks may be stored in a machine readable medium. **A processor(s) may perform the necessary tasks.**

APPL-1005, [0031].

81. Therefore, Dill's financial transfer system includes "*one or more processors*" as recited by the claim.

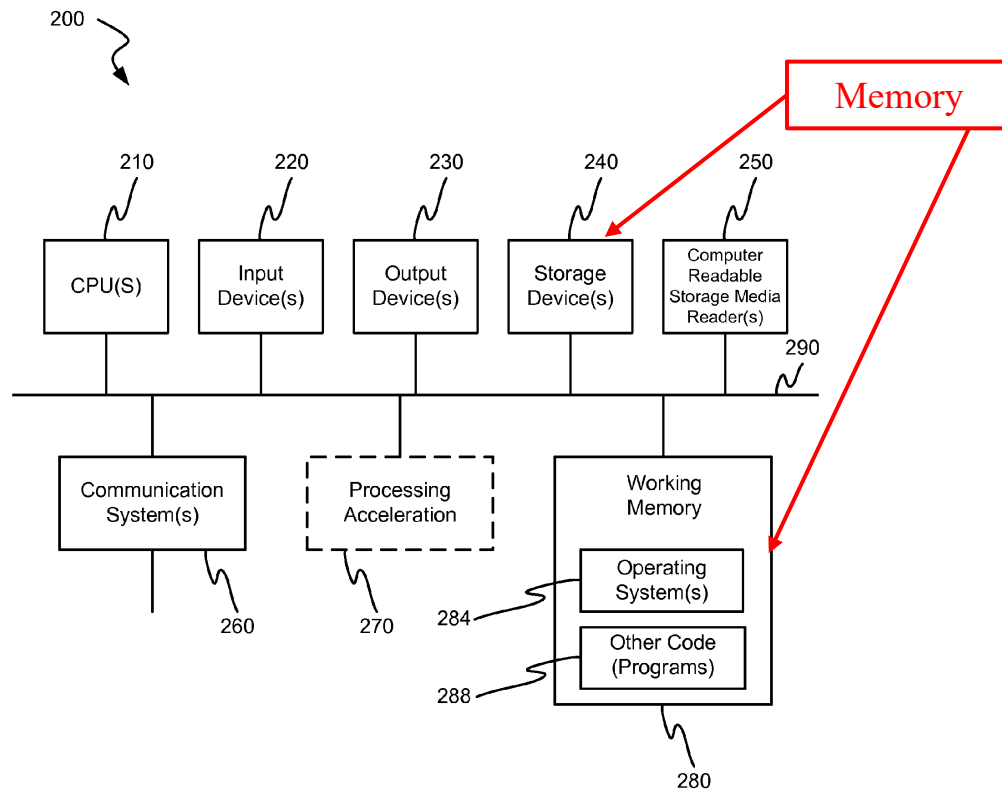
[1.2] system memory;

82. Dill discloses this limitation. For example, Dill's financial payment systems, including its transfer facilitator system 140, are carried out on an exemplary computer system 200 which includes one more storage devices 240 ("system memory").

83. As discussed in [1.1], Dill's payment systems, including its money transfer facilitator system 140 are carried out on an exemplary computer system 200. APPL-1005, [0059]. This computer system 200 also includes storage devices 240:

The computer system 200 is shown comprising hardware elements that may be electrically coupled via a bus 290. The hardware elements may include one or more central processing units 210, one or more input devices 220 (e.g., a mouse, a keyboard, etc.), and one or more output devices 230 (e.g., a display device, a printer, etc.). **The computer system 200 may also include one or more storage device 240. By way of example, storage device(s) 240 may be disk drives, optical storage devices, solid-state storage device such as a random access memory ("RAM") and/or a read-only memory ("ROM"), which can be programmable, flash-updateable and/or the like.**

84. APPL-1005, [0060]. Furthermore, the computer system 200 also includes “working memory 280, which may include RAM and ROM devices as described above” (AAPL-1005, [0061]) in which programs such as the Operating System 284 and other Programs 288 are stored. The storage device(s) 240 and working memory 280 are shown in Fig. 2 which has been reproduced below.



APPL-1005, Fig. 2 (annotated). APPL-1005, Fig. 2 (annotated). A POSITA would have understood the various storage devices 240 and/or working memory 280 of Dill’s computer system 200 to be a “system memory” as recited.

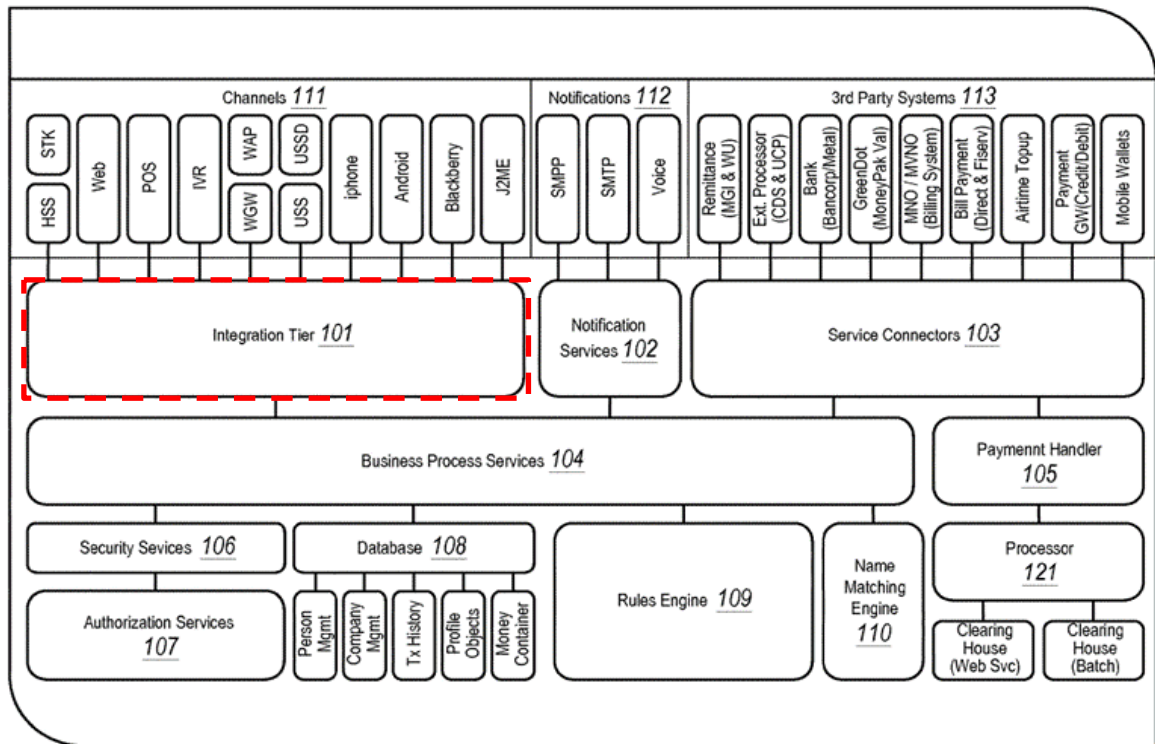
85. Thus, Dill’s financial systems include a “*system memory*” as recited in the claim.

[1.3A] an integration tier configured to manage mobile wallet sessions with a mobile device and

86. This limitation is taught by Dill. As discussed above in [1.0], Dill's financial transfer system 100 includes a transfer facilitator system 140, which in turn includes a transfer options module 145 ("integration tier") that is configured to manage mobile wallet sessions with mobile devices 125, 130 ("a mobile device"). APPL-1005, [0100].

87. Although the '488 patent does not define an "integration tier," it includes an explanation of "communication mechanisms" for sending messages to and from the integration tier and shows the integration tier as an element within the "platform functional architecture" of its transaction system (shown in Fig. 1 below). APPL-1001, 9:45-63.

Platform Functional Architecture



APPL-1001, Fig. 1 (annotated). A POSITA would have understood the integration tier to be an element of its transaction system. Further, the '488 patent states that the “[i]ntegration tier 101 is configured to manage mobile wallet sessions and maintain integrity of financial transactions.” APPL-1001, 9:45-48. Accordingly, a POSITA would have understood “integration tier” to include system elements configured to manage mobile wallet sessions, such as the transfer options module 145 of Dill.

88. As discussed in [1.0], Dill’s payment systems include a money transfer facilitator system 140 that is configured to manage transactions with a mobile wallet. APPL-1005, [0100]. This money transfer facilitator system 140

includes a transfer options module 145 that is configured to send and receive payment transfer information from various sources.

As illustrated here, the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, a web interface 137, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, or other interfaces 138. **The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, provide a notification of the transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.**

APPL-1005, [0101].

89. As discussed in [1.0], these transfers are conducted between a sending mobile wallet 125 and a receiving wallet 130:

Such a system 100 allows **a money transfer facilitator 140**, using a unique customer identifier and internal and/or external mapping databases 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.

APPL-1005, [0057].

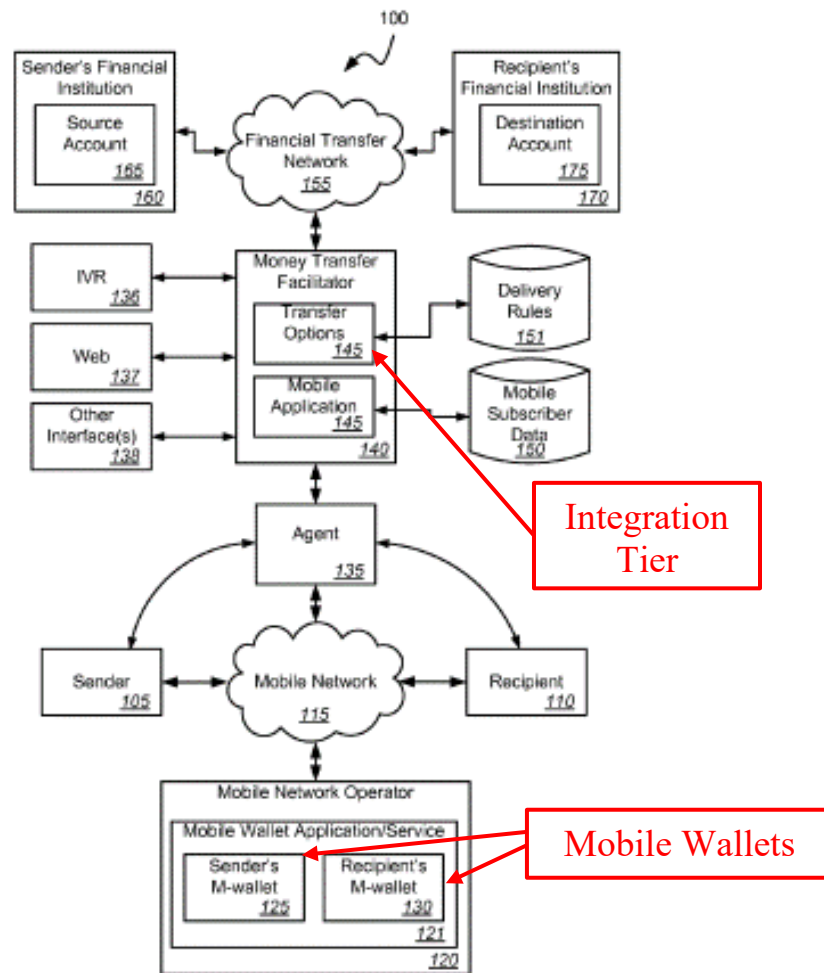


FIG. 9

APPL-1005, Fig. 9 (annotated).

90. Since Dill's transfer options module 145 sends and receives transaction details between mobile wallets 125, 130 within a mobile wallet application 121, a POSITA would have understood it to be a system element configured to manage transactions with a mobile wallet.

91. Thus, Dill's financial system 100 that includes a transfer options module 145 teaches "*an integration tier configured to manage mobile wallet sessions with a mobile device*" as recited by the claim.

[1.3B] [an integration tier configured to manage mobile wallet sessions with a mobile device and] including web services communication mechanisms for interfacing with a mobile wallet application installed on a hardware SIM card

92. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a transfer facilitator system 145 ("integration tier") that is configured to manage mobile wallet sessions with mobile devices 125, 130 ("a mobile device") including web service mechanisms for interfacing with a mobile wallet application 121 which may be installed on a SIM card ("mobile wallet application installed on a hardware SIM card"). APPL-1005, [0100].

93. As discussed in [1.3A], Dill's transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9. These communications include a web interface 137:

As illustrated here, the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, a web interface 137, as well as or instead of an interface

to an agent system 135, a telephone interface to a customer service representative, or other interfaces 138. The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, provide a notification of the transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101], *see also* [0015], [0047]. Dill also gives further details about how the money transfer transaction can be conducted via web sites:

According to one embodiment, a money transfer transaction can be initiated through a variety of channels. As will be seen, a notification functionality can be provided that uses a unique customer identifier. For example, the unique customer identifier can be provided by the sender to associate the transaction with a receiver's account and/or to notify the receiver of the transaction. The notification can also provide the recipient with the ability to decide on a payout method to receive the money transfer funds. **The money transfer transaction may be initiated** from a retail agent location of a money transfer facilitator (such as Western Union), **from a web site of the money transfer facilitator**, from a telephone money transfer service of the money transfer facilitator, from a mobile money transfer send, a kiosk, an ATM or from other channels.

APPL-1005, [0033], *see also* [0051], [0054]. Dill also explains that notifications, instructions, and options can be provided to a client by logging onto a website:

Such services can be provided to the recipient 110 in a variety of ways. For example, a notification can be provided to the recipient 110 via a mobile device and mobile network 115 as described above. Additionally or alternatively, a telephone call, telegram, email, SMS, U.S. postal letter, or other type of message can be sent to the recipient 110 providing the recipient 110 with notification of the transfer transaction and possibly instructions and/or options. Via one of the interfaces 136-138, e.g., **by logging onto a website**, calling an IVR, visiting an agent location, etc. depending upon the notification and/or instructions provided, the recipient can select a delivery option and/or provide instructions for the delivery.

APPL-1005, [0104].

94. Since Dill's transfer options module 145 facilitates communications over web sites interfacing with mobile wallets 125, 130 within a mobile wallet application 121, and Dill teaches that these communications include web services, a POSITA would have understood Dill to teach an integration tier configured to manage mobile wallet sessions "including web services communication mechanisms for interfacing with a mobile wallet application" as recited by the claim.

95. Dill also teaches that its mobile wallet application is installed on a hardware SIM card. For example, Dill teaches "a mobile device communicatively coupled with the mobile communications network and executing a mobile wallet application." APPL-1005, claim 1. Dill also teaches that its software instructions

(including mobile wallet application) can be implemented on any type of suitable machine-readable medium:

It should also be appreciated that the methods described above may be performed by hardware components or may be embodied in sequences of machine-executable instructions, which may be used to cause a machine such as a general-purpose or special-purpose processor or logic circuits programmed with the instructions to perform the methods. **These machine-executable instructions may be stored on one or more machine readable mediums, such as CD-ROMs or other type of optical disks, floppy diskettes, ROMs, RAMs, EPROMs, EEPROMs, magnetic or optical cards, flash memory, or other types of machine-readable mediums suitable for storing electronic instructions.** Alternatively, the methods may be performed by a combination of hardware and software.

APPL-1005, [0106].

96. A POSITA would have understood that the “machine readable mediums” referred to by Dill to execute its systems includes a hardware SIM card, which is commonly used to execute code for mobile transactions in mobile devices, as evidenced by Bykov (APPL-1013):

A personal information exchange module according to embodiments may be implemented as a standardized module that can be easily plugged into any personal handheld device. For example, **the personal information exchange module may be in SIM form**, which is accepted by a majority of cellular phones today. Many personal

handheld devices, such as PDAs, also include memory module slots where memory or similar modules may be plugged in.

In the example of a payment module, a module provided by a financial institution may execute sensitive code and store sensitive financial data with its appropriate security measures. A user may obtain this module from their financial institution and plug into a SIM card slot (if the module is in SIM form) of their cellular phone and use the phone for financial transactions transparent to the main functionality of the phone. Since the sensitive code and data is not transferred to the control of the phone's operating system, the module's integrity is protected and compatibility issues may be minimized by using standard APIs.

APPL-1013, [0027]-[0028].

97. Thus, a POSITA would have understood that Dill teaches that its mobile application can be implemented by various different mechanisms on a mobile device, including by using a hardware SIM card.

98. Thus, Dill's financial system 100 that includes a transfer options module 145 teaches "*an integration tier configured to manage mobile wallet sessions with a mobile device including web services communication mechanisms for interfacing with a mobile wallet application installed on a hardware SIM card*" as recited by the claim.

[1.3C] [an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for

interfacing with a mobile wallet application installed on a hardware SIM card] ... as well as with a plurality of different device types over a plurality of different communication channels,

99. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a transfer facilitator system 145 ("integration tier") that is configured to manage mobile wallet sessions with mobile devices 125, 130 ("a mobile device") as well as other device types over communication channels 136-138 ("a plurality of different communication channels"). APPL-1005, [0101].

100. As discussed in [1.3A], Dill's transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9. The transfer options module 145 communicates with devices over a number of different types of interfaces 136-138:

As illustrated here, **the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can comprise at least one of an Interactive Voice Response (IVR) interface 136, a web interface 137, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, or other interfaces 138.** The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, provide a notification of the

transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

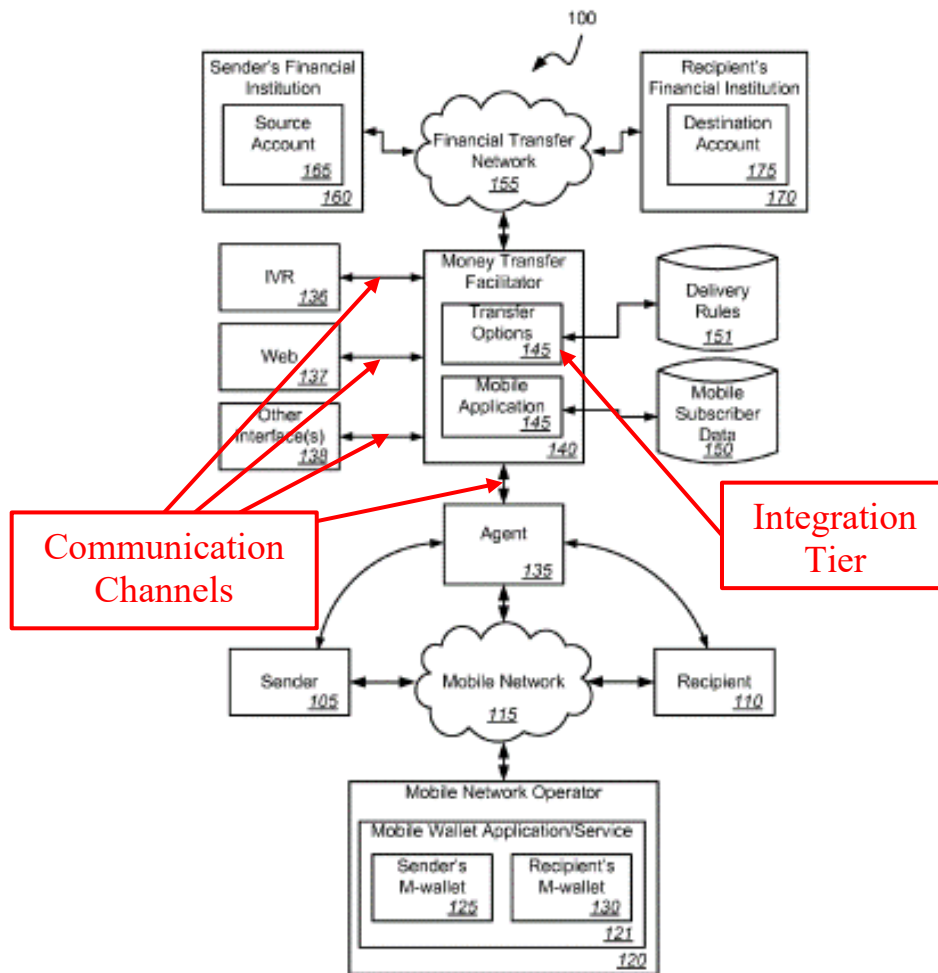


FIG. 9

APPL-1005, Fig. 9 (annotated).

101. Furthermore, Dill discloses that the mobile network 115 over which the mobile device communicates may be another type of wireless network (another “communications channel”). AAPL-1005, [0052] (“The system 100 can also

include a mobile network 115, such as a cellular **or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140.**”)

102. These interfaces 136-138 represent a plurality of different device types (i.e., IVR system, web site, etc.) as well as different communication channels for conducting transactions (APPL-1005, Fig. 9 annotated above). As further discussed in [1.3A], Dill also teaches that its software can be executed on any “type[] of machine-readable mediums suitable for storing electronic instructions” which includes “different device types over a plurality of different communication channels.” APPL-1005, [0106].

103. Thus, Dill’s transfer options module 145 communicating with devices over interfaces 136-138 teaches “*an integration tier configured to manage mobile wallet sessions with a mobile device and including web services communication mechanisms for interfacing with a mobile wallet application installed on a hardware SIM card as well as with a plurality of different device types over a plurality of different communication channels*” as recited by the claim.

[1.3D] [an integration tier configured to manage mobile wallet sessions with a mobile device] ... the integration tier being configured to receive binary and text messages from the mobile device;

104. This limitation is taught by Dill. For example, Dill’s financial transfer system 100 includes a transfer facilitator system 145 (“integration tier”) that is

configured to receive binary and text messages from mobile devices 125, 130 (“a mobile device”).

105. As discussed in [1.3C], Dill’s transfer options module 145 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121 over interfaces 136-138. APPL-1005, [0101], Fig. 9. Dill further states that its financial systems (conducted by its transfer options module 145) supports money transfers initiated by “a wireless communication channel including a wireless communication device”:

Generally speaking, embodiments of the present invention provide methods and systems for supporting money transfer transactions initiated by and/or conducted through **a variety of channels including but not limited to a wireless communication channel including a wireless communication device.**

APPL-1005, [0032].

106. Dill also includes examples of communication interfaces connecting the transfer options module 145 and various sending and receiving devices, including mobile devices:

As illustrated here, the money transfer facilitator system 140 can additionally or alternatively comprise one or more interfaces 136-138 for conducting money transfer transactions and a transfer options module 145 communicatively coupled with the one or more interfaces 136-138. For example, the one or more interfaces 136-138 can

comprise at least one of an Interactive Voice Response (IVR) interface 136, **a web interface 137**, as well as or instead of an interface to an agent system 135, a telephone interface to a customer service representative, **or other interfaces 138**. **The transfer options module 145 can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138**, provide a notification of the transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

107. A POSITA would have understood the transfer options module 145 receiving coupled to a web interface and “adapted to receive transaction information” through such an interface as “being configured to receive binary.” Dill also teaches that its system is configured for transactions through a “web site” and a “web page” as well as notifications through “web page notification” in order to transfer sensitive information such as bank account numbers or social security numbers. APPL-1005, [0033], [0035]. A POSITA would have understood that such information would have been conveyed in a secure manner, and that transactions and notifications conducted through these formats means that transfer options module 145 is configured to receive binary messages from a mobile device.

108. Additionally, communications may also be sent via SMS over the same interfaces 136-138:

Such services can be provided to the recipient 110 in a variety of ways. For example, a notification can be provided to the recipient 110 via a mobile device and mobile network 115 as described above. Additionally or alternatively, a telephone call, telegram, email, SMS, U.S. postal letter, or other type of message can be sent to the recipient 110 providing the recipient 110 with notification of the transfer transaction and possibly instructions and/or options. Via one of the interfaces 136-138, e.g., by logging onto a website, calling an IVR, visiting an agent location, etc. depending upon the notification and/or instructions provided, the recipient can select a delivery option and/or provide instructions for the delivery.

APPL-1005, [0104].

109. A POSITA would have understood that transfer options module 145 connected to the mobile network 114 via the above exemplary interfaces as configured to receive text messages (e.g., via SMS) from a mobile device in view of the above disclosure.

110. Thus, Dill's communication system including transfer options module 145 teaches an "*integration tier being configured to receive binary and text messages from the mobile device*" as recited.

[1.4A] a notification services engine configured to interface with the integration tier and

111. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a mobile application 145 ("notification services engine") that is configured to interface with a transfer facilitator system 145 ("integration tier").

112. As discussed in [1.0], Dill's payment systems a money transfer facilitator system 140 is configured to manage a mobile wallet. APPL-1005, [0100], Fig. 9. This money transfer facilitator system 140 is also configured to send notifications of money transfers:

Once the destination for transferring funds for the money transfer transaction to the recipient 110 has been determined, the funds can be transferred to the determined destination and the recipient 110 can be notified of availability of funds at the determined destination. **Notification can be sent by a money transfer facilitator 140** to the recipient 110 and/or to any party associated with the designated destination (e.g., to a mobile network operator 120, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party).

APPL-1005, [0056]. Dill further explains more details of these notifications, including that either the transfer options module 145 or mobile application 145 of the money transfer facilitator 140 can send notifications:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that

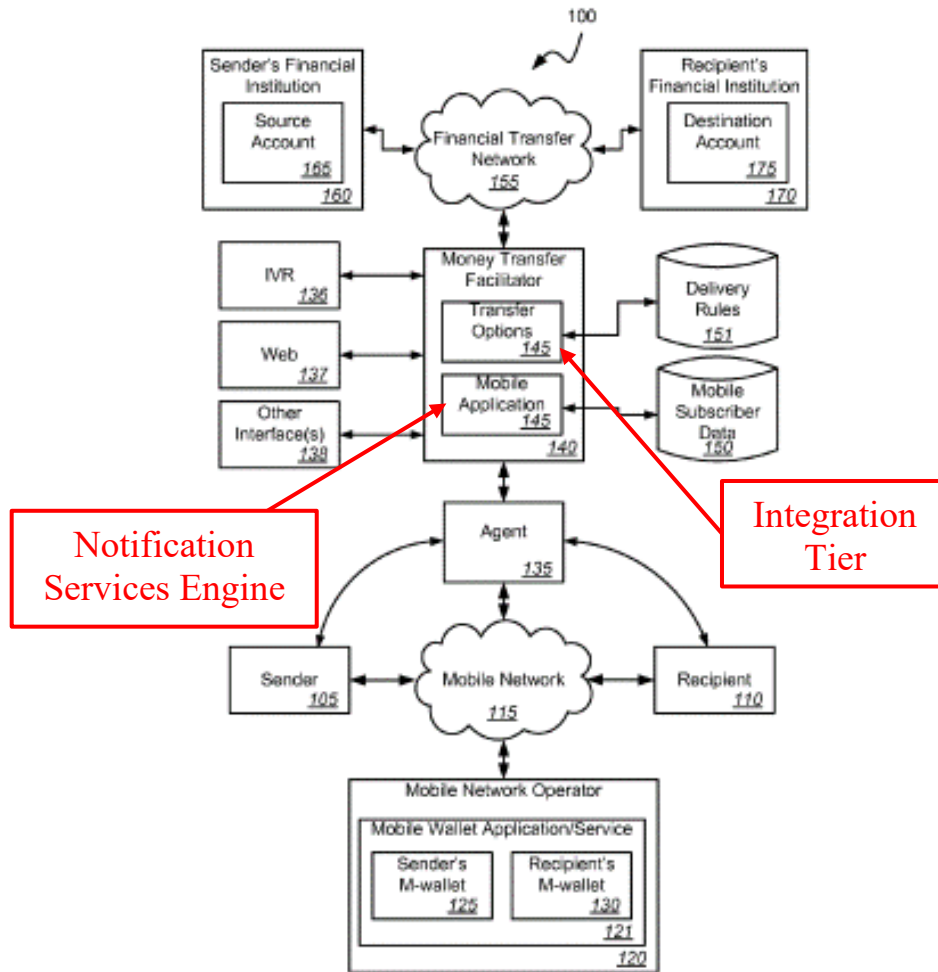
the transaction is available for payout. Additionally, **the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction** and the availability of funds to the recipient 110.

APPL-1005, [0069].

The **transfer options module 145** can be adapted to receive transaction information for a money transfer transaction from a sender 105 through at least one or the interfaces 136-138, **provide a notification** of the transaction to a recipient of the transaction, and select one or more delivery options for completing the money transfer transaction.

APPL-1005, [0101].

113. Since both the mobile application 145 and transfer options module 145 of the money transfer facilitator 140 send notifications, a POSITA would have understood either of them to be a “notification services engine” as recited by the claim. For ease of explanation, the mobile application 145 is labeled as the notification services engine in Fig. 9 of Dill, below.

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

114. A POSITA would have also understood Dill's broad notification language to mean that the various components of the money transfer facilitator interface with each other to send the notification:

In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that

channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

115. Thus, Dill's financial transaction system that includes mobile application 145 teaches "*a notification services engine configured to interface with the integration tier*" as recited by the claim.

[1.4B] [a notification services engine configured to interface with the integration tier and] to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages over the different communication channels to different devices,

116. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a mobile application 145 ("notification services engine") that is configured to send different types of messages over interfaces 136-138 ("different communication channels" and "different devices").

117. First, Dill teaches that is mobile application 145 sends "a plurality of corresponding different types of messages." As discussed in [1.4A], Dill teaches that the mobile application 145 sends various notifications for a transaction:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that the transaction is available for payout. Additionally,

the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110.

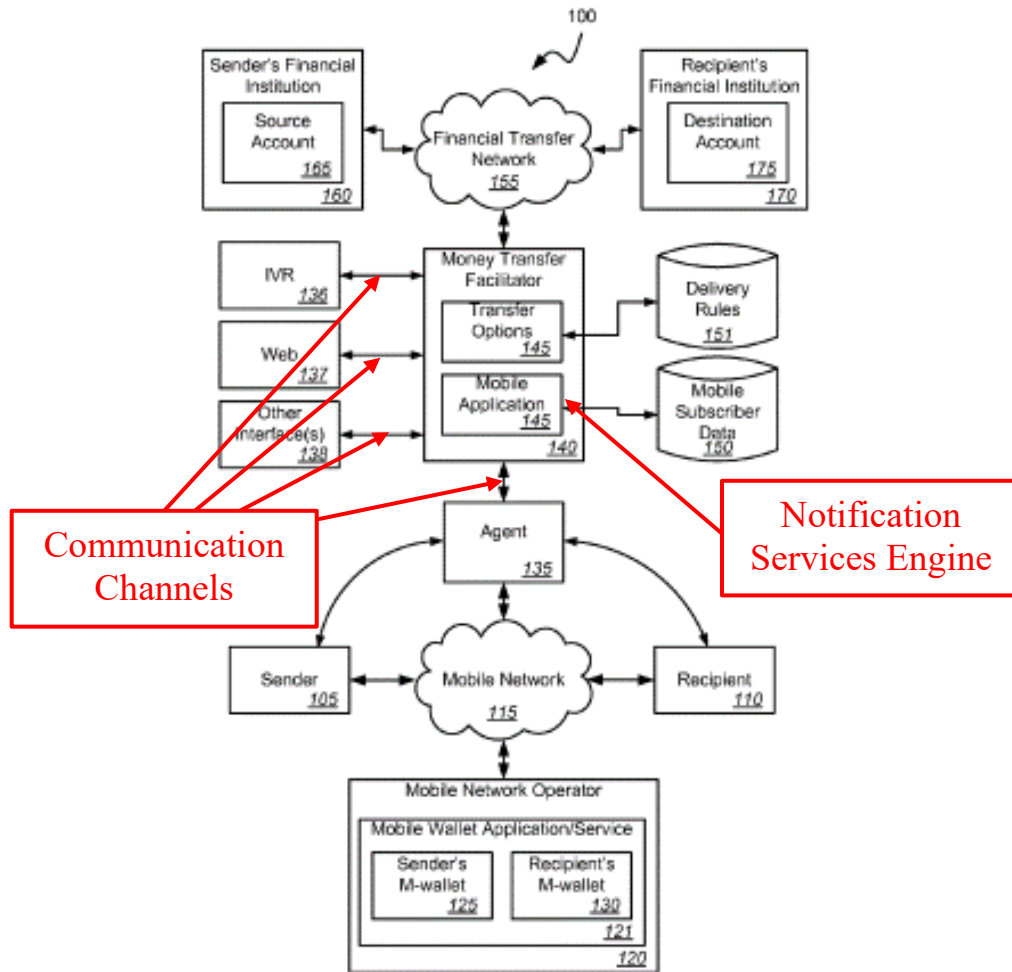
APPL-1005, [0069].

118. Dill also details other types of requests, notifications, and other communications that the mobile application 145 is configured to send to various devices. *See* APPL-1005, [0050] (“the mobile application 145 of the money transfer facilitator can be adapted to support transaction involving one or more mobile devices”), [0067] (“The mobile application 145 of the money transfer facilitator 140 can then provide 325 a response to the request from the mobile wallet application 121”), [0069] (“the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110”). A POSITA would have understood these different notifications (*i.e.*, initiating a money transfer send process, notifications of the transaction, etc.) are “different message types.” *Id.* Further, Dill teaches that “notification can be provided to the recipient via a mobile device and mobile network 115” by “telephone call, telegram, email, SMS, U.S. postal letter, or other type of message.” A POSITA would have understood these different message types to be “a plurality of corresponding different types of messages” as well. Furthermore, a POSITA would have understood that email on the Internet is delivered using the standard SMTP protocol.

119. Second, Dill teaches that its mobile application 145 is configured to send the various types of communications “over the different communication channels” and to “different devices.” In particular, Dill teaches that its notifications can be sent over various channels including interfaces 136-138:

Such services can be provided to the recipient 110 in a variety of ways. For example, a notification can be provided to the recipient 110 via a mobile device and mobile network 115 as described above. Additionally or alternatively, **a telephone call, telegram, email, SMS, U.S. postal letter, or other type of message can be sent to the recipient 110 providing the recipient 110 with notification of the transfer transaction and possibly instructions and/or options.** Via one of the interfaces 136-138, e.g., by logging onto a website, calling an IVR, visiting an agent location, etc. depending upon the notification and/or instructions provided, the recipient can select a delivery option and/or provide instructions for the delivery.

APPL-1005, [0104]. These communication channels connected to the money transfer facilitator and 140 and mobile application 145 are shown below:

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

120. Based on Dill's mobile device being configured to send various types of messages including SMS messages and email messages, a POSITA would have also understood Dill to teach "a notification services engine configured to interface with the integration tier and] to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages" as recited by the claim.

121. A POSITA would have first seen the typo of “SSMP” in this limitation and second would have understood the abbreviation “SSMP” to mean “SMPP.” In particular, a POSITA would have understood that Short Message Peer-to-Peer (SMPP) and Simple Mail Transfer Protocol (SMTP) are “industry standard protocols” for delivering messages, as evidenced by Tsai (APPL-1014) and Price (APPL-1015):

Various industry standard protocols are supported by the above-mentioned gateways. These include, for SMS: Short Message Peer to Peer protocol (SMPP), EMI/UCP, SMTP, HTTP, CIMD, GSM/ANSI 41 MAP and the like.

APPL-1014, [0079].

There are various protocols for delivering short message service (SMS) text messages, primarily SMPP (Short Message Peer-to-Peer) and SMTP (Simple Mail Transfer Protocol). Each of these protocols presents different challenges for effective message delivery.

APPL-1015, [0004].

122. Since Dill expressly discloses that its mobile application 145 is configured to send various types of communications including messages (i.e., SMS messages), it would have been obvious to use the industry standard protocols of SMPP and SMTP to deliver these messages. APPL-1014, [0079]; APPL-1015, [0004].

123. Thus, a POSITA would have understood Dill's mobile application 145 to be configured to "*send a plurality of corresponding different types of messages over the different communication channels to different devices*" as recited by the claim.

[1.4C] [a notification services engine configured to interface with the integration tier and to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages over the different communication channels to different devices] including the mobile device, to interface with the mobile wallet application installed on the hardware SIM card;

124. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes a mobile application 145 ("notification services engine") that is configured to send messages to mobile devices 125, 130 ("a customer's mobile device") which include a mobile wallet application 121 which may be installed on a SIM card ("mobile wallet application installed on the hardware SIM card").

125. As discussed in [1.3A], Dill's money transfer facilitator 140 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9.

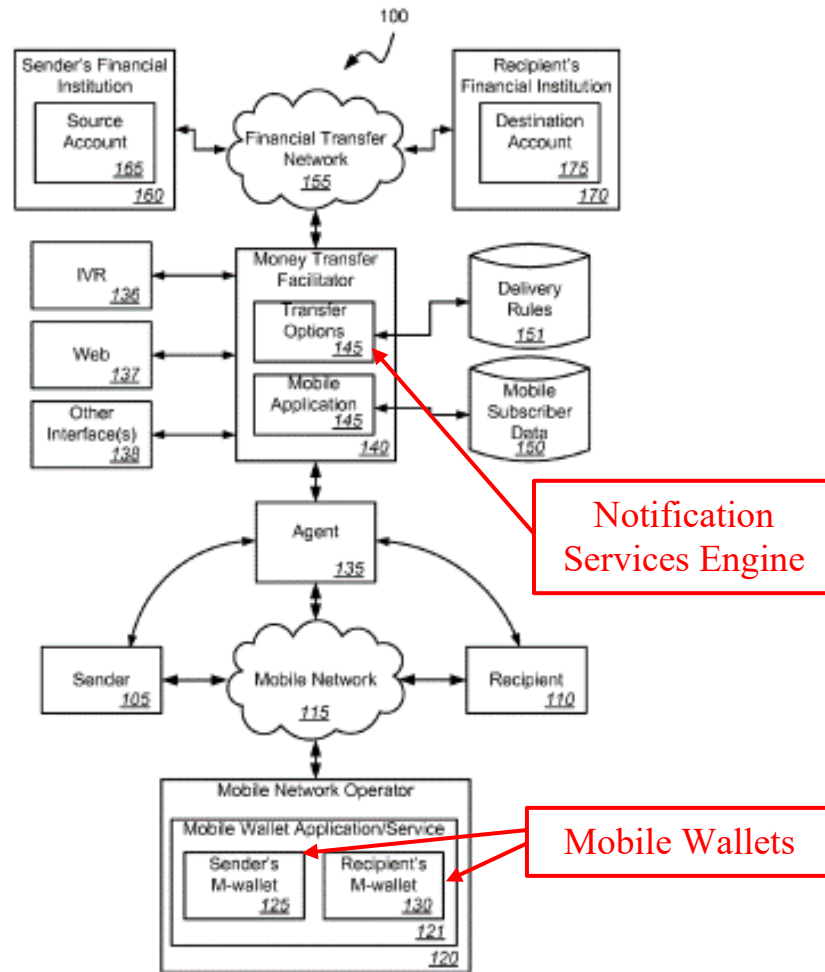


FIG. 9

APPL-1005, Fig. 9 (annotated).

126. Dill also gives details of this communication process, which includes messages sent to the mobile wallet application 121 via a user device:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can perform a money transfer release process 570. The process 570 can perform a transfer of the funds to the identified account 175 of the recipient 110 and send a message to the mobile wallet application 121 of the recipient 110 indicating success

or failure of the transfer. The mobile wallet application 121 of the recipient 110 can in turn update 575 a balance of the account, assuming a successful transfer, and notify 580 and 585 the recipient 110 of the transfer.

APPL-1005, [0082]. Dill teaches that these messages are sent to the mobile wallet application 121 via the mobile device:

Additionally, **the mobile wallet application 121 of the recipient's mobile network operator 120 and/or money transfer facilitator 140 can send 630 a message to the recipient 110, e.g., via the recipient's mobile device,** notifying the recipient 110 of the availability of funds and inviting the recipient 110 to enroll in the mobile wallet service to receive the transfer.

APPL-1005, [0084].

127. Since Dill's money transfer facilitator 140 (and in particular the mobile application 145 within it) interfaces with the mobile wallets 125, 130 within a mobile wallet application 121 (and accordingly with the hardware SIM card that the mobile wallet application is installed on as discussed in [1.4A]), a POSITA would have understood Dill to teach a notification services engine configured to send messages to a *“mobile device, to interface with the mobile wallet application installed on the hardware SIM card”* as recited by the claim.

[1.5A] service connectors that are each configured to connect the computing system to a different third party system,

128. This limitation is taught by Dill. For example, Dill's financial transfer system 100 includes connections ("service connectors") that connect its money transfer facilitator 140 ("computing system") to financial institutions 160, 170 ("a different third party system").

129. First, As discussed in [1.0], Dill teaches a "computing system." In particular, the functions of Dill's money transfer facilitator 140 are configured to be carried out on a computer system 200. APPL-1005, [0059].

130. Second, Dill teaches that its money transfer facilitator 140 is connected to financial institutions 160, 170 which a POSITA would have understood to be "different third party system[s]." In particular, Dill states:

Also communicatively coupled with the financial transfer network 155 can be one or more financial institutions 160 and 170. Generally speaking and as understood by one skilled in the art, **the money transfer facilitator 140 may access a source account 165 of one financial institution 160 and/or a destination account 175 of the same or a different financial institution 170** to affect a transfer from and/or to the accounts 165 and 175 via the financial transfer network 155.

APPL-1005, [0049]. A POSITA would consider the financial institutions 160, 170 to be "different third party system[s]" because they are both separate entities which are outside parties to Dill's money transfer facilitator 140. Dill also teaches other third party systems connected to Dill's money transfer facilitator, such as eBay,

PayPal, Western Union, and other third-party service providers. APPL-1005, [0090].

131. Third, Dill teaches this its money transfer facilitator 140 system is connected to the financial institutions and other third party systems via “service connectors” as shown in Fig. 9 which has been reproduced below:

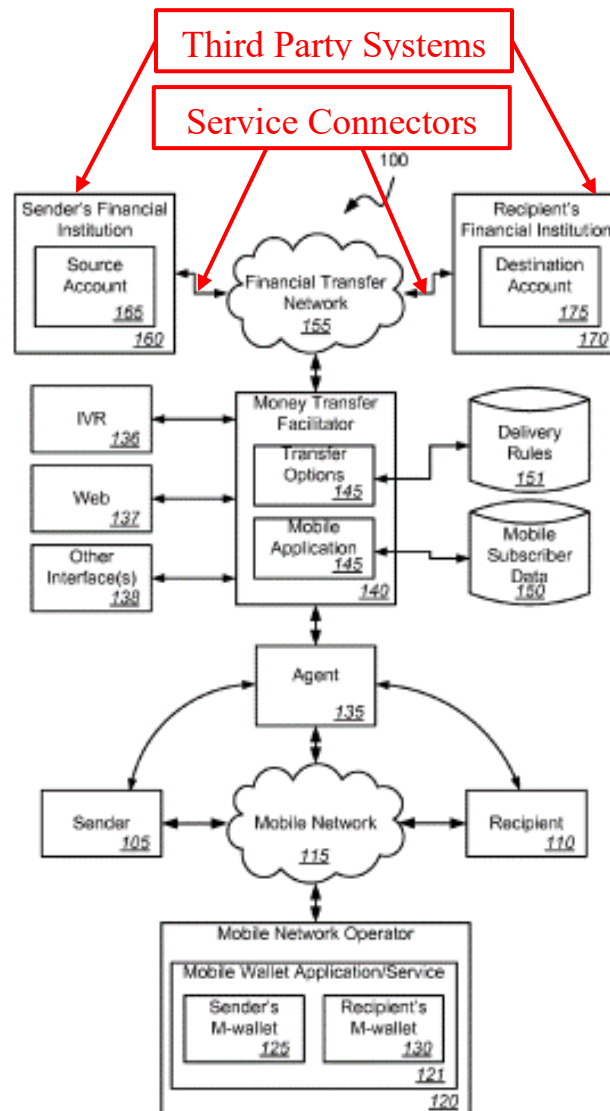


FIG. 9

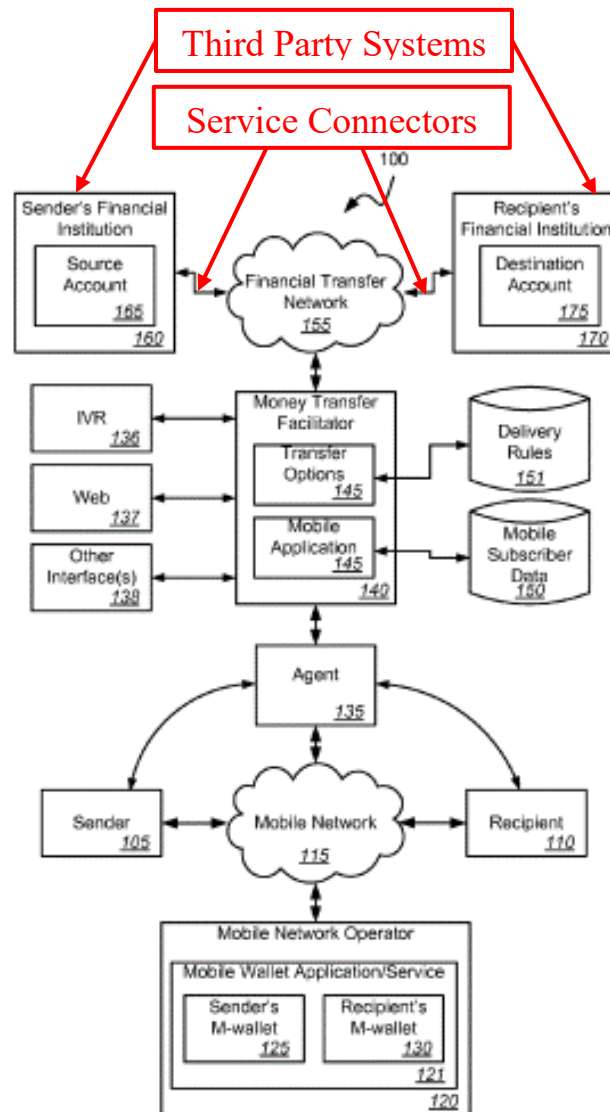
APPL-1005, Fig. 9 (annotated).

132. A POSITA would have understood these communication channels and corresponding software APIs and/or implementation to be “service connectors” because Dill’s money transfer facilitator 140 accesses the financial institutions 160, 170 and other third party systems through the channels shown above to “affect a transfer.” APPL-1005, [0049].

133. Thus, a POSITA would have understood that Dill’s money transfer facilitator 140 connected to financial institutions 160, 170 teaches “*service connectors that are each configured to connect the computing system to a different third party system*” as recited.

[1.5B] each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

This limitation is taught by Dill. As discussed in [1.5A], Dill’s money transfer facilitator 140 system is connected to the financial institutions via “service connectors” as shown in Fig. 9 which has been reproduced below:

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

134. As shown in Fig. 9 above, each of the service connectors is separately connected to a financial system. Based on this separation, a POSITA would have understood each of these service connectors to be “a separate module” as recited by the claim. Dill also teaches that these service connectors, as well as all channels in its system, are designed to provide service “appropriate to that recipient”:

In any of these examples, **transfers can be initiated by a sender through a channel appropriate to that sender**, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities **as appropriate for that channel**, notification can be directed to the recipient through a channel **appropriate to that recipient**, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

135. A POSITA would have therefore understood that Dill's service connectors each separately providing support to the external financial institutions teaches "*each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system*" as recited by the claim.

[1.6] a payment handler that exposes a common API for interacting with different payment processors;

136. This limitation is taught by the combination of Dill and Vadhri. In particular, it would have been obvious to combine Vadhri's API server 514 ("payment handler that exposes a common API for interacting with different payment processors") with Dill's financial transfer system 100.

137. First, Dill recognizes the need for flexible financial systems that may be used by different parties:

However, money transfer services and systems have not yet been adapted to take advantage of the flexibility and functionality that the use of such mobile devices can provide. Hence, there is a need in the art for improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.

APPL-1005, [0004]. To achieve this flexibility, money transfer facilitator 140 system is configured to interact with various payment systems:

FIG. 1 is a block diagram illustrating an exemplary system for making financial transfers according to one embodiment of the present invention. **As illustrated here, the system 100 can include a money transfer facilitator 140 system** such as the systems operated by Western Union or another money transfer facilitator service. The money transfer facilitator 140 can be communicatively coupled with the financial transfer network 155.

APPL-1005, [0049].

138. Second, the use of Application Program Interfaces (APIs) in payment systems is well known in the art, as evidenced by “Designing Systems for Internet Commerce” by Treese (“Treese,” APPL-1008). In particular, Treese states:

Internet payment technology is changing rapidly, with debit cards, electronic funds transfer, and electronic checks gaining acceptance and with other, more innovative system on the horizon. The payment API permits new payment systems and additional implementations of old ones to be added. Catalog content is linked to the transaction engine,

which operates as a payment switch,[] so new payment systems can be added without the necessity of updating any content servers.

APPL-1008, p.417. Thus, a POSITA would have understood that a common payment API is commonly used in the art to add new payment options without the necessity of updating payment servers to handle numerous additional proprietary interfaces.

139. Third, a POSITA would have understood Vadhri's API server to be "a payment handler that exposes a common API for interacting with different payment processors" as recited by the claims. For example, Vadhri teaches a financial system are configured for enhanced flexibility in sharing data between different parties:

The applications 520 may be hosted on dedicated or shared server machines (not shown) that are communicatively coupled to enable communications between server machines. The applications themselves are communicatively coupled (e.g., via appropriate interfaces) to each other and to various data sources, **so as to allow information to be passed between the applications or so as to allow the applications to share and access common data**. The applications may furthermore access one or more databases 526 via the database servers 524 of FIG. 5.

APPL-1006, [0056].

140. Vadhri teaches that its API server in particular allows for increased flexibility by providing access to “various services and functions provided by the marketplace” through its interface, including access for third-party marketplaces such as eBay, as well as features such as managing listings offline and batch-mode communications. APPL-1006, [0052]. A POSITA would have understood that Vadhri’s API server functions as “a payment handler that exposes a common API for interacting with different payment processors” because it uses a common API (which as discussed above allows for additional payment options without requiring additional servers (APPL-1009, p.417)) and allows for interaction with different payment processors (such as eBay).

141. Fourth, it would have been obvious to combine Vadhri’s API server 514 to Dill’s financial payment system to yield the predictable result of increased access for clients and an increase in available payment options. As discussed above, the use of payment APIs to add new payment systems without the necessity of adding additional servers was well known in the art. APPL-1009, p.417. It would have been obvious for a POSITA to include this technology (via Vadhri’s API server) into Dill’s system based on the recognized need for flexibility. APPL-1005, [0004]; APPL-1006, [0052].

142. Thus, the combination of Vadhri's server 514 with Dill's financial transfer system teaches "*a payment handler that exposes a common API for interacting with different payment processors*" as recited by the claim.

[1.7] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL);

143. This limitation is taught by the combination of Dill and Akashika. In particular, it would have been obvious to combine Dill's money transfer facilitator 140 ("security services engine") with Akashika's management server 200 with an access control list generation section 204 ("utilizing a database-based Access Control List (ACL)").

144. First, a POSITA would have understood that financial transfer systems, such as those disclosed by Dill, require security protocols to protect clients and assets alike. *See* APPL-1007, [0007] ("a secure chip stores data, such as the remaining amount or the settlement information of electronic money or important personal information, and so high security for such data is required"). This need is clearly shown by the numerous security protocols implemented in Dill's financial transfer system (and in particular with Dill's money transfer facilitator 140), such as steps to validate Personal Identification Numbers (PINs), transaction identifiers, and recipient identifiers:

The application of the money transfer facilitator can in turn receive and verify the transaction identifier. In response to verifying the transaction

identifier, the application of the money transfer facilitator can send a recipient identifier to the mobile wallet application. The recipient identifier can indicate an intended recipient of the money transfer transaction.

APPL-1005, [0006].

145. In recognizing the need for secure transactions, Dill also authenticates subscribers by requiring a “unique customer identifier” with all payment requests:

The request can include a unique identifier for a recipient of the money transfer transaction. The unique identifier for the recipient of the money transfer transaction can comprise one or any combination of a phone number for a mobile device of the recipient, an email address for the recipient, an instant messaging identifier for the recipient, a preferred customer number for the recipient or other unique customer identifier issued by a money transfer facilitator or its agent, a mobile network operator, a retailer, a bank, a service provider or any other party, account information (e.g., stored value account identifier, bank account number and/or ABA routing number), a tax number (e.g., Social Security Number or Taxpayer Identification Number), a drivers' license number, a state ID number, a student ID number or another unique identifier.

APPL-1005, [0035].

146. A POSITA would have also understood that security is a concern when sharing data (and in particular, financial data) between parties, as taught by Vadhri. APPL-1006, [0056]. Therefore, a POSITA would have been motivated to

implement additional security protocols when providing the added flexibility afforded by Vadhri's API server with Dill's financial system.

147. Second, the use of access control lists to control access to sensitive systems was also well in the art, as evidenced by Imrey (APPL-1009):

The debtor may enable account access for the third party by accessing and authenticating with server 102 and adding the individual to his account access control list or some other supported access control mechanism. Once added to the access control list, the individual may log into the system using standard, typically secure Internet protocols, such as by the user/debtor logging into the web site, essentially connecting the individual with the system 100 via the user/debtor interface 222.

...

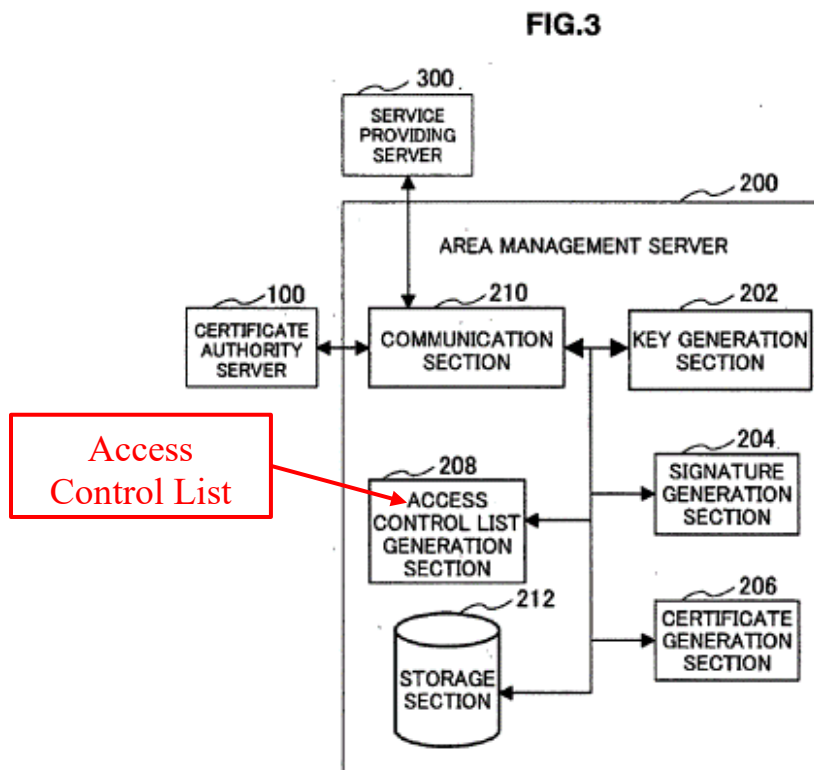
The method and system for adding third parties to an access control list is generally understood by those skilled in the art.

APPL-1009, [0185]-[0186].

148. Third, Akashika teaches a teaches a secure service providing server and methods to securely access data, such as that used in financial transactions. APPL-1007, [0005], [0010]. The secure server of Akashika includes an area management server 200 with an access control list generation section 208 shown in Fig. 3:

As shown in FIG. 3, the area management server 200 is mainly configured with a key generation section 202, a signature generation section 204, a certificate generation section 206, **an access control list generation section 208**, a communication section 210 and a storage section 212. The area management server 200 is connected to the certificate authority server 100 and the service providing server 300 via the communication section 210.

APPL-1007, [0058]. These features are shown in Fig. 3 of Akashika, which has been reproduced below for reference.



APPL-1007, Fig. 3 (annotated).

149. The access rights set by Akashika's access control list include access to the secure chip as well as "read permission, write permission, restriction on frequency of access permitted for the same area" and executing script data (such as ECMAScript or JavaScript) on the secure chip. APPL-1007, [0017], [0062], [0070]. The implementation of Akashika's ACL achieves the well-known benefits of preventing "unauthorized access to the secure chip 500 can be prevented." APPL-1007, [0117]; APPL-1009, [0185]-[0186].

150. Fourth, the benefits of implementing an access control list as taught by Akashika into Dill's money transfer facilitator 140 to assist in authenticating users would have been obvious to a POSITA. In fact, a POSITA would have understood that the implementation of an access control list is merely an extension of the rules already defined by Dill's money transfer facilitator. *See e.g.*, APPL-1005, [0102]-[0105]; APPL-1007, [0017].

151. Based on the foregoing reasons, a POSITA would have found it obvious, desirable, and predictable to implement Akashika's access control list into Dill's money transfer facilitator 140.

152. Therefore, the combination of Dill and Akashika teaches "*a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL)*" as recited by the claim.

[1.8] a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account; and

153. Dill teaches this limitation. For example, Dill teaches that its money transfer options module 145 implements rules (“a rules engine”) and a mobile wallet application 121 (“mobile wallet application”) that is associate with mobile wallets 125, 130 (“a mobile wallet account”).

154. First, Dill teaches a rules engine. For example, Dill teaches that its money transfer facilitator 140 includes a transfer options module 145 which receives and implements rules:

In some cases, the transfer options module 145 can receive an indication of delivery options from a recipient 110 of the money transfer transaction and select one or more delivery options based on the indication. For example, the money transfer options module 145 can receive the indication of delivery options from the recipient 110 via one of the interfaces 136-138. In other cases, the transfer options module 145 can additionally or alternatively select one or more delivery options based on one or more delivery rules 151. **For example, the one or more delivery rules 151 can include one or more rules defined by a recipient 110 of the money transfer transaction, one or more rules defined by a sender 105 of the money transfer transaction, and/or one or more rules defined by the money transfer facilitator.** In some cases, the notification of the transaction can include an indication of one or more delivery options. In such cases, the transfer options module 145 may define a delivery rule based on the indication of delivery

options received from the recipient 110 and may select one or more delivery options for completing a subsequent money transfer transaction based on the defined delivery rule.

APPL-1005, [0102].

155. A POSITA would have understood that by receiving and implementing rules, transfer options module 145 is the claimed “rules engine.” This is consistent with how the ’488 patent describes the rules engine, which is “configured to enforce business constraints, such as for example, transactions and platform license constraints.” ’488 patent, 10:41-43.

156. Second, Dill’s transfer options module 145 is “configured to enforce constraints on financial transactions performed with the mobile wallet application” as recited by the claim. For example, the transfer options module 145 can receive and implement various types of delivery rules, including the examples below:

Further, in some cases, the recipient 110 may provide instructions for future transactions. That is, recipient defined rules can be defined by the recipient 110 via one of the interfaces 136-138 or through an agent and saved by the transfer options module 145 as a delivery rule 151 for future transfers of the same type, from the same sender, for all future transfers to the recipient, etc. As noted above and depending upon the exact implementation, the delivery rules 151 can additionally or alternatively include sender defined rules, i.e., rules defined by the sender and perhaps **defining restrictions or conditions of the delivery, and/or money transfer facilitator defined rules, e.g., rules**

defined by the money transfer facilitator based on various governmental and/or banking rules, service conditions, etc. Any or all such delivery rules 151 related to a transfer can then be applied to future/subsequent transfer transactions and the recipient can be notified by the money transfer facilitator system, e.g., by email, U.S. mail, SMS, etc. Such notification options may be defined, for example as part of an applicable delivery rule.

APPL-1005, [0104].

157. Third, a POSITA would have understood that Dill's rules apply to financial transactions performed with the mobile wallet application 121 which is associated with a mobile wallet 125:

In this example, processing begins after the money transfer send process has been initiated by the mobile application 145 of the money transfer facilitator 140 as described in the examples above. At this point, the mobile application 145 of the **money transfer facilitator 140 can send 705 and 710 a response message to the sender 105**, either the agent 135 of the money transfer facilitator 140 or the **mobile wallet 125 of the sender 105**, indicating the MTCN and/or that the transaction is available for payout. Also, the mobile application 145 of the money transfer facilitator 140 can send 715 a message to the **mobile wallet application 121 of the recipient's 110 mobile network operator 120 indicating availability of the funds for transfer.**

APPL-1005, [0087].

158. Dill also teaches that the mobile application 145 of the money transfer facilitator 145 is configured to support transactions with mobile devices 125, 130:

The money transfer facilitator system 140 can also include or execute a mobile application 145. As will be seen, **the mobile application 145 of the money transfer facilitator can be adapted to support transaction involving one or more mobile devices.** Generally speaking, the mobile application 145 can be adapted to identify the entities and/or accounts associated with a transaction and/or determine a destination for a payment of the transaction. For example, the entities and/or accounts can be identified based on a set of mobile subscriber data 150 maintained in a database or other repository.

APPL-1005, [0050].

159. Since the mobile wallet application 121 is configured to support transactions with mobile devices including transferring money between mobile devices, a POSITA would have understood that Dill teaches “the mobile wallet application being associated with a mobile wallet account” as recited.

160. Thus, Dill teaches “a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application, the mobile wallet application being associated with a mobile wallet account” as recited by the claim.

[1.9] one or more computer-readable storage media having stored thereon computer-executable instructions that are executable by the one or more processors to cause the computing system to perform a transaction for a

customer using the mobile wallet which is owned by another entity than the customer, comprising the following:

161. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is implemented by a computer system 200 (“one or more computer-readable storage media”) that is configured to run code 288 (“computer-executable instructions”) to facilitate transactions with a mobile wallet 125, 130 (“customer using the mobile wallet”) which may be owned, maintained and/or enrolled by an external mobile wallet service (“the mobile wallet which is owned by another entity than the customer”).

162. First, as discussed in [1.1] and [1.2], Dill’s financial system includes processors and memory devices. APPL-1005, Fig. 2, [0059]-[0064]. Dill’s financial system (including its money transfer facilitator system 140 discussed above) includes computer-readable storage media and code stored within to run its programs:

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. This example illustrates a **computer system 200 such as may be used, in whole, in part, or with various modifications, to provide the functions** of the sender's mobile device, the receiver's mobile device, the agent 135 system, the money transfer facilitator system 140, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

163. Dill's computer storage system 200 includes a computer-reader storage media reader 250. APPL-1005, [0061]. Thus, a POSITA would have understood software stored and read from Dill's computer system 200 to carry out financial transactions to be "one or more computer-readable storage media having stored thereon computer-executable instructions which are executable by the one or more processors."

164. Second, Dill's computer system 200 implementing code as discussed above is configured to "facilitate a transaction for a customer using the mobile wallet." For example, Dill teaches that its computer system 200 is configured to carry out financial transactions:

The computer system 200 may also comprise software elements, shown as being currently located within a working memory 280, including an operating system 284 and/or other code 288. It should be appreciated that alternate embodiments of a computer system 200 may have numerous variations from that described above. For example, customized hardware might also be used and/or particular elements might be implemented in hardware, software (including portable software, such as applets), or both. Furthermore, connection to other computing devices such as network input/output and data acquisition devices may also occur.

Software of computer system 200 may include code 288 for implementing any or all of the function of the various elements of

the architecture as described herein. For example, software, stored on and/or executed by a computer system such as system 200, can provide the functions of the sending subscriber interface, the receiving subscriber interface, the agent server 125, the source transfer network 165, the primary transfer network 160, the destination transfer network 190, the communication network 115, and/or other components of the invention such as those discussed above.

As noted above, **embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction.**

APPL-1005, [0063]-[0065], *see also* Fig. 2.

165. Since these embodiments include transactions between mobile wallets, a POSITA would have understood that Dill's code "facilitate[s] a transaction for a customer using the mobile wallet." APPL-1005, [0053].

166. Third, Dill teaches that its computer system is configured to perform transactions for a customer using the mobile wallet "which is owned by another entity than the customer" as recited by the claim. For example, Dill teaches that its mobile wallets 125 and 130 are maintained by a mobile wallet service 121:

The mobile network operator system 120 can include and/or execute a mobile wallet application 120 or service. Generally speaking, the mobile wallet application 121 maintains mobile wallets 125 and 130 for one or more subscribers, such as the sender 105 and/or recipient 110 to the mobile wallet service 121. **The mobile wallets 125 and 130 can**

each comprise information related to the device and accounts of the entity for which the mobile wallet is maintained.

APPL-1005, [0053]. A POSITA would have understood that the mobile wallet service 121 is one example of an “entity other than the customer” that owns or maintains the mobile wallet of Dill. Dill further states that its mobile wallets 125 need not be enrolled in the same mobile wallet service, but is designed to generally “provide a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130”:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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 remittances 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,** pickup 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.

APPL-1005, [0057].

167. Thus, Dill's financial system (including its money transfer facilitator system 140) implementing financial transactions with mobile wallets 125, 130 teaches "*one or more computer-readable storage media having stored thereon computer-executable instructions that are executable by the one or more processors to cause the computing system to perform a transaction for a customer using the mobile wallet which is owned by another entity than the customer*" as recited by the claim.

[1.10A] the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform,

168. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests and other communications ("communication") from a customer over various communication channels including interfaces 136-138 ("the plurality of channels connected to the computing system") that are connected to Dill's transaction system with Vadhri's cloud-based characteristics ("cloud-based transaction system").¹³⁸ ("one of a plurality of channels connected to the computing system").

169. First, Dill teaches that an agent 135 (“agent terminal”) may be in communication with its money transfer facilitator 140 (which is implemented by computer system 200).

The system can also include an agent 135 in communication with the money transfer facilitator 140. The agent 135 can comprise a retail outlet location and associated systems of the money transfer facilitator 140. Generally speaking, the agent 135 provides a channel by which entities can access the services of the money transfer facilitator 140. It should also be noted that, while not illustrated here for the sake of simplicity and clarity, the agent 135 and/or money transfer facilitator 140 can also provide other channels for accessing the services of the money transfer facilitator 140.

APPL-1005, [0051]. Since agent 135 can be a “retail outlet” and provides access to a financial network, a POSITA would have understood agent 135 to be an “agent terminal” as claimed.

170. Indeed, Dill’s agent 135 is described to function just like the agent terminal of the ’488 patent: “[a]gent terminal 602 may be part of an agent network consisting of one or more agent terminals that communicate with cloud-based transaction platform 601” and gives examples of agent terminals such as “stores and other commercial establishments” and an “agent company.” APPL-1001, 17:64-18:2, 8:19-24. The ’488 patent also describes “agents” as “representatives of the mFS [mobile financial services] transaction system or ‘program’ ... and may

include large retailers, mobile network operators (MNO) airtime sales agents, gas stations, kiosks, or other places of business.” APPL-1001, 6:39-47.

171. Second, Dill teaches receiving communication with the money transfer facilitator 140 from the agent 135, and in particular, that the communication includes information or routing details for a transaction:

The recipient 110, after receiving 355 the notification, can present 360 an identification, the MSISDN, the MTCN, answer to a test question and/or other information to an agent 135 of the money transfer facilitator, e.g., at a retail outlet of the money transfer facilitator 140.

The agent 135 of the money transfer facilitator 140 can in turn submit 365 this information and/or routing details for the transfer to the mobile application 145 of the money transfer facilitator 140.

The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135 and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

APPL-1005, [0070].

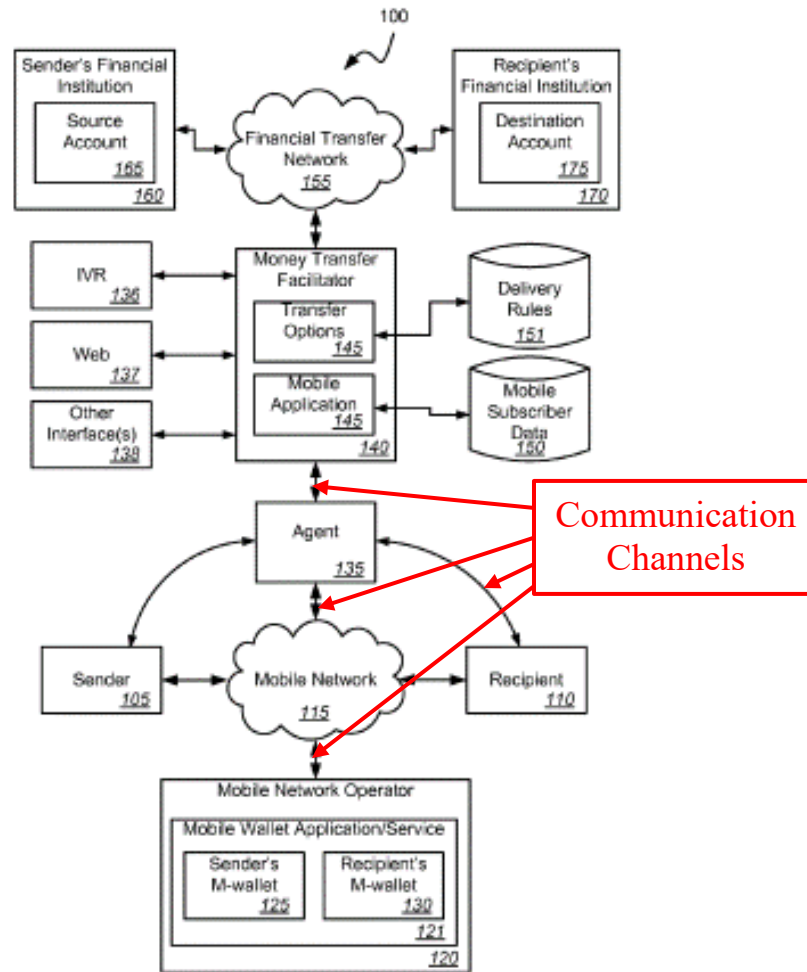
172. Third, Dill teaches that the communications from the agent 135, as well as all transaction communications, are routed over communication channels in its financial transfer system:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to

use with any type of device, wired or wireless, or any channel of communication. Rather, **the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer.**

APPL-1005, [0090].

173. For the particular communications received by the money transfer facilitator 140 from the agent 135, Fig. 9 shows exemplary communication channels which could be used, as indicated below (*see also* APPL-1005, [0032], [0052]).

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

174. Fourth, although the phrase “the cloud-based transaction platform” lacks antecedent basis, it would have nonetheless been obvious to implement Vadhri’s cloud computing environment with Dill’s financial transfer system and receive the communications above with this “cloud-based transaction platform.”

175. For example, Vadhri teaches that its processors are configured to support performance of operations in a “‘cloud computing’ environment”:

The one or more processors may also operate to support performance of the relevant operations in a “cloud computing” environment or as a “software as a service” (SaaS). For example, at least some of the operations may be performed by a group of computers (as examples of machines including processors), these operations being accessible via a network (e.g., the Internet) and via one or more appropriate interfaces (e.g., Application Program Interfaces (APIs).)

APPL-1006, [0089].

176. The benefits of cloud-based computing were well known in the art at the time of filing of the '488 patent, as evidenced by Barton (APPL-1010). *See* APPL-1010, [0067]-[0069] (describing shared data, use in public and private networks, etc.) It would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill's financial system to achieve the well-known benefits of cloud computing as this would provide the predictable result of a more flexible system. APPL-1005, [0004].

177. A POSITA would have understood that Dill's financial transfer system implemented with a computer system using a cloud-based environment would have been suitable to receive all of the above communications from an agent
135 terminal over any of the communication channels as discussed above. Thus, the implementation of Vadhri's cloud-based environment in Dill's financial transfer system teaches “*the computing system receiving communication from an*

agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform” as recited by the claim.

[1.10B] ... the agent communication indicating that a customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet;

178. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests (“customer communication indicating that the customer desires to perform a transaction”) from a third party mobile wallet 125, 130 (“using a third party mobile wallet”).

179. First, Dill teaches that its money transfer facilitator 140 is configured to receive communications from the agent 135 “indicating that a customer desires to perform a transaction comprising a mobile wallet transaction.” As discussed in [1.4A], Dill teaches that money transfer facilitator 140 is configured to receive transaction requests. APPL-1005, [0069]. These requests (which may be communicated from customers through an agent) indicate desires for various types of transactions, including mobile wallet transactions:

As noted above, embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction. **For example, one option can comprise a “mobile-to-cash” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user to a recipient that can receive the payment in cash, for example from an agent of the**

money transfer facilitator. Another option can comprise a “cash-to-mobile” option in which an entity pays for and initiates a transaction in person, for example via an agent of the money transfer facilitator, and wherein the payment is delivered to an account associated with a mobile wallet of the recipient. Yet another option can comprise a “mobile-to-mobile” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user wherein the payment is delivered to an account associated with a mobile wallet of the recipient.

APPL-1005, [0065].

180. Second, Dill teaches that the transaction requests received by its money transfer facilitator 140 include “using a third party mobile wallet.” As discussed in [1.9], the transfer facilitator 140 servers as a financial transfer system for mobile wallets 125, 130, which may be maintained and serviced by an external mobile wallet service, as discussed in [1.9]. APPL-1005, [0053].

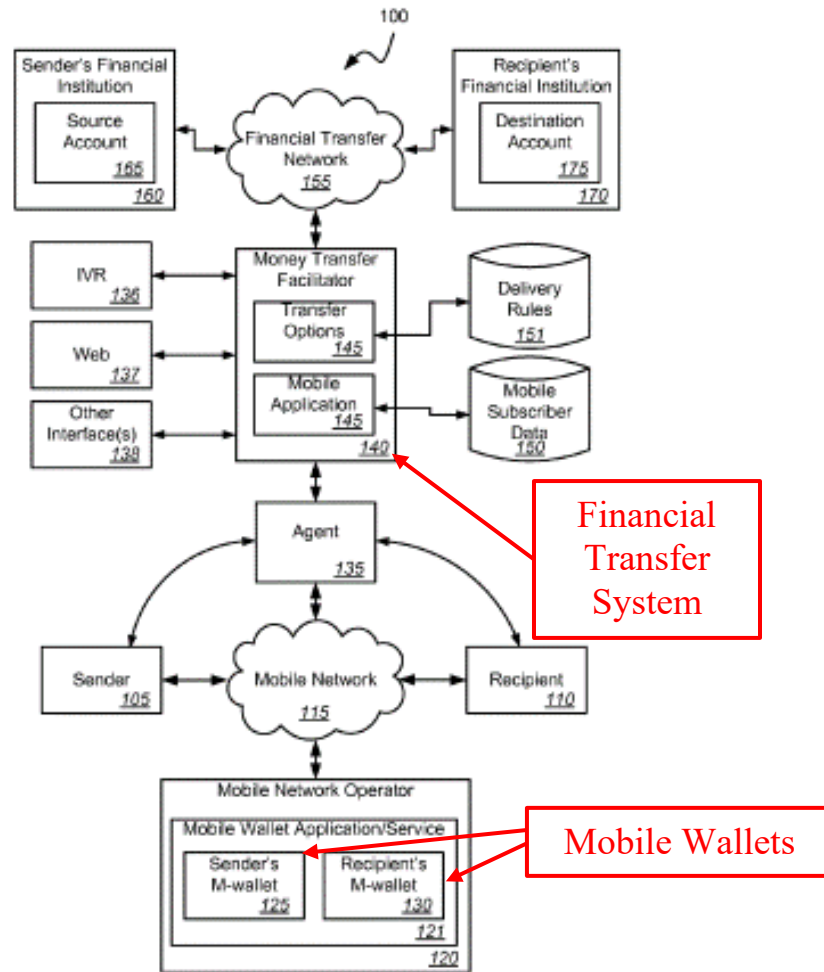


FIG. 9

APPL-1005, Fig. 9 (annotated).

181. Since Dill's transaction services include receiving requests and corresponding payment from mobile wallets 125, 130 which may be third party mobile wallets, Dill's transaction requests include "a transaction comprising a mobile wallet transaction using a third party mobile wallet."

182. Thus, Dill's money transfer facilitator 140 configured to receive transaction requests from a mobile wallet 125, 130 teaches "*the agent*

communication indicating that a customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet” as recited by the claim.

[1.10C] ... the mobile wallet transaction comprising at least one of a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet, a mobile wallet withdrawal in which funds are withdrawn from the third party mobile wallet and provided to the customer, or a mobile wallet deposit in which funds are deposited into the third party mobile wallet;

183. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive transaction requests (“mobile wallet transaction”) in which funds are transferred from a first mobile wallet 125 (“from the mobile wallet of the customer”) to a second mobile wallet 130, wherein either of the mobile wallets 125, 130 may be external mobile wallets (“to a third party mobile wallet”).

184. As discussed in [1.10B], Dill’s money transfer facilitator 140 is configured to conduct transactions between mobile wallets 125, 130 which may by external mobile wallets enrolled under another entity:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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 remittances 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, pickup 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.

APPL-1005, [0057].

185. Dill also provides for various types of mobile wallet transactions, such as “mobile-to-cash,” “cash-to-mobile,” and “mobile-to-mobile” which can be facilitated between mobile wallets 125, 130. APPL-1005, [0065], Figs. 3-8. A POSITA would have understood these transactions to be a “mobile wallet transfer,” as well as a “mobile wallet withdrawal” and a “mobile wallet deposit” as recited by the claims.

186. Moreover, it was well-known in the art to use a mobile wallet on a mobile device to withdraw funds from an account of the mobile device user, as evidenced by Liao (APPL-1012). In particular, Liao teaches that a user may utilize “mobile wallet application software running on the controller module 200” to “withdraw money from a bank account.” APPL-1012, 5:44-55, *see also* Fig. 3. A POSITA would have understood this type of withdrawal to be similar to the transactions outlined by Dill.

187. Thus, a POSITA would have understood Dill to teach all of the claimed mobile wallet transfer types, including “*funds [that] are transferred from the mobile wallet of the customer to a third party mobile wallet*”, “*a mobile wallet withdrawal in which funds are withdrawn from the third party mobile wallet and provided to the customer*” and “*a mobile wallet deposit in which funds are deposited into the third party mobile wallet*” as recited.

[1.11] the computing system sending the agent communication to the third party mobile wallet platform;

188. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 implemented by its computing system 200 (“the computing system”) is configured to send communications, including a request from agent 135 (“send the agent communication”) to the mobile wallets 125, 130 and associated platform (“to the third party mobile wallet platform”).

189. As discussed in [1.10A], Dill teaches that a request to initiate a transaction (which may come from agent 135) is received by the money transfer transaction:

According to one embodiment, the money transfer facilitator 140 can **receive a request to initiate the money transfer transaction**, for example a payment from the sender 105 to the recipient 110. The money transfer facilitator 140 can receive the request to initiate the money transfer transaction from the mobile wallet application 121 of a mobile network operator 120, from a web site of the money transfer

facilitator 140, **from the agent 135**, from a telephone money transfer service of the money transfer facilitator 140, from a kiosk, from an ATM or from another channel.

APPL-1005, [0054]. Dill teaches that after receiving this request, a destination for transferring funds is determined by communicating the request with a mobile wallet 130 which may be enrolled in an internal or external mobile wallet service:

A destination for transferring funds for the money transfer transaction to the recipient 110 can be determined by the money transfer facilitator 140, agent 135, and/or mobile network operator 120 based at least in part on the unique identifier for the recipient 110 ...

If the recipient 110 is enrolled in the mobile wallet service 121 of the mobile network operator 120, **the destination for transferring funds for the money transfer transaction to the recipient 110 can comprise an account 175 associated with the mobile wallet 130 of the recipient**. If the recipient 110 is not enrolled in the mobile wallet service 121 of the mobile network operator 120, the destination for transferring funds for the money transfer transaction to the recipient 110 can comprise a retail outlet of the money transfer facilitator or other designated destination, e.g., the agent's 135 location. Additionally or alternatively, in response to determining the recipient 110 is not enrolled in the mobile wallet service 121 of the mobile network operator 120, a message can be sent to the recipient 110 inviting the recipient 110 to enroll in the mobile wallet service 121. **If the recipient 110 enrolls in the mobile wallet service 121 of the mobile network operator 120, the destination for transferring funds for the money**

transfer transaction to the recipient 110 can comprise an account 175 associated with the mobile wallet 130 of the recipient 110.

APPL-1005, [0055].

190. A POSITA would have understood that by sending the request from agent 135 and determining the destination for transferring funds by communicating the request with mobile wallet 130, Dill teaches “*the computing system sending the agent communication to the third party mobile wallet platform*” as recited by the claim.

[1.12A] the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal and

191. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 implemented by its computing system 200 (“the computing system”) is configured to determine a type of mobile wallet transaction including withdrawals (“determining whether the mobile wallet transaction comprises the mobile wallet withdrawal”).

192. As discussed in [1.10C], Dill teaches that its financial transfer system is configured to support various types of transaction between mobile wallets, including “structured settlements” between mobile wallets including “mobile-to-mobile” transactions. APPL-1005, [0057]-[0058]. In this case, Dill further teaches that mobile wallet application 121 sends a transfer request to money transfer

facilitator 140, which in turn indicates back to mobile wallet application 121 that funds are ready for transfer:

The mobile application 145 of the money transfer facilitator 140, upon receiving the request, can perform a process to look up (e.g., a Mobile Station Integrated Service Digital Network (MSISDN), International Mobile Subscriber Identity (IMSI) and/or Temporary Mobile Subscriber Identity (TMSI)) for the sender 105 and/or recipient 110 and/or otherwise verify 320 the data provided by the mobile wallet application 121 in the request. The mobile application 145 of the money transfer facilitator 140 can then provide 325 a response to the request from the mobile wallet application 121. If the data of the request is verified by the mobile application 145 of the money transfer facilitator 140, the response may include information related to and/or describing fees, legal notices, etc. Alternatively or additionally, the look up can be performed by the mobile network operator 120.

The mobile wallet application 121, upon receiving the response from the mobile application 145 of the money transfer facilitator 140 can obtain 330 and 335 confirmation of the transaction from the sender 105. Upon confirmation 330 and 335, the mobile wallet application 121 can in turn send 340 a transfer request to the mobile application 145 of the money transfer facilitator 140.

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that

the transaction is available for payout. Additionally, the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110.

APPL-1005, [0067]-[0069].

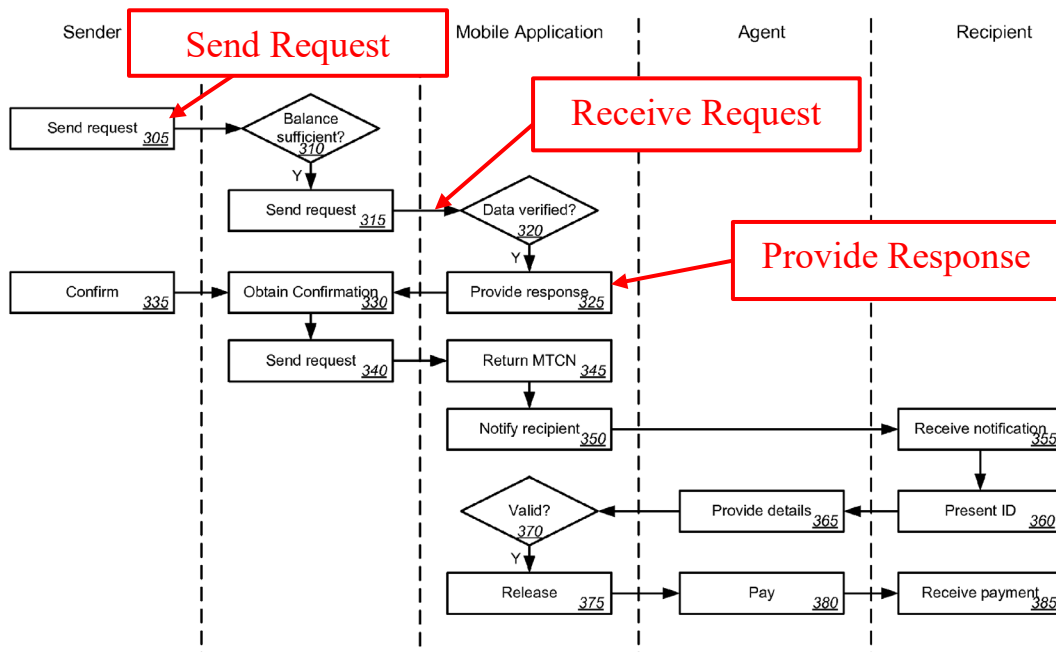
193. Since Dill's money transfer facilitator 140 receives the request and determines whether the funds are ready for transfer from the mobile wallet, a POSITA would have understood that Dill's transaction system teaches that "*the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal*" as recited.

[1.12B] ... when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal, generating and providing a perishable withdrawal code to the consumer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal;

194. The combination of Dill and Vadhri teach this limitation. In particular, Dill teaches that its money transfer facilitator 140 receives a transfer request for a transaction ("when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal") and initiates a money transfer send process which returns 345 a transaction identifier which would have been obvious to include the temporary account code 103 of Vadhri ("generating and providing a perishable withdrawal code to the consumer") which is presented to the agent 135 ("which is

presented to the agent terminal to facilitate processing of the mobile wallet withdrawal”).

195. As discussed in [1.12A], after receiving a transaction request, Dill’s money transfer facilitator 140 “can then provide 325 a response to the request from the mobile wallet application 121.” APPL-1005, [0067]. Fig. 3 shows this:



APPL-1005, Fig. 3 (annotated).

196. Along with additional “information related to and/or describing fees, legal notices, etc.” that may be included in the request, Dill states that a “transaction identifier” may be assigned to the mobile wallet application:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control

Number (MTCN)) to the mobile wallet application 121 indicating that the transaction is available for payout. Additionally, the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110.

APPL-1005, [0069].

197. Second, Vadhri teaches “generating and providing a perishable withdrawal code to the consumer” as recited by the claim. In particular, Vadhri teaches receiving a request including a temporary account code 103 that is securely sequenced and formed:

Alternatively or additionally, the requester 106 may be communicatively coupled to a radio receiver to receive from a remote machine or device, a wireless request for the **temporary account code 103**. In various example embodiments, the requester 106 is to forward requests for the temporary account code 103 to a generator of the temporary account code 103. For some example embodiments the generator of the temporary account code 103 includes a machine (not shown) communicatively coupled to the account access object via a network. Without departing from the claimed subject matter, the provider 108 located on the account access object 104 may alternatively or additionally generate and provide the temporary account code 103.

The provider 108 is to make the temporary account code 103 available for use to access a value holding account. As stated above, the provider 108 may generate the temporary account code 103. The provider 108

may include hardware and/or software logic configured to **securely generate and store random numbers (e.g., and/or characters) randomly sequenced to form the temporary account code 103.**

APPL-1006, [0022]-[0023].

198. The temporary account code 103 (also labeled 203 in Fig. 2) is used to authorize the purchase of goods and/or services:

At block 408 of the flow 400, the method may include the user action of receiving notification of whether the account code (e.g., the temporary account code of FIG. 2) is considered to be valid or invalid. In some example embodiments, notification may be sent to a card reader and/or to the account access card itself via wired and/or wireless signals. In an example embodiment, a valid temporary card number or the persistent card number may be used to access what is of value within the value holding account 405. For some example embodiments, **this may include receiving authorization to purchase goods and/or services using the persistent card number/expiration date 202 or the temporary card number/expiration date 203 of the account access card 204.**

APPL-1006, [0046].

199. Vadhri further explains that the temporary account code 103 has an expiration that is earlier relative to a persistent account code 102:

FIG. 2 is shown to include a card number portion 208 (an example embodiment of the provider 108 of FIG. 1) to provide via LCD and/or imprinting, a persistent card number/expiration date 202 and a

temporary card number/expiration date 203 (examples of the account codes 102 and 103 respectively of FIG. 1). **Throughout this document, the word “persistent” when used in “persistent card number” means persistent relative to the temporary card number/expiration date 203. For example the temporary card number will always have an expiration date that is earlier than or equal to the persistent card number's expiration date.**

APPL-1006, [0027].

200. A POSITA would have understood Vadhri's temporary account code 103 to be a “perishable withdrawal” as recited because it is securely generated account code that is used to increase security for various types of transactions and has a specified expiration.

201. Third, a POSITA would have found it obvious to include the secure temporary account code as taught by Vadhri as Dill's transaction identifier for additional security by limiting the amount of time that the code is available.

By using the example temporary card number, a user may control the amount of time an account number is at risk of fraud due to being exposed on the internet and/or to merchants or any other person or machine. For example, a user's credit card number may be at risk for a number of years when it is used to make a purchase via the internet, while for the same purchase, a user's temporary card number would be at risk for a number of hours.

APPL-1006, [0015]. Thus, it would have been obvious to include the secure temporary code of Vadhri with the mobile application 145 of Dill for the purpose of a financial transaction, including a mobile wallet withdrawal.

202. Fourth, a POSITA would have understood that the secure, perishable purchase code of Vadhri would be “presented to the agent terminal to facilitate processing of the mobile wallet withdrawal” as taught by Dill. As discussed above, it would have been obvious to include Vadhri’s secure temporary codes as Dill’s transaction identifier, which is used to “facilitate flexible payment deliver options for the transaction.” APPL-1005, [0065]. Dill’s transaction identifier is also presented to the agent 135 for a transaction:

According to such embodiments, a money transfer can be initiated in a conventional manner via an agent of a money transfer facilitator. The sender of the transfer can provide an identifier for the transaction to the recipient. The recipient can in turn use the identifier, in combination with functionality of a mobile wallet application of a mobile device to request or “pull” the money transfer to an account associated with the mobile wallet application.

APPL-1005, [0091].

203. Therefore, a POSITA would have understood that Vadhri’s secure temporary code implemented as Dill’s transaction identifier and used for transactions with an agent 135 teaches “*when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal, generating and providing a*

perishable withdrawal code to the consumer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal” as recited by the claim.

[1.13] the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit; and

204. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 (“computing system”) receives a communication from the mobile wallet 125, 130 and associated platform confirming processing of the transaction (“the third party mobile wallet platform confirming processing of the transaction”).

205. First, Dill teaches that notification for a transaction can be sent to various parties, including messages from the mobile wallet 130 to the money transfer facilitator 140:

The mobile wallet application 121, upon receiving the notification from the mobile application 145 of the money transfer facilitator 140, can execute a look-up 450 account process to determine an account 175 associated with the mobile wallet 130 into which the funds should be transferred. Once this account is identified, the mobile wallet 130 can send a message to the mobile application 145 of the money transfer facilitator 140 confirming 455 the recipient 110. Additionally, **the mobile wallet 130 can send 460 a message to the mobile application**

145 of the money transfer facilitator 140 to initiate the receipt, i.e., the transfer of funds to the identified account 175.

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can perform a money transfer release process 465. **The process 465 can perform a transfer of the funds to the identified account 175 of the recipient 110 and send a message to the mobile wallet application 121 indicating success or failure of the transfer.** The mobile wallet application 121 can in turn update 470 a balance of the account, assuming a successful transfer, and notify 475 and 480 the recipient of the transfer.

APPL-1005, [0075]-[0076]. Dill further emphasizes that notification of a transfer can be sent to various parties associated with the transfer, including to the money transfer facilitator:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. Rather, **the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer** ... In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, **the transfer can be handled and directed by a money transfer facilitator 140**, network operator, service provider, third-party, and/or other entities as appropriate for that channel, **notification can be directed to the recipient through a**

channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

206. As discussed above in [1.10C], this transfer can include various transaction types including “at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit” as recited by the claim. APPL-1005, [0057]-[0058].

207. Therefore, Dill teaches “*the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit*” as recited by the claim.

[1.14] the computing system sending communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction.

208. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to send communications to an agent 135 (“agent terminal”) over its communication channels (“over one of a plurality of communication channels”) which are connected to Dill’s financial system implementing Vadhri’s cloud-based

environment (“connected to the cloud-based transaction platform”) indicating that the transaction has been processed.

209. First, as discussed in [1.13], Dill’s financial transfer system is configured to send communications from “the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer.” APPL-1005, [0090]. Dill’s payment system is configured to send messages over a number of communication interfaces 136-138 and in particular, to an agent terminal. APPL-1005, [0070], [0090], [0101]. Any of these channels can be selected to send notification between parties. Dill also provides a specific example of a sender 105 initiating a transaction with a recipient using a particular communication channel, such as a web site.

It should also be noted that, while not illustrated here for the sake of simplicity and clarity, the agent 135 and/or money transfer facilitator 140 can also provide other channels for accessing the services of the money transfer facilitator 140. For example, such channels can include but are not limited to a web site, a telephone service, a kiosk, an ATM or other channels. Generally speaking and as understood by one skilled in the art, via one or more such channels, **a sender 105 can initiate a transaction to transfer money to a recipient 110. For example, a sender 105 can access the services of the money transfer facilitator 140 via a web site of the money transfer facilitator 140 and initiate a money transfer from a source account 165 owned by the sender**

105. The recipient 110 of the payment may then, for example, pick up the payment from the agent's 135 retail location.

The system 100 can also include a mobile network 115, such as a cellular or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140. A mobile network operator system 120 can be communicatively coupled with the mobile network 115. As understood by one skilled in the art, **the mobile network 115 and mobile network operator system 120 can support communication to and/or from mobile devices communicatively coupled therewith such as a mobile device associated with the sender 105 and/or a mobile device associated with the recipient 110.**

APPL-1005, [0051]-[0052].

210. Dill also specifically states that these communications are sent between an agent 135 in communication with Dill's money transfer facilitator 140:

The system can also include an agent 135 in communication with the money transfer facilitator 140. The agent 135 can comprise a retail outlet location and associated systems of the money transfer facilitator 140. Generally speaking, the agent 135 provides a channel by which entities can access the services of the money transfer facilitator 140.

APPL-1005, [0051].

211. A POSITA would have understood Dill's example of selecting a web site (or other communication sources) as teaching "the computing system sending

communication to the agent terminal over one of a plurality of communication channels” as recited by the claim.

212. Second, as discussed in [1.10A], it would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill’s financial system to achieve the well-known benefits of cloud computing as this would provide the predictable result of a more flexible system. APPL-1005, [0004]. Therefore, the combination of Dill and Vadhri teach that the “plurality of communication channels [is] connected to the cloud-based transaction platform” as recited by the claim.

213. Third, Dill also specifically discusses sending confirmation of the transaction to the agent 135. As discussed above in [1.3C], Dill teaches that many different types of communication channels can be used to complete a transaction, and that communication is directed to an agent over these channels.

Once the destination for transferring funds for the money transfer transaction to the recipient has been determined, the funds can be transferred to the determined destination and the recipient can be notified of availability of funds at the determined destination. Notification can be sent by a money transfer facilitator to the recipient and/or to any party associated with the designated destination (e.g., to a mobile network operator, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party).

APPL-1005, [0037], [0051].

214. Dill further teaches that after selecting a communication type and channel, transaction data is sent to the agent:

The recipient 110, **after receiving 355 the notification, can present 360 an identification, the MSISDN, the MTCN, answer to a test question and/or other information to an agent 135** of the money transfer facilitator, e.g., at a retail outlet of the money transfer facilitator 140. The agent 135 of the money transfer facilitator 140 can in turn submit 365 this information and/or routing details for the transfer to the mobile application 145 of the money transfer facilitator 140. The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135 and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

APPL-1005, [0070].

215. Since Dill teaches that these notifications can be sent to any party associated with the transaction including the agent, a POSITA would have understood that Dill teaches after selecting a particular communication channel, “the communication indicating confirmation of the processing of the transaction” as recited by the claim.

216. Third, Dill teaches that the selected channel is “connected to the computing system.” As discussed above in [1.10A], Dill’s communication

channels are connected to Dill's money transfer facilitator 140 which includes computer system 200 (and are therefore "connected to the computing system" as recited). APPL-1005, [0059].

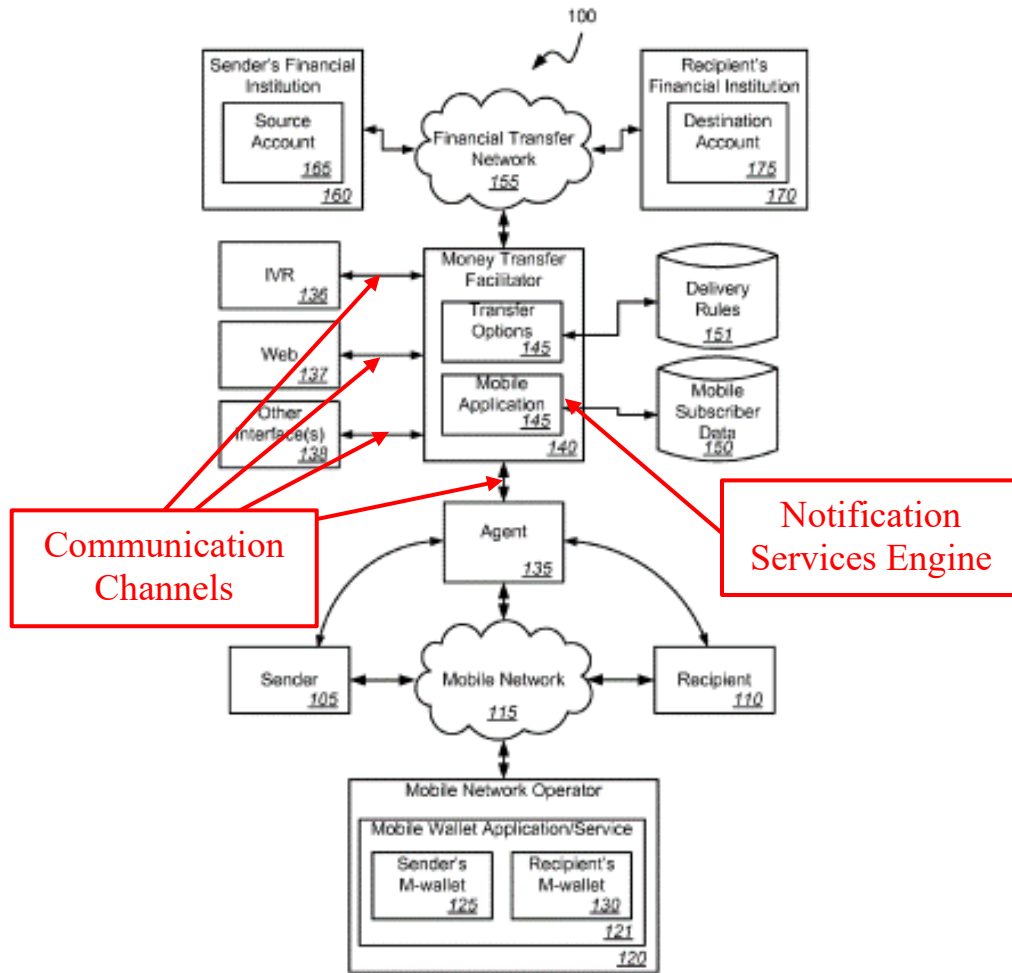


FIG. 9

APPL-1005, Fig. 9 (annotated).

FIG. 2 is a block diagram illustrating an exemplary computer system upon which embodiments of the present invention may be implemented. This example illustrates **a computer system 200 such as may be used**, in whole, in part, or with various modifications, **to**

provide the functions of the sender's mobile device, the receiver's mobile device, the agent 135 system, **the money transfer facilitator system 140**, the mobile network operator system 120, and/or other components of the invention such as those discussed above.

APPL-1005, [0059].

217. Thus, Dill teaches “sending a notification communication from the computing system to the agent terminal using the particular channel, which is connected to the computing system” as recited by the claim.

218. Fourth, Dill teaches that “the communication indicating confirmation of the processing of the transaction.” Dill teaches sending a notification from the computing system to the agent terminal. This notification provides confirmation of the processing of the transaction:

A response can be sent 836 to the mobile wallet application 121 from the application 145 of the money transfer facilitator 140. **The response can indicate completion of the money transfer transaction.** The mobile wallet application 121 can receive 838 the response message from the application 145 of the money transfer facilitator 140. A balance maintained by the mobile wallet application 121 for the recipient's mobile wallet 130 can be updated 840 based on the response indicating completion of the money transfer transaction. In some cases, a notification can be provided 842 and 844 to a user of the mobile wallet application. For example, the notification can indicate the updated balance of the recipient's mobile wallet 130.

APPL-1005, [0098].

219. As discussed above in [1.3C], Dill teaches that its notifications can also be sent to all parties of a transaction, including the agent terminal.

Once the destination for transferring funds for the money transfer transaction to the recipient has been determined, the funds can be transferred to the determined destination and the recipient can be notified of availability of funds at the determined destination. **Notification can be sent by a money transfer facilitator to the recipient and/or to any party associated with the designated destination** (e.g., to a mobile network operator, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party).

APPL-1005, [0037].

220. Therefore, a POSITA would have understood that Dill teaches “the communication indicating confirmation of the processing of the transaction” as recited by the claim.

221. Thus, Dill teaches “*the computing system sending communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction*” as recited by the claim.

G. Claim 2

[2.0] The computing system of claim 1, wherein a new transaction is performed by the computing system for a second, different customer using a second, different third party mobile wallet.

222. Dill teaches this limitation. For example, Dill's financial payment system is configured to perform transactions for multiple customers ("a second different customer") including multiple third party mobile wallets ("a second, different third party mobile wallet").

223. As discussed in [1.10C], Dill teaches that its financial transfer system is configured to support various types of transaction between mobile wallets, including "structured settlements" between mobile wallets including "mobile-to-mobile" transactions. APPL-1005, [0057]-[0058]. A POSITA would have understood these transactions to be conducted between various mobile wallets, and not just a single set. For example, Dill states that its financial transfer system can include multiple mobile networks 115 and mobile network operators 120, each executing a mobile wallet service 121 with mobile wallets 125, 130:

Also, it should be understood that while only one mobile network 115 and mobile network operator 120 are illustrated here for the sake of simplicity and clarity, **multiple mobile networks 115 and mobile network operators 120 maybe present**. In some cases, the mobile network and mobile network operator of the sender 105 may be different from the mobile network and mobile network operator of the recipient.

APPL-1005, [0052].

The mobile network operator system 120 can include and/or execute a mobile wallet application 120 or service. Generally speaking, the mobile wallet application 121 maintains mobile wallets 125 and 130 for one or more subscribers, such as the sender 105 and/or recipient 110 to the mobile wallet service 121.

APPL-1005, [0052].

224. Since Dill’s financial system supports transactions between different sets of mobile wallets 125, 130, POSITA would have understood Dill to teach “*wherein a new transaction is performed by the computing system for a second, different customer using a second, different third party mobile wallet*” as recited by the claim.

H. Claim 3

[3.0] The computing system of claim 1, wherein the transaction further comprises the customer of confirmation of the processing of the transaction using the third party mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

225. This claim is missing one or more words. In particular, it appears as though at least a verb is missing since the transaction cannot comprise “the customer of confirmation of the processing of the transaction.” Claim 14 contains similar language reciting “*further comprising notifying the customer of confirmation of the processing of the transaction.*” To the extent that this claim is interpreted to include “notifying,” as claim 14, the combination of Dill and Vadhri teaches this limitation. For example, Dill’s money transfer facilitator 140

(“computing system”) facilitates communications between mobile wallets including a customer (“notifies the customer”) indicating that the transaction has been processed (“confirmation of the processing of the transaction”) over its communication channels which are connected to Dill’s money transfer facilitator 140 in which it would have been obvious to implement Vadhri’s cloud computing environment (“communication channels connected to the cloud-based transaction platform”).

226. First, as discussed in [1.4A], Dill’s money transfer facilitator 140 facilitates communications between mobile wallets 125, 130 within a mobile wallet application 121. APPL-1005, [0101], Fig. 9.

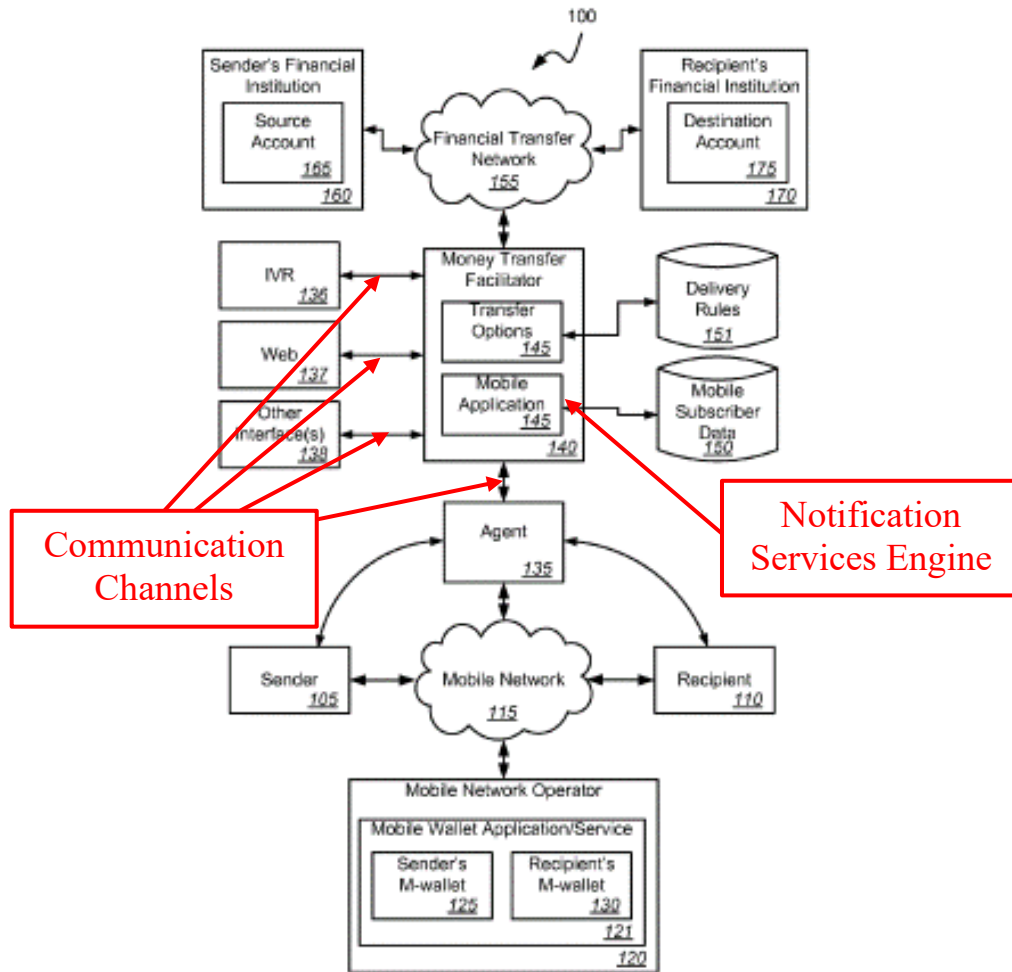


FIG. 9

APPL-1005, Fig. 9 (annotated).

227. Dill states that this includes a message indicating success or failure of the transfer:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can perform a money transfer release process 570. The process 570 can perform a transfer of the funds to the identified account 175 of the recipient 110 and send a message to the mobile wallet application 121 of the recipient 110 indicating success

or failure of the transfer. The mobile wallet application 121 of the recipient 110 can in turn update 575 a balance of the account, assuming a successful transfer, and notify 580 and 585 the recipient 110 of the transfer.

APPL-1005, [0082].

228. These messages include a notification indicating completion of the transaction sent to the mobile wallet application 121:

A response can be sent 836 to the mobile wallet application 121 from the application 145 of the money transfer facilitator 140. The response can indicate completion of the money transfer transaction. The mobile wallet application 121 can receive 838 the response message from the application 145 of the money transfer facilitator 140. A balance maintained by the mobile wallet application 121 for the recipient's mobile wallet 130 can be updated 840 based on the response indicating completion of the money transfer transaction. In some cases, a notification can be provided 842 and 844 to a user of the mobile wallet application. For example, the notification can indicate the updated balance of the recipient's mobile wallet 130.

APPL-1005, [0098].

229. Since the mobile wallet application is accessed by the customer of the mobile device 125, a POSITA would have understood that Dill teaches “the computing system notifies the customer of confirmation of the processing of the transaction using the mobile wallet” as recited.

230. Second, as discussed in [1.4A], Dill teaches that all communications, including the notification described above are sent over communication lines in Dill's financial transfers system:

The system 100 can also include a mobile network 115, such as a cellular or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140. A mobile network operator system 120 can be communicatively coupled with the mobile network 115. As understood by one skilled in the art, **the mobile network 115 and mobile network operator system 120 can support communication to and/or from mobile devices communicatively coupled therewith such as a mobile device associated with the sender 105 and/or a mobile device associated with the recipient 110.**

APPL-1005, [0052].

231. A POSITA would understand from the the broad teachings of Dill that communications can be sent over various channels to teach that the notification of completion is sent "over at least one of the plurality of communication channels connected to the computing system" as recited.

232. Third, as discussed in [1.10A], it would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill's financial system to achieve the well-known benefits of cloud computing as this would provide the predictable result of a more flexible system. APPL-1005, [0004]. Therefore, the combination of Dill and Vadhri teach that communications

are sent “over at least one of the plurality of communication channels connected to the cloud-based transaction platform” as recited by the claim.

233. Thus, Dill teaches “*wherein the transaction further comprises the customer of confirmation of the processing of the transaction using the third party mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform*” as recited by the claim.

I. Claim 4

[4.0] The computing system of claim 1, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

234. Dill teaches this limitation. For example, Dill’s financial payment system is configured to conduct transactions with mobile wallets outside its network, and in particular, those provided for by a third party mobile wallet provider (“wherein the third party mobile wallet is provided by a third party mobile wallet provider”).

235. Dill teaches that its financial transaction system can interact with third-party mobile wallets. These include mobile wallets provided for by a third party mobile network operator:

Determining the destination for transferring funds to the recipient can comprise determining a mobile network operator for the recipient and **determining whether the mobile network operator for the recipient has a relationship with a money transfer facilitator supporting the money transfer transaction. If the recipient is not enrolled in the**

mobile wallet service of the mobile network operator, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or **other designated destination**. Additionally or alternatively, in response to determining the recipient is not enrolled in the mobile wallet service of the mobile network operator, a message can be sent to the recipient inviting the recipient to enroll in the mobile wallet service. If the recipient enrolls in the mobile wallet service of the mobile network operator, the destination for transferring funds for the money transfer transaction to the recipient can comprise an account associated with the mobile wallet service. **If the mobile network operator for the recipient does not have a relationship with the money transfer facilitator**, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or other designated destination.

APPL-1005, [0036].

236. Dill provides further broad language that the entities and service providers are “appropriate to that recipient”:

In yet other examples the sender and/or recipient can be registered with an action site like eBay. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient

through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

237. Therefore, A POSITA would have understood that the third party mobile network operator supporting a third party mobile wallet is a “third party mobile wallet provider” as recited because it supports the associated third party mobile wallets. Thus, Dill teaches “*wherein the third party mobile wallet is provided by a third party mobile wallet provider*” as recited by the claim.

J. Claim 5

[5.0] The computing system of claim 4, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

238. Dill teaches this limitation. For example, Dill’s financial transaction system is designed to work with third party systems and their providers, and these may include point of sale (POS) devices.

239. As discussed in [4.0], Dill’s financial transfer system supports transactions with third party mobile wallets and their providers. APPL-1005, [0036]. Dill’s financial transaction system is designed to work with many different types of devices, including Point-Of-Sale (POS) devices:

The use of mobile devices in various types of transactions is also becoming more common. For example, various forms of wireless or mobile device such as cell phone, Personal Digital Assistants (PDAs), etc. can be used to **initiate a contactless communication with a Point-**

Of-Sale (POS) device and pay for goods and services purchased by the user of the device. These devices can also be used to provide other functions with regard to financial accounts to which they may be linked or related. However, money transfer services and systems have not yet been adapted to take advantage of the flexibility and functionality that the use of such mobile devices can provide. Hence, there is a need in the art for improved methods and systems for performing money transfers to facilitate flexible payment options for the transactions.

APPL-1005, [0004].

240. A POSITA would have understood that Dill's broad language including transactions with POS devices and service providers "appropriate to that recipient" (APPL-1005, [0090]) includes third party mobile providers with their own POS processing systems. Additionally, Dill gives the example of its sender and/or recipient (which may be mobile wallets 125, 130) being registered with an "action site" like eBay:

In yet other examples the **sender and/or recipient can be registered with an action site like eBay.** In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

241. A POSITA would have understood that the third party services and “action site[s]” referred to by Dill would include POS processing systems to receive payments for goods and services (such as other third parties providing payment services) APPL-1005, [0033]. Thus, a POSITA would have understood eBay to be a “third party mobile wallet provider [with] their own point of sale (POS) processing system,” and therefore, Dill teaches this limitation.

242. Thus, Dill teaches “*wherein each third party mobile wallet provider has their own point of sale (POS) processing system*” as recited by the claim.

K. Claim 6

[6.0] The computing system of claim 5, wherein the third party mobile wallet providers' POS processing systems communicate with each other using the cloud-based transaction platform to process the transaction.

243. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that third parties, including processing systems, communicate together through its networks, and as discussed in [1.10A], it would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill’s financial system.

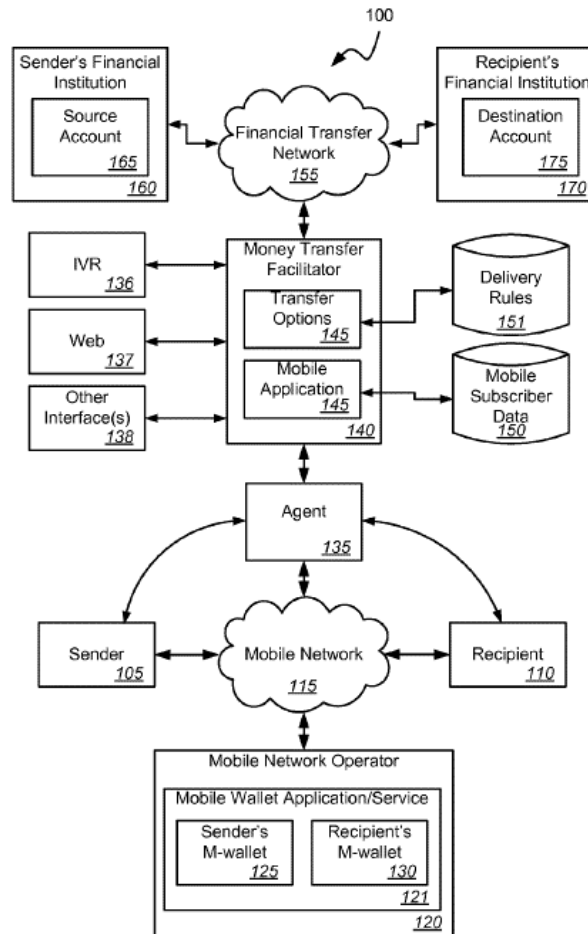
244. As discussed in [5.0], a POSITA would have understood that Dill’s broad language including transactions processed with a POS processing system “appropriate to that recipient” (APPL-1005, [0090]) includes third party mobile

providers with their own POS processing systems. APPL-1005, [0004]. Dill also teaches that the mobile device and accompanying providers are connected through its mobile network:

The system 100 can also include a mobile network 115, such as a cellular or other wireless network, communicatively coupled with the agent 135 and/or the money transfer facilitator 140. **A mobile network operator system 120 can be communicatively coupled with the mobile network 115. As understood by one skilled in the art, the mobile network 115 and mobile network operator system 120 can support communication to and/or from mobile devices communicatively coupled therewith such as a mobile device associated with the sender 105 and/or a mobile device associated with the recipient 110.** It should be noted that 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. Also, it should be understood that while only one mobile network 115 and mobile network operator 120 are illustrated here for the sake of simplicity and clarity, multiple mobile networks 115 and mobile network operators 120 may be present.

APPL-1005, [0052].

245. Dill's mobile network 115 connecting sender and recipient (with corresponding mobile wallets and providers) is shown in Fig. 9 below:

**FIG. 9**

APPL-1005, Fig. 9.

246. Since Dill’s mobile network 114 connects the sender mobile wallet and recipient mobile wallet, and Dill’s broad language including transactions with POS devices and service providers “appropriate to that recipient” (APPL-1005, [0090]), a POSITA would have known that Dill’s system supports “*the third party mobile wallet providers’ POS processing systems communicat[ing] with each other using the cloud-based transaction platform to process the transaction*” as recited by the claim.

L. Claim 7

[7.0] The computing system of claim 1, wherein the transaction comprises the mobile wallet deposit for depositing funds into the third party mobile wallet which is owned by the entity different than the customer, including:

247. Dill teaches this limitation. As discussed in [1.10B], Dill's money transfer facilitator 140 is configured to conduct transactions between mobile wallets 125, 130 which may be external mobile wallets enrolled under another entity:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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 remittances 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, pickup 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.

APPL-1005, [0057].

248. Based on Dill's broad teachings regarding sending payment between mobile wallets 125, 130 that are part of either related or unrelated entities, as well as Dill's teachings of the full spectrum of "mobile-to-mobile", "cash-to-mobile", and "mobile-to-cash" transactions (*see* APPL-1005, [0057]-[0058]), a POSITA would have understood Dill to teach "*wherein the transaction comprises the mobile wallet deposit for depositing funds into the third party mobile wallet which is owned by the entity different than the customer*" as recited.

[7.1] receiving communication from the agent terminal over one of the plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that the customer desires to deposit a specified amount of funds into the third party mobile wallet; and

249. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive communications from an agent 135 ("agent terminal") over its communication channels ("at least one of the plurality of channels connected to the computing system") initiating a mobile-to-mobile transaction ("indicating that the customer desires to deposit a specified amount of funds from the third party mobile wallet").

250. First, as discussed in [1.10A], Dill teaches an agent 135 ("agent terminal") that is in communication with its money transfer facilitator 140.

The system can also include an agent 135 in communication with the money transfer facilitator 140. The agent 135 can comprise a retail outlet location and associated systems of the money transfer facilitator 140. Generally speaking, the agent 135 provides a channel by which

entities can access the services of the money transfer facilitator 140. It should also be noted that, while not illustrated here for the sake of simplicity and clarity, the agent 135 and/or money transfer facilitator 140 can also provide other channels for accessing the services of the money transfer facilitator 140.

APPL-1005, [0051]. A POSITA would have recognized the agent 135 as an “agent terminal” as claimed because it can include systems associated with the agent. *Id.*

251. Dill also teaches receiving communication with the money transfer facilitator 140 from the agent 135, and in particular, that the communication includes information or routing details for a transaction:

The recipient 110, after receiving 355 the notification, can present 360 an identification, the MSISDN, the MTCN, answer to a test question and/or other information to an agent 135 of the money transfer facilitator, e.g., at a retail outlet of the money transfer facilitator 140.

The agent 135 of the money transfer facilitator 140 can in turn submit 365 this information and/or routing details for the transfer to the mobile application 145 of the money transfer facilitator 140.

The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135 and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

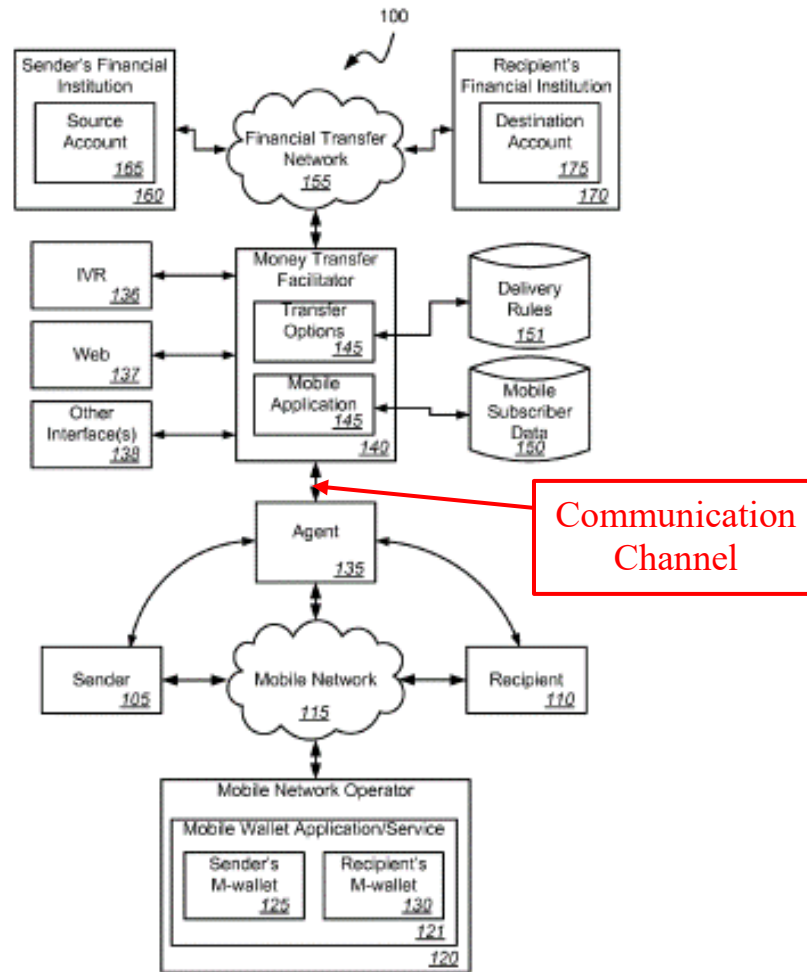
APPL-1005, [0070].

252. Dill further teaches that the communications from the agent 135, as well as all transaction communications, are routed over communication channels in its financial transfer system:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. Rather, **the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer.**

APPL-1005, [0090].

253. For the particular communications received by the money transfer facilitator 140 from the agent 135, Fig. 9 shows an exemplary communication channel:

**FIG. 9**

APPL-1005, Fig. 9 (annotated).

254. As discussed in [1.10A], it would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill's financial system to achieve the well-known benefits of cloud computing as this would provide the predictable result of a more flexible system. APPL-1005, [0004].

255. Thus, Dill's financial transfer system teaches "receiving communication from the agent terminal over one of the plurality of communication

channels connected to the cloud-based transaction platform” as recited by the claim.

256. Second, Dill teaches “the agent communication indicating that the customer desires to deposit a specified amount of funds into the third party mobile wallet” as recited. As discussed in [1.10B], Dill teaches that money transfer facilitator 140 is configured to receive transaction requests from an agent. APPL-1005, [0065]. These requests from customers indicate desires for various types of transactions, including a “mobile-to-mobile” option:

As noted above, embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction. For example, one option can comprise a “mobile-to-cash” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user to a recipient that can receive the payment in cash, for example from an agent of the money transfer facilitator. Another option can comprise a “cash-to-mobile” option in which an entity pays for and initiates a transaction in person, for example via an agent of the money transfer facilitator, and wherein the payment is delivered to an account associated with a mobile wallet of the recipient. **Yet another option can comprise a “mobile-to-mobile” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user wherein the payment is delivered to an account associated with a mobile wallet of the recipient.**

APPL-1005, [0065].

257. Since this transaction option may be initiated by an agent 135 to a carry out a transaction for a specified amount of money that is delivered to a mobile wallet (which as discussed in [1.10B] may be a third party mobile wallet), a POSITA would have understood that Dill's financial system teaches "*receiving communication from the agent terminal over one of the plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that the customer desires to deposit a specified amount of funds into the third party mobile wallet*" as recited.

[7.2] crediting the third party mobile wallet with the specified amount of funds.

258. Dill teaches this limitation. For example, Dill teaches routing a specified amount of money to a mobile wallet 125, 130 which may be a third party mobile wallet.

259. As discussed in [7.1], Dill teaches that its financial transfer system includes a "mobile-to-mobile" option which is "a transaction paid from an account associated with a mobile wallet of that user wherein the payment is delivered to an account associated with a mobile wallet of the recipient." APPL-1005, [0065]. Referring to these transactions, Dill details that "completing the money transfer transaction can comprise crediting each of the destination accounts indicated by the payment request." APPL-1005, [0043]. Since the mobile wallets 125, 130 in Dill

may be third party mobile wallets (as discussed in [1.10B]), a POSITA would have understood that this transaction type includes “*crediting the third party mobile wallet with the specified amount of funds*” as recited.

M. Claim 8

[8.0] The computing system of claim 1, wherein the transaction comprises the mobile wallet withdrawal for withdrawing funds from the third party mobile wallet owned which is owned by the entity different than the customer, including:

260. Dill teaches this limitation. As discussed in [1.10B], Dill’s money transfer facilitator 140 is configured to conduct transactions between mobile wallets 125, 130 which may be external mobile wallets enrolled under another entity:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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 remittances 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, pickup 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.

APPL-1005, [0057].

261. Based on Dill's broad teachings regarding sending payment between mobile wallets 125, 130 that are part of either related or unrelated entities, as well as Dill's teachings of the full spectrum of "mobile-to-mobile", "cash-to-mobile", and "mobile-to-cash" transactions (APPL-1005, [0057]-[0058]), a POSITA would have understood Dill to teach "*wherein the transaction comprises the mobile wallet withdrawal for withdrawing funds from the third party mobile wallet owned which is owned by the entity different than the customer*" as recited.

[8.1] receiving communication from the customer over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet;

262. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive communications from an agent 135 ("agent terminal") over its communication channels ("at least one of the plurality of channels connected to the computing system") initiating a mobile-to-mobile transaction ("indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet").

263. As discussed in [7.1], Dill teaches an agent 135 (“agent terminal”) that is in communication with its money transfer facilitator 140. APPL-1005, [0070]. As discussed in [1.10A], it would have been obvious for a POSITA to incorporate the cloud computing environment of Vadhri to Dill’s financial system to achieve the well-known benefits of cloud computing as this would provide the predictable result of a more flexible system. APPL-1005, [0004]. Therefore, Dill teaches “receiving communication from the customer over one of the plurality of communication channels connected to the cloud-based transaction platform” as recited.

264. Dill’s financial transfer system also provides for a request (that can be initiated by an agent 135) for a “mobile-to-mobile” transfer. APPL-1005, [0058]. In any of Dill’s transfer types, “completing the money transfer transaction can comprise crediting each of the destination accounts indicated by the payment request.” APPL-1005, [0043]. In view of the Dill’s teachings regarding carrying out transfers for specific amounts between mobile wallets in its “mobile-to-mobile” transfers, a POSITA would have understood that Dill teaches “the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet” as recited.

265. Thus, Dill’s financial transfer system with Vadhri’s cloud-based platform teaches “*receiving communication from the customer over one of the*

plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet” as recited by the claim.

[8.2] providing the perishable withdrawal code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform;

266. The combination of Dill and Vadhri teach this limitation. In particular, it would have been obvious to provide the secure temporary account code 103 of Vadhri (“provide the perishable withdrawal code”) to a customer over communication channels in Dill’s financial transaction system (“over at least one of the plurality of communication channels connected to the cloud-based transaction platform”).

267. First, as discussed in [1.12B], the combination of Dill and Vadhri teaches “providing the perishable withdrawal code to the customer” because a POSITA would have been motivated to use Vadhri’s temporary account code 103 with Dill’s transaction identifier for additional security by limiting the amount of time that the code is available. APPL-1005, [0069]; APPL-1006, [0015].

268. Second, a POSITA would have understood that the secure, perishable purchase code of Vadhri would be provided “over at least one of the plurality of communication channels connected to the cloud-based transaction platform” as

taught by Dill and Vadhri. As discussed in [1.3C], Dill teaches that communications for transactions are conducted over interfaces 136-138. APPL-1005, [0101]. In particular, these communications include Dill's transaction identifier (and would have been obvious to include Vadhri's temporary account code 103). APPL-1005, [0069]; APPL-1006, [0015]. These communication channels are connected to Dill's financial system, which as discussed in [1.10A], would have been obvious to incorporate the cloud computing environment of Vadhri to achieve the well-known benefits of cloud computing. APPL-1005, [0004].

269. Therefore, the inclusion of Vadhri's temporary account code 103 in Dill's transaction communications teaches "*providing the perishable withdrawal code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform*" as recited by the claim.

[8.3] receiving communication from the agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the perishable withdrawal code has been presented to an agent; and

270. The combination of Dill and Vadhri teach this limitation. As discussed in [7.1], the Dill's financial transfer system using a cloud-based environment as taught by Vadhri is configured to "receiv[e] communication from the agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform" as recited by the claim. As

discussed in [1.12B], Dill teaches “the agent terminal communication indicating that the perishable withdrawal code has been presented to an agent” as recited by the claim.

[8.4] debiting the third party mobile wallet by the specified amount of funds.

271. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to debit a mobile wallet 125, 130 for a specific transaction (“debit the mobile wallet by the specified amount of funds”). As discussed in the Claim Construction section above, a POSITA would have understood this limitation to mean “*transferring the specified amount of funds from the stored value on a mobile device.*”

272. Dill’s financial system facilitates transactions between sender and recipient accounts, which include stored value accounts. These transactions are just like those discussed in the ’488 patent. These transactions may further be assigned a unique transaction identifier:

As noted above, a transaction identifier can be assigned or chosen for a transfer transaction. For example, the unique identifier for the receiver can be one or any combination of a mobile phone number, an email address, an instant messaging identification, a customer number, **account information (e.g., stored value account identifier,** bank account number and/or ABA routing number), tax number (e.g., Social Security Number or Taxpayer Identification Number), drivers’ license number, state ID number, student ID number or other unique identifier.

A customer number can be a preferred customer number or any other unique customer identifier issued by a money transfer facilitator, an agent of money transfer facilitator, a mobile network operator, a retailer, a bank, a service provider (e.g., payment service provider, auction service provider or Internet service provider) or any other party.

This identifier can be used to identifier the sender 105, the recipient 110, or both and can be used by the transfer options module 145 to determine delivery of the transfer, e.g., used by the to select a delivery rule 151, if any.

APPL-1005, [0105].

273. Dill specifically teaches transactions between a sender's mobile wallet and a recipient's mobile wallet:

Such a system allows a money transfer facilitator, using a unique customer identifier and internal and/or external mapping databases, to provide **a structured settlement between unrelated entities such as the sending mobile wallet and receiving mobile wallet**, or between the sending cash retail location and receiving mobile wallet. It need not be a closed-loop system that allows mobile remittances 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.

APPL-1005, [0038].

274. Dill provides further examples of these transfers in Fig. 9:

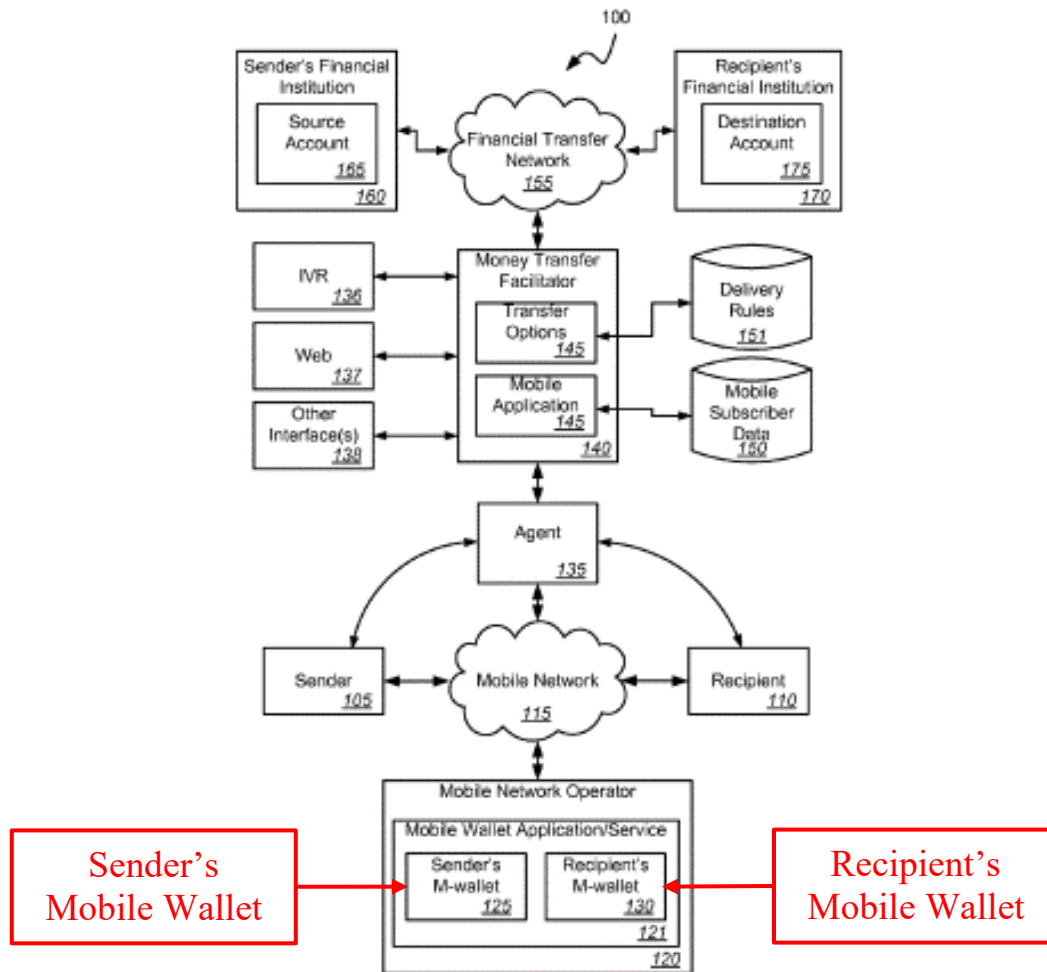


FIG. 9

APPL-1005, Fig. 9 (annotated).

275. Dill also teaches that specified payments are requested and carried out in transactions between the mobile wallets of the sender and recipient:

The mobile network operator system 120 can include and/or execute a mobile wallet application 120 or service. Generally speaking, the mobile wallet application 121 maintains mobile wallets 125 and 130

for one or more subscribers, such as the sender 105 and/or recipient 110 to the mobile wallet service 121. The mobile wallets 125 and 130 can each comprise information related to the device and accounts of the entity for which the mobile wallet is maintained. For example, the sender's mobile wallet 125 can maintain information identifying the sender's 105 mobile device, one or more accounts 165 associated with the mobile wallet, and other possible identifying information. Similarly, the recipient's mobile wallet 130 can maintain information identifying the recipient's 110 mobile device, one or more accounts 175 associated with the mobile wallet, and other possible identifying information. According to one embodiment, the money transfer facilitator 140 can receive a request to initiate the money transfer transaction, for example **a payment from the sender 105 to the recipient 110.**

...

Once the destination for transferring funds for the money transfer transaction to the recipient 110 has been determined, **the funds can be transferred to the determined destination** and the recipient 110 can be notified of availability of funds at the determined destination.

...

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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.

APPL-1005, [0053]-[0057].

276. Thus, based on Dill's teachings that a sender mobile wallet sends a specified payment to a recipient, and that the mobile wallet accounts can be the same type of stored value accounts referred to by the '488 patent, a POSITA would have understood that Dill teaches "*debiting the third party mobile wallet by the specified amount of funds*" as recited by the claim.

N. Claim 9

[9.0] The computing system of claim 1, wherein the transaction comprises the mobile wallet transfer for transferring money from a mobile wallet account of the customer provided by a first mobile wallet provider to a third party mobile wallet of a recipient provided by a second mobile wallet provider, the method comprising:

277. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to conduct a "mobile-to-mobile" transaction between different mobile wallets 125, 130 that may be provided for by various providers.

278. First, Dill teaches "wherein the transaction comprises the mobile wallet transfer for transferring money from a mobile wallet account of the customer" as discussed in [1.10C] because its mobile wallets 125, 130 may be external mobile wallets. APPL-1005, [0036].

279. Second, Dill teaches that the “third party mobile wallet of a recipient” may be “provided by a second mobile wallet provider.” As discussed in [4.0], Dill’s financial transfer system is configured to conduct transactions between mobile wallets provided for by a third party mobile network operator:

Determining the destination for transferring funds to the recipient can comprise determining a mobile network operator for the recipient and **determining whether the mobile network operator for the recipient has a relationship with a money transfer facilitator supporting the money transfer transaction. If the recipient is not enrolled in the mobile wallet service of the mobile network operator**, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or **other designated destination**. Additionally or alternatively, in response to determining the recipient is not enrolled in the mobile wallet service of the mobile network operator, a message can be sent to the recipient inviting the recipient to enroll in the mobile wallet service. If the recipient enrolls in the mobile wallet service of the mobile network operator, the destination for transferring funds for the money transfer transaction to the recipient can comprise an account associated with the mobile wallet service. **If the mobile network operator for the recipient does not have a relationship with the money transfer facilitator**, the destination for transferring funds for the money transfer transaction to the recipient can comprise a retail outlet of the money transfer facilitator or other designated destination.

APPL-1005, [0036].

280. Dill provides further broad language that the entities and service providers are “appropriate to that recipient”:

In yet other examples the sender and/or recipient can be registered with an action site like eBay. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

281. Based on this broad language, and the fact the Dill’s financial transfer system is configured to conduct transactions between different sets of mobile wallets 125, 130 (as discussed in [2.0]) any of which may be provided for by external mobile network operators, a POSITA would have understood that Dill teaches “*wherein the transaction comprises the mobile wallet transfer for transferring money from a mobile wallet account of the customer provided by a first mobile wallet provider to a third party mobile wallet of a recipient provided by a second mobile wallet provider*” as recited.

[9.1] receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to transfer a specified amount of funds to the recipient using a specified payment method from the mobile wallet account of the customer;

282. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to receive customer communications over its channels (“at least one of the plurality of channels connected to the computing system”) initiating a mobile-to-mobile transaction (“indicating that the customer desires to transfer a specified amount of funds to the recipient using a specified payment method from the mobile wallet account of the customer”).

283. As discussed in [8.1], Dill’s financial transfer system provides for a request for a “mobile-to-mobile” transfer. APPL-1005, [0058]. In any of Dill’s transfer types, “completing the money transfer transaction can comprise crediting each of the destination accounts indicated by the payment request.” APPL-1005, [0043]. In view of the Dill’s teachings regarding carrying out transfers for specific amounts between mobile wallets in its “mobile-to-mobile” transfers, a POSITA would have understood that Dill teaches “indicating that the customer desires to transfer a specified amount of funds to the recipient using a specified payment method from the mobile wallet account of the customer” as recited.

284. Thus, Dill’s financial transfer system with Vadhri’s cloud-based platform teaches “*receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to transfer a*

specified amount of funds to the recipient using a specified payment method from the mobile wallet account of the customer” as recited by the claim.

[9.2] debiting the mobile wallet account by the specified amount of funds; and

285. See Section VII.M (Limitation [8.4]).

[9.3] transferring the specified amount of funds from the cloud-based transaction platform to the second third party mobile wallet platform for delivery to the specified recipient, the specified amount of funds being transferred over at least one of the plurality of channels connected to the third party mobile wallet platform.

286. The combination of Dill and Vadhri teaches this limitation. For example, Dill teaches that its financial transfer system is configured to transfer funds from its money transfer facilitator 140 employing a cloud-based environment as taught by Vadhri (“cloud-based transaction platform”) to an external mobile wallet 130 and associated platform for delivery to a recipient (“second third party platform for delivery to the specified recipient”) and that these funds are transferred over channels connected to mobile wallet 130 (“the specified amount of funds being transferred over at least one of the plurality of channels connected to the third party mobile wallet platform”).

287. First, as discussed in [7.0], Dill teaches that its financial transfer system is configured to handle “mobile-to-mobile” transfers from a first mobile wallet 125 to a second mobile wallet 130. APPL-1005, [0057]-[0058]. This type of transfer also includes “transferring the specified amount of funds from the cloud-

based transaction platform to the second third party mobile wallet platform for delivery to the specified recipient” as recited. For example, Dill teaches that once a transfer request is received by the money transfer facilitator 140, the mobile wallet 130 for the recipient is identified “into which the funds should be transferred”:

The mobile wallet application 121 of the recipient 110, **upon receiving the notification from the mobile application 145 of the money transfer facilitator 140, can execute a look-up account process 55 to determine an account 175 associated with the mobile wallet 130 into which the funds should be transferred.** Once this account is identified, the mobile wallet 130 of the recipient 110 can send 560 a message to the mobile application 145 of the money transfer facilitator 140 confirming the recipient. Additionally, the mobile wallet 130 of the recipient 110 can send 565 a message to the mobile application 145 of the money transfer facilitator 140 to initiate the receipt, i.e., the transfer of funds to the identified account 175.

APPL-1005, [0081].

288. A POSITA would have understood that this mobile wallet 130 may be the “second third party mobile wallet platform” as recited because the mobile wallet and associated platform may be external to Dill’s mobile transfer system 140, as discussed in [1.11]. APPL-1005, [0055]. Thus, the combination of Dill and Vadhri teaches “transferring the specified amount of funds from the cloud-based

transaction platform to the second third party mobile wallet platform for delivery to the specified recipient.”

289. Dill also teaches that the specified funds are “transferred over at least one of the plurality of channels connected to the third party mobile wallet platform” as recited. Dill teaches many ways to conduct transfers, which includes “select[ing] one or more delivery options” to deliver the funds to a recipient (as discussed above, through a mobile wallet 130) and actually conducting the transfer over a variety of interfaces:

The money transfer facilitator system can further comprise one or more interfaces for conducting money transfer transactions and a transfer options module communicatively coupled with the one or more interfaces. The transfer options module can be adapted to receive transaction information for a money transfer transaction from a sender through at least one of the interfaces, provide a notification of the transaction to a recipient of the transaction, and **select one or more delivery options for completing the money transfer transaction.**

As noted above, embodiments of the present invention provide methods and systems for supporting money transfer transactions initiated by and/or conducted through a variety of channels but are not limited to a wireless communication channel or systems including or using a wireless communication device. Therefore, according to still another embodiment, **a money transfer facilitator system can comprise one or more interfaces for conducting money transfer.** For example, the one or more interfaces can comprise at least one of an Interactive Voice

Response (IVR) interface, a web interface, an interface to an agent system, or other interface.

APPL-1005, [0046]-[0047].

290. A POSITA would have understood any of Dill's interfaces and associated connections for conducting the money transfer to be "at least one of the plurality of channels connected to the third party mobile wallet platform" for transferring "the specified amount of funds."

291. Thus, the combination of Dill and Vadhri teaches "*transferring the specified amount of funds from the cloud-based transaction platform to the second third party mobile wallet platform for delivery to the specified recipient, the specified amount of funds being transferred over at least one of the plurality of channels connected to the third party mobile wallet platform*" as recited by the claim.

O. Claim 10

[10.0] The computing system of claim 1, wherein the claimed method also includes performing a new transaction comprising a mobile wallet purchase at an agent terminal using a third party mobile wallet managed by a third party mobile wallet platform, including:

292. Dill teaches this limitation. For example, Dill teaches that its money transfer facilitator 140 is configured to carry out transactions for purchases ("performing a new transaction comprising a mobile wallet purchase") by an agent

135 (“at an agent terminal”) using an external mobile wallet 125, 130 (“using a third party mobile wallet managed by a third party mobile wallet platform”).

293. First, Dill teaches that its money transfer facilitator 140 is configured to “perform[] a new transaction comprising a mobile wallet purchase” as recited by the claim. As discussed in [1.4A], Dill teaches that money transfer facilitator 140 is configured to receive transaction requests. APPL-1005, [0069]. These requests from customers indicate desires for various types of transactions:

As noted above, embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction. For example, one option can comprise a “mobile-to-cash” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user to a recipient that can receive the payment in cash, for example from an agent of the money transfer facilitator. Another option can comprise a “cash-to-mobile” option in which an entity pays for and initiates a transaction in person, for example via an agent of the money transfer facilitator, and wherein the payment is delivered to an account associated with a mobile wallet of the recipient. Yet another option can comprise a “mobile-to-mobile” option in which the user of a mobile device initiates a transaction paid from an account associated with a mobile wallet of that user wherein the payment is delivered to an account associated with a mobile wallet of the recipient

APPL-1005, [0065].

294. Dill further explains that these transactions include specific products at a retailer, as well the specific example of transactions over websites such as eBay:

It should be understood that, while described herein with reference to mobile devices, embodiments of the present invention are not limit to use with any type of device, wired or wireless, or any channel of communication. Rather, the sender, the recipient, or both can use any of a variety of channels to initiate a transfer, receive notification of the transfer, and/or direct funds in the transfer. For example, the sender and/or recipient can be a customer of a bank, a payment service (like PayPal), a local and/or long distance telephone service, a cable or satellite television service. In other examples, the sender and/or recipient may hold a loyalty card issued by a money transfer facilitator 140 (e.g., Western Union Gold Card holder who receives money is notified of transfer and can designate destination for receiving the transfer) or by a third party (e.g., receiver has loyalty number (represented by account number, telephone number, barcode, etc.) issued by a retailer such as a grocery store and sender can use that loyalty number to **send money to an account designated by the recipient for recipient's use in making purchases at retailer. In yet other examples the sender and/or recipient can be registered with an action site like eBay. In any of these examples, transfers can be initiated by a sender through a channel appropriate to that sender, the transfer can be handled and directed by a money transfer facilitator 140**, network operator, service provider, third-party, and/or other entities as appropriate for that channel, notification can be

directed to the recipient through a channel appropriate to that recipient, and funds can be directed to a destination as determined as described above.

APPL-1005, [0090].

295. Since Dill's transaction services include transactions for purchases from retailers and/or from websites such as eBay that are directed toward specific products with specific prices, Dill teaches that its money transfer facilitator 140 is configured to receive "performing a new transaction comprising a mobile wallet purchase."

296. Second, as discussed in [1.10A], Dill teaches that its transactions may be conducted via an agent 135 ("agent terminal") that is in communication with its money transfer facilitator 140. APPL-1005, [0051]. Thus, Dill teaches that the mobile wallet purchase may be performed "at an agent terminal" as recited.

297. Third, Dill teaches that transactions may be performed "using a third party mobile wallet managed by a third party mobile wallet platform." As discussed in [1.11], Dill teaches many types of transactions that can be performed for external mobile wallets 125, 130 and associated platforms which a POSITA would have understood to be "a third party mobile wallet managed by a third party mobile wallet platform." APPL-1005, [0055]. A POSITA would have understood that these transactions include purchases for specific items as discussed above.

APPL-1005, [0090].

298. Thus, Dill's money transfer facilitator 140 configured to conduct transactions for purchase through an agent 130 for using a mobile wallet 125, 130 teaches "*wherein the claimed method also includes performing a new transaction comprising a mobile wallet purchase at an agent terminal using a third party mobile wallet managed by a third party mobile wallet platform*" as recited by the claim.

[10.1] receiving communication from the customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from a third party mobile wallet;

299. Dill teaches this limitation. First, the combination of Dill and Vadhri teaches "receiving communication from the customer over one of the plurality of channels connected to the cloud-based transaction platform" as discussed in [7.1].

300. Second, Dill teaches "the customer communication indicating that the customer desires to purchase an item for a specified amount of funds." For example, Dill teaches that its financial transfer system is configured to conduct various types of transactions including for "recipient's use in making purchases at [a] retailer" and lists examples of websites such as eBay for these transactions. APPL-1005, [0090]. A POSITA would have understood that requests for these type of purchases for specific items to be a "customer communication indicating that the customer desires to purchase an item for a specified amount of funds."

301. Third, Dill teaches transactions “using a specified payment method from [a] third mobile wallet account” as discussed in [9.1]. APPL-1005, [0058]. This mobile wallet can include external mobile wallets 130 as discussed in [7.0] and therefore Dill teaches transactions “using a specified payment method from a third party mobile wallet.” APPL-1005, [0057].

302. Thus, the combination of Dill and Vadhri teaches “*receiving communication from the customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from a third party mobile wallet*” as recited.

[10.2] returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform;

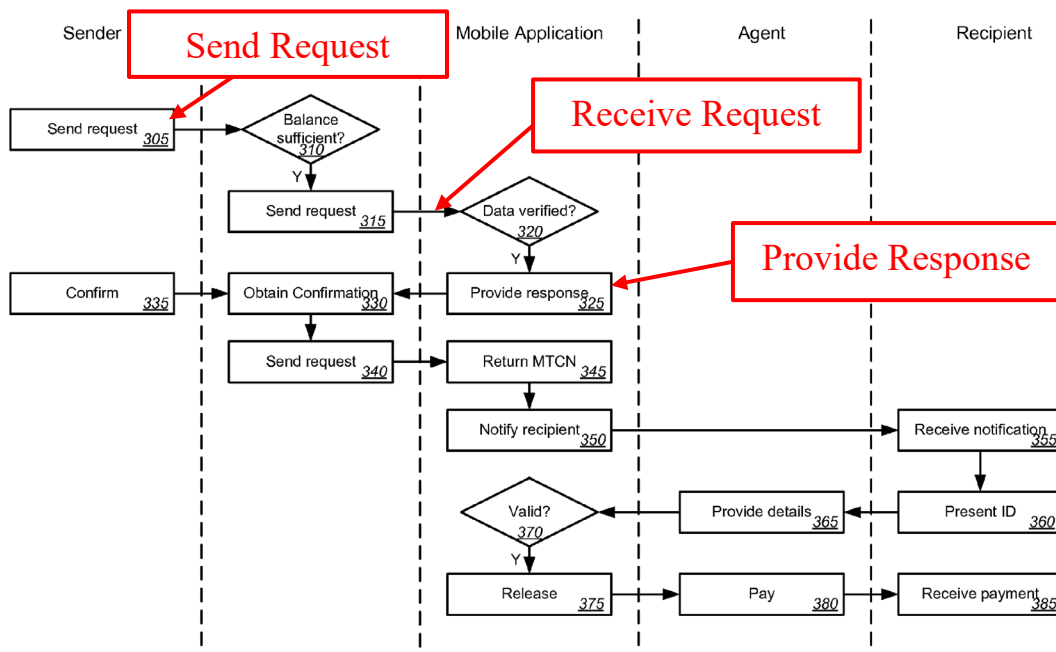
303. The combination of Dill and Vadhri teaches this limitation. In particular, it would have been obvious to include the temporary account code 103 of Vadhri in Dill’s transaction communications.

304. First, after receiving a transaction request, Dill’s money transfer facilitator 140 returns a response 325 to the sender:

The mobile application 145 of the money transfer facilitator 140, upon receiving the request, can perform a process to look up (e.g., a Mobile Station Integrated Service Digital Network (MSISDN), International Mobile Subscriber Identity (IMSI) and/or Temporary Mobile

Subscriber Identity (TMSI)) for the sender 105 and/or recipient 110 and/or otherwise verify 320 the data provided by the mobile wallet application 121 in the request. **The mobile application 145 of the money transfer facilitator 140 can then provide 325 a response to the request from the mobile wallet application 121.** If the data of the request is verified by the mobile application 145 of the money transfer facilitator 140, the response may include information related to and/or describing fees, legal notices, etc. Alternatively or additionally, the look up can be performed by the mobile network operator 120.

APPL-1005, [0067].



APPL-1005, Fig. 3 (annotated).

305. Along with additional “information related to and/or describing fees, legal notices, etc.” that may be included in the request, Dill states that a “transaction identifier” may be assigned to the mobile wallet application:

Upon receipt of the transfer request, the mobile application 145 of the money transfer facilitator 140 can initiate a money transfer send process which returns 345 a transaction identifier (e.g., Money Transfer Control Number (MTCN)) to the mobile wallet application 121 indicating that the transaction is available for payout. Additionally, the mobile application 145 of the money transfer facilitator 140 can send 350 a notification of the transaction and the availability of funds to the recipient 110.

APPL-1005, [0069].

306. Second, Vadhri teaches “return[ing] a secure, perishable purchase code to the customer” as recited by the claim. In particular, Vadhri teaches receiving a request including a temporary account code 103 that is securely sequenced and formed:

Alternatively or additionally, the requester 106 may be communicatively coupled to a radio receiver to receive from a remote machine or device, a wireless request for the **temporary account code 103**. In various example embodiments, the requester 106 is to forward requests for the temporary account code 103 to a generator of the temporary account code 103. For some example embodiments the generator of the temporary account code 103 includes a machine (not shown) communicatively coupled to the account access object via a

network. Without departing from the claimed subject matter, the provider 108 located on the account access object 104 may alternatively or additionally generate and provide the temporary account code 103.

The provider 108 is to make the temporary account code 103 available for use to access a value holding account. As stated above, the provider 108 may generate the temporary account code 103. The provider 108 may include hardware and/or software logic configured to **securely generate and store random numbers (e.g., and/or characters) randomly sequenced to form the temporary account code 103.**

APPL-1006, [0022]-[0023].

307. Vadhri teaches that the temporary code 103 (also labeled 203 in Fig. 2) is used to authorize the purchase of goods and/or services:

At block 408 of the flow 400, the method may include the user action of receiving notification of whether the account code (e.g., the temporary account code of FIG. 2) is considered to be valid or invalid. In some example embodiments, notification may be sent to a card reader and/or to the account access card itself via wired and/or wireless signals. In an example embodiment, a valid temporary card number or the persistent card number may be used to access what is of value within the value holding account 405. For some example embodiments, **this may include receiving authorization to purchase goods and/or services using the persistent card number/expiration date 202 or the temporary card number/expiration date 203 of the account access card 204.**

APPL-1006, [0046].

308. Vadhri further explains that the temporary account code 103 has an expiration that is earlier relative to a persistent account code 102:

FIG. 2 is shown to include a card number portion 208 (an example embodiment of the provider 108 of FIG. 1) to provide via LCD and/or imprinting, a persistent card number/expiration date 202 and a temporary card number/expiration date 203 (examples of the account codes 102 and 103 respectively of FIG. 1). **Throughout this document, the word “persistent” when used in “persistent card number” means persistent relative to the temporary card number/expiration date 203. For example the temporary card number will always have an expiration date that is earlier than or equal to the persistent card number’s expiration date.**

APPL-1006, [0027].

309. As discussed in [1.12B], a POSITA would have understood Vadhri’s temporary account code 103 to be a “secure, perishable purchase code” as recited because it is securely generated account code that is used to purchase items and has a specified expiration.

310. Third, a POSITA would have found it obvious to include the temporary account code 103 as taught by Vadhri as Dill’s transaction identifier for additional security by limiting the amount of time that the code is available.

By using the example temporary card number, a user may control the amount of time an account number is at risk of fraud due to being

exposed on the internet and/or to merchants or any other person or machine. For example, a user's credit card number may be at risk for a number of years when it is used to make a purchase via the internet, while for the same purchase, a user's temporary card number would be at risk for a number of hours.

APPL-1006, [0015]. Thus, it would have been obvious to include the secure temporary code of Vadhri with the mobile application 145 of Dill.

311. Fourth, a POSITA would have understood that the secure, perishable purchase code of Vadhri would be “returned to the customer over at least one of the plurality of channels connected to the computing system” as taught by Dill. As discussed in [1.3A], Dill teaches that transactions are conducted over interfaces 136-138 (which include all communications required for the transactions, including notifications returned to the mobile devices 125, 130). APPL-1005, [0101].

312. Therefore, the inclusion of Vadhri's temporary account code 103 in Dill's transaction communications teaches “*returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform*” as recited by the claim.

[10.3] receiving communication from the agent terminal over at least one of the plurality of channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent;

313. See Section VII.M (Limitation [8.3]).

**[10.4] debiting the third party mobile wallet by the specified amount of funds;
and**

314. See Section VII.M (Limitation [8.4]).

[10.5] crediting an agent account by the specified amount of funds.

315. Dill teaches this limitation. For example, Dill teaches routing a specified amount of money (“credit by the specified amount of funds”) to an agent 135 (“an agent account”) for a transaction.

316. Dill teaches many different ways that a transaction can be carried out by its financial transfer system. One of these is by a sender initiating a money transfer through an agent 135:

FIG. 3 describes the process beginning with a sender 105 initiating a money transfer by sending a request to a mobile wallet application 121 of the sender's mobile network operator 120, it should be appreciated that **a sender 105 can begin the process by initiating a money transfer through a money transfer facilitator 140 (or its agent 135),** which then queries a mobile network operator 120 whether sufficient funds are available in the account 160 associated with the mobile wallet 125 of the sender.

APPL-1005, [0066].

317. Dill further describes that money for the transfer can be routed directly through the agent 135:

The mobile application 145 of the money transfer facilitator 145 can then perform a validation 370 of the data provided by the agent 135

and, if valid, perform a money transfer release process 375 to route the money transfer and/or instruct the agent 135 to pay 380 and 385 the transaction to the recipient 110.

APPL-1005, [0070].

318. These transfers include those for purchases as discussed above. By making these specified funds (with associated specified amounts of money) available through the agent 135, a POSITA would have understood that Dill teaches “*crediting an agent account by the specified amount of funds*” as recited by the claim.

P. Claim 11

[11.0] At a computer system including at least one processor and a memory, a computer-implemented a method for performing a transaction for a customer using a third party mobile wallet owned by another entity than the customer, the method comprising the following:

319. To the extent that the preamble is found to be limiting, Dill discloses it. For example, Dill teaches a financial transfer system with a money transfer facilitator 104 implementing a computer system 200 (“computer system”) with CPUs 210 (“at least one processor”) and storage devices 240 (“a memory”) that is configured to perform a transaction (“computer-implemented a method for performing a transaction”) for a recipient using an external mobile wallet 130 (“using a third party mobile wallet owned by another entity than the customer”).

320. First, as discussed in [1.0], Dill teaches that a computer system 200 provides the functions of its transfer facilitator system 140. APPL-1005, [0059]. As discussed in [1.1] and [1.2], Dill's computer system includes "one or more processors" and "system memory" as recited. APPL-1005, [0031], [0059]-[0064]. Thus, Dill teaches "a computer system including at least one processor and a memory" configured to carry out transactions.

321. Second, the claim erroneously states "a computer-implemented a method for performing a transaction for a customer." In the case that a POSITA would have understood the claim to mean "a computer-implemented [] method for performing a transaction," Dill teaches this limitation. For example, Dill teaches that its financial transfer system is configured to provide for transactions for customers using mobile wallets 125, 130:

Such a system 100 allows a money transfer facilitator 140, using a unique customer identifier and internal and/or external mapping databases 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.

APPL-1005, [0057].

322. A POSITA would have understood the "structured settlements" carried out by Dill's money transfer facilitator 140 through computer system 200

to be a “computer-implemented [] method for performing a transaction for a customer.”

323. Second, Dill’s computer system 200 implementing code as discussed above is configured to “facilitate a transaction for a customer using the mobile wallet.” For example, Dill teaches that its computer system 200 is configured to carry out financial transactions:

The computer system 200 may also comprise software elements, shown as being currently located within a working memory 280, including an operating system 284 and/or other code 288. It should be appreciated that alternate embodiments of a computer system 200 may have numerous variations from that described above. For example, customized hardware might also be used and/or particular elements might be implemented in hardware, software (including portable software, such as applets), or both. Furthermore, connection to other computing devices such as network input/output and data acquisition devices may also occur.

Software of computer system 200 may include code 288 for implementing any or all of the function of the various elements of the architecture as described herein. For example, software, stored on and/or executed by a computer system such as system 200, can provide the functions of the sending subscriber interface, the receiving subscriber interface, the agent server 125, the source transfer network 165, the primary transfer network 160, the destination transfer network

190, the communication network 115, and/or other components of the invention such as those discussed above.

As noted above, **embodiments of the present invention provide for financial transfers utilizing a unique identifier to facilitate flexible payment delivery options for the transaction.**

APPL-1005, [0063]-[0065].

324. Since these embodiments include transactions between mobile wallets, a POSITA would have understood that Dill's code "facilitate[s] a transaction for a customer using the mobile wallet." APPL-1005, [0053].

Third, Dill teaches that its computer system is configured to perform transactions for a customer using the mobile wallet "owned by another entity than the customer" as recited by the claim. For example, Dill teaches that its mobile wallets 125 and 130 are maintained by a mobile wallet service 121. APPL-1005, [0053]. A POSITA would have understood that the mobile wallet service 121 is one example of an "another entity than the customer" that owns the mobile wallet of Dill. Dill further states that its mobile wallets 125 need not be enrolled in the same mobile wallet service, but is designed to generally "provide a structured settlement between unrelated entities such as the sending mobile wallet 125 and receiving mobile wallet 130." APPL-1005, [0057].

325. Thus, Dill teaches "[a]t a computer system including at least one processor and a memory, a computer-implemented a method for performing a

transaction for a customer using a third party mobile wallet owned by another entity than the customer” as recited by the claim.

[11.1A] the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform,

326. See Section VII.F (Limitation [1.10A]).

[11.1B] ... the agent communication indicating that a customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet,

327. See Section VII.F (Limitation [1.10B]).

[11.1C] ... the mobile wallet transaction comprising at least one of a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet, a mobile wallet withdrawal in which funds are withdrawn from the third party mobile wallet and provided to the customer, or a mobile wallet deposit in which funds are deposited into the third party mobile wallet;

328. See Section VII.F (Limitation [1.10C]).

[11.2] the computing system sending the agent communication to the third party mobile wallet platform;

329. See Section VII.F (Limitation [1.11]).

[11.3] the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit;

330. See Section VII.F (Limitation [1.13]).

[11.4A] the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal and

331. See Section VII.F (Limitation [1.12A]).

[11.4B] ... when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal, generating and providing a perishable withdrawal code to the consumer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal; and

332. See Section VII.F (Limitation [1.12B]).

[11.5] the computing system sending communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction, wherein the computing system includes:

333. See Section VII.F (Limitation [1.14]).

[11.6] one or more processors;

334. See Section VII.F (Limitation [1.1]).

[11.7] system memory;

335. See Section VII.F (Limitation [1.2]).

[11.8A] an integration tier configured to manage mobile wallet sessions with a mobile device

336. See Section VII.F (Limitation [1.3A]).

[11.8B] [an integration tier configured to manage mobile wallet sessions with a mobile device] on which a mobile wallet application is installed and

337. Dill discloses this limitation. For example, Dill's financial transfer system includes a mobile application executed by a mobile device ("a mobile device on which a mobile wallet application is installed"). For example, Dill states:

According to yet another embodiment, a system can comprise a mobile communications network and a mobile device communicatively coupled with the mobile communications network. **The mobile device can execute a mobile wallet application.**

APPL-1005, [0045].

338. Dill also states that transfers are initiated from a mobile wallet application of a mobile device:

Stated another way, a method of supporting a money transfer transaction can comprise receiving a request to initiate the money transfer transaction. Receiving the request to initiate the money transfer transaction can comprise receiving the request from a mobile wallet application of a mobile device, from a web site of a money transfer facilitator, from a retail agent location of a money transfer facilitator, from a telephone money transfer service of a money transfer facilitator, from a kiosk, from an ATM or from another channel.

APPL-1005, [0035].

339. Since the mobile device of Dill executes a mobile wallet application on the mobile device, a POSITA would have understood that Dill teaches “*a mobile device on which a mobile wallet application is installed*” as recited by the claim.

[11.8C] [an integration tier configured to manage mobile wallet sessions with a mobile device] including web services communication mechanisms for interfacing with the mobile wallet application which is installed on a hardware SIM card

340. See Section VII.F (Limitation [1.3B]).

[11.8D] [an integration tier configured to manage mobile wallet sessions with a mobile device ... including web services communication mechanisms for interfacing with the mobile wallet application which is installed on a hardware

SIM card] ... as well as with a plurality of different device types over a plurality of different communication channels,

341. *See* Section VII.F (Limitation [1.3C]).

[11.8E] ... the integration tier being configured to receive binary and text messages from the mobile device;

342. *See* Section VII.F (Limitation [1.3D]).

[11.9A] a notification services engine configured to interface with the integration tier and

343. *See* Section VII.F (Limitation [1.4A]).

[11.9B] [a notification services engine configured to interface with the integration tier and] to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages over the different communication channels to different devices,

344. *See* Section VII.F (Limitation [1.4B]).

[11.9C] [a notification services engine configured to interface with the integration tier and] to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages over the different communication channels to different devices,] including the mobile device, to interface with the mobile wallet application installed on the hardware SIM card;

345. *See* Section VII.F (Limitation [1.4C]).

[11.10A] service connectors that are each configured to connect the computing system to a different third party system,

346. *See* Section VII.F (Limitation [1.5A]).

[11.10B] each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

347. *See* Section VII.F (Limitation [1.5B]).

[11.11] a payment handler that exposes a common API for interacting with different payment processors;

348. See Section VII.F (Limitation [1.6]).

[11.12] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and

349. See Section VII.F (Limitation [1.7]).

[11.13] a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.

350. See Section VII.F (Limitation [1.8]).

Q. Claim 12

[12.0] The computer-implemented method of claim 11, wherein a new transaction is performed by the computing system for a second, different customer using a second, different third party mobile wallet.

351. See Section VII.G (Limitation [2.0]).

R. Claim 13

[13.0] The computer-implemented method of claim 11, wherein the third party mobile wallet platform comprises a third party processor.

352. Dill teaches this limitation. As discussed in [1.11], Dill's financial transfer system conducts transactions with mobile wallets 125, 130 that may be enrolled an external mobile wallet service (i.e., "third party mobile wallet platform"). APPL-1005, [0055]. Since these external mobile wallet services provide "mobile wallet services" including providing a destination for transferred funds, a POSITA would have understood them to include their own computing

system including at least one processor, much like the computing system 200 of Dill. APPL-1005, [0055], [0060].

353. Thus, Dill teaches “*wherein the third party mobile wallet platform comprises a third party processor*” as recited by the claim.

S. Claim 14

[14.0] The computer-implemented method of claim 11, further comprising notifying the customer of confirmation of the processing of the transaction using the third party mobile wallet over at least one of the plurality of communication channels connected to the cloud-based transaction platform.

354. See Section VII.H (Limitation [3.0]).

T. Claim 15

[15.0] The computer-implemented method of claim 11, wherein the third party mobile wallet is provided by a third party mobile wallet provider.

355. See Section VII.I (Limitation [4.0]).

U. Claim 16

[16.0] The computer-implemented method of claim 15, wherein each third party mobile wallet provider has their own point of sale (POS) processing system.

356. See Section VII.J (Limitation [5.0]).

V. Claim 17

[17.0] The computer-implemented method of claim 16, wherein the third party mobile wallet providers' POS processing systems communicate with each other using the cloud-based transaction platform to process the transaction.

357. See Section VII.K (Limitation [6.0]).

W. Claim 18

[18.0] The computer-implemented method of claim 11, wherein the transaction comprises the mobile wallet deposit for depositing funds into the third party mobile wallet which is owned by the entity different than the customer, including:

358. *See* Section VII.L (Limitation [7.0]).

[18.1] receiving communication from the agent terminal over one of the plurality of communication channels connected to the cloud-based transaction platform, the agent communication indicating that the customer desires to deposit a specified amount of funds into the third party mobile wallet; and

359. *See* Section VII.L (Limitation [7.1]).

[18.2] crediting the third party mobile wallet with the specified amount of funds.

360. *See* Section VII.L (Limitation [7.2]).

X. Claim 19

[19.0] The computer-implemented method of claim 11, wherein the transaction comprises the mobile wallet withdrawal for withdrawing funds from the third party mobile wallet owned which is owned by the entity different than the customer, including:

361. *See* Section VII.M (Limitation [8.0]).

[19.1] receiving communication from the customer over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to withdraw a specified amount of funds from the third party mobile wallet;

362. *See* Section VII.M (Limitation [8.1]).

[19.2] returning providing the perishable withdrawal code to the customer over at least one of the plurality of communication channels connected to the cloud-based transaction platform;

363. *See* Section VII.M (Limitation [8.2]).

[19.3] receiving communication from the agent terminal over at least one of the plurality of communication channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the perishable withdrawal code has been presented to an agent;

364. *See* Section VII.M (Limitation [8.3]).

[19.4] debiting the third party mobile wallet by the specified amount of funds; and

365. *See* Section VII.M (Limitation [8.4]).

[19.5] crediting the agents account by the specified amount of funds.

366. *See* Section VII.L (Limitation [7.2]).

Y. Claim 20

[20.0] The computer-implemented method of claim 11, wherein the transaction comprises the mobile wallet transfer for transferring money from a mobile wallet account of the customer provided by a first mobile wallet provider to a third party mobile wallet of a recipient provided by a second mobile wallet provider, the method comprising:

367. *See* Section VII.N (Limitation [9.0]).

[20.1] receiving customer communication over one of the plurality of communication channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to transfer a specified amount of funds to the recipient using a specified payment method from the mobile wallet account of the customer;

368. *See* Section VII.N (Limitation [9.1]).

[20.2] debiting the mobile wallet account by the specified amount of funds; and

369. *See* Section VII.N (Limitation [9.2]).

[20.3] transferring the specified amount of funds from the cloud-based transaction platform to the second third party mobile wallet platform for delivery to the specified recipient, the specified amount of funds being

transferred over at least one of the plurality of channels connected to the third party mobile wallet platform.

370. *See* Section VII.N (Limitation [9.3]).

Z. Claim 21

[21.0] The computer-implemented method of claim 11, wherein the claimed method also includes performing a new transaction comprising a mobile wallet purchase at an agent terminal using a third party mobile wallet managed by a third party mobile wallet platform, including:

371. *See* Section VII.O (Limitation [10.0]).

[21.1] receiving communication from the customer over one of the plurality of channels connected to the cloud-based transaction platform, the customer communication indicating that the customer desires to purchase an item for a specified amount of funds using a specified payment method from a third party mobile wallet;

372. *See* Section VII.O (Limitation [10.1]).

[21.2] returning a secure, perishable purchase code to the customer over at least one of the plurality of channels connected to the cloud-based transaction platform;

373. *See* Section VII.O (Limitation [10.2]).

[21.3] receiving communication from the agent terminal over at least one of the plurality of channels connected to the cloud-based transaction platform, the agent terminal communication indicating that the purchase code has been presented to an agent;

374. *See* Section VII.M (Limitation [8.3]).

[21.4] debiting the third party mobile wallet by the specified amount of funds; and

375. *See* Section VII.M (Limitation [8.4]).

[21.5] crediting an agent account by the specified amount of funds.

376. See Section VII.L (Limitation [7.2]).

AA. Claim 22

[22.0] One or more computer-readable hardware storage devices having stored thereon computer-executable instructions that are executable by the one or more processors of a computing system to cause the computing system to perform a transaction for a customer using a third party mobile wallet owned by another entity than the customer, comprising the following:

377. To the extent that the preamble is found to be limiting, Dill discloses it. For example, Dill teaches a financial transfer system with a computer system 200 that includes storage device 240 (“one or more computer-readable hardware storage devices”) that runs code (“computer-executable instructions that are executable by the one or more processors of a computing system”) that carry out transactions with mobile wallets 125, 130 that may be external mobile wallets (“perform a transaction for a customer using a third party mobile wallet owned by another entity than the customer”).

378. First, Dill teaches financial transfer systems for carrying out transactions with mobile wallets including using machine-readable media:

Methods, systems, and machine-readable media are disclosed for financial transfers utilizing a unique identifier to facilitate flexible payment options for the transaction. According to one embodiment, a method for supporting a money transfer transaction can comprise receiving a Personal Identification Number (PIN) and a transaction identifier for a previously initiated money transfer transaction at a mobile wallet application. The PIN can be verified with the mobile

wallet application and, in response to verifying the PIN, the transaction identifier can be sent to an application of a money transfer facilitator supporting the money transfer transaction.

APPL-1005, [0005].

379. As discussed in [1.0]-[1.2], Dill's financial transfer system is implemented with a computer system 200, which includes CPUs 210 and storage devices 240 as well as system memory 280. APPL-1005, Fig. 2, [0059]-[0060]. A POSITA would have understood Dill's storage and memory devices to be "[o]ne or more computer-readable hardware storage devices" as recited by the claim. *Id.*

380. Second, as discussed in [1.3B], Dill teaches that software is executed by its computer system 200:

The computer system 200 may also comprise software elements, shown as being currently located within a working memory 280, including an operating system 284 and/or other code 288. It should be appreciated that alternate embodiments of a computer system 200 may have numerous variations from that described above. For example, customized hardware might also be used and/or particular elements might be implemented in hardware, software (including portable software, such as applets), or both. Furthermore, connection to other computing devices such as network input/output and data acquisition devices may also occur.

Software of computer system 200 may include code 288 for implementing any or all of the function of the various elements of

the architecture as described herein. For example, software, stored on and/or executed by a computer system such as system 200, can provide the functions of the sending subscriber interface, the receiving subscriber interface, the agent server 125, the source transfer network 165, the primary transfer network 160, the destination transfer network 190, the communication network 115, and/or other components of the invention such as those discussed above.

APPL-1005, [0063]-[0064].

381. A POSITA would have understood this code implemented by the Dill's computer system 200 to be "computer-executable instructions that are executable by the one or more processors of a computing system."

382. Third, Dill teaches that its software is configured to conduct transactions with mobile wallets, such as mobile wallets 125, 130, which may be maintained and serviced by an external mobile wallet service, as discussed in [1.9].

APPL-1005, [0005], [0053], [0059]. As discussed in A POSITA would have understood this software to "perform a transaction for a customer using a third party mobile wallet owned by another entity than the customer" as recited by the claim.

383. Thus, Dill's financial transfer system with computer system 200 carrying out financial transactions teaches "[o]ne or more computer-readable hardware storage devices having stored thereon computer-executable instructions that are executable by the one or more processors of a computing system to cause

the computing system to perform a transaction for a customer using a third party mobile wallet owned by another entity than the customer” as recited by the claim.

[22.1A] the computing system receiving communication from an agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform,

384. *See* Section VII.F (Limitation [1.10A]).

[22.1B] ... the agent communication indicating that a customer desires to perform a transaction comprising a mobile wallet transaction using a third party mobile wallet,

385. *See* Section VII.F (Limitation [1.10B]).

[22.1C] ... the mobile wallet transaction comprising at least one of a mobile wallet transfer in which funds are transferred from the mobile wallet of the customer to a third party mobile wallet, a mobile wallet withdrawal in which funds are withdrawn from the third party mobile wallet and provided to the customer, or a mobile wallet deposit in which funds are deposited into the third party mobile wallet;

386. *See* Section VII.F (Limitation [1.10C]).

[22.2] the computing system sending the agent communication to the third party mobile wallet platform;

387. *See* Section VII.F (Limitation [1.11]).

[22.3] the computing system receiving communication from the third party mobile wallet platform confirming processing of the transaction, the transaction comprising at least one of the mobile wallet transfer, the mobile wallet withdrawal or the mobile wallet deposit;

388. *See* Section VII.F (Limitation [1.13]).

[22.4A] the computing system determining whether the mobile wallet transaction comprises the mobile wallet withdrawal and

389. *See* Section VII.F (Limitation [1.12A]).

[22.4B] ... when the mobile wallet transaction is determined to comprise the mobile wallet withdrawal, generating and providing a perishable withdrawal code to the consumer, which is presented to the agent terminal to facilitate processing of the mobile wallet withdrawal; and

390. *See* Section VII.F (Limitation [1.12B]).

[22.5] the computing system sending communication to the agent terminal over one of a plurality of communication channels connected to the cloud-based transaction platform, the communication indicating confirmation of the processing of the transaction, wherein the computing system includes:

391. *See* Section VII.F (Limitation [1.4A]).

[22.6] one or more processors;

392. *See* Section VII.F (Limitation [1.1]).

[22.7] system memory;

393. *See* Section VII.F (Limitation [1.2]).

[22.8A] an integration tier configured to manage mobile wallet sessions with a mobile device

394. *See* Section VII.F (Limitation [1.3A]).

[22.8B] [an integration tier configured to manage mobile wallet sessions with a mobile device] on which a mobile wallet application is installed and

395. *See* Section VII.P (Limitation [11.8B]).

[22.8C] [an integration tier configured to manage mobile wallet sessions with a mobile device] including web services communication mechanisms for interfacing with the mobile wallet application which is installed on a hardware SIM card

396. *See* Section VII.F (Limitation [1.3B]).

[22.8D] [an integration tier configured to manage mobile wallet sessions with a mobile device ... including web services communication mechanisms for interfacing with the mobile wallet application which is installed on a hardware

SIM card] ... as well as with a plurality of different device types over a plurality of different communication channels,

397. *See* Section VII.F (Limitation [1.3C]).

[22.8E] ... the integration tier being configured to receive binary and text messages from the mobile device;

398. *See* Section VII.F (Limitation [1.3D]).

[22.9A] a notification services engine configured to interface with the integration tier and

399. *See* Section VII.F (Limitation [1.4A]).

[22.9B] [a notification services engine configured to interface with the integration tier and] to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages over the different communication channels to different devices,

400. *See* Section VII.F (Limitation [1.4B]).

[22.9C] [a notification services engine configured to interface with the integration tier and] to send Short Message Peer-to-Peer (SSMP) messages, Short Messaging Service (SMS) messages and Simple Mail Transfer Protocol (SMTP) messages over the different communication channels to different devices,] including the mobile device, to interface with the mobile wallet application installed on the hardware SIM card;

401. *See* Section VII.F (Limitation [1.4C]).

[22.10A] service connectors that are each configured to connect the computing system to a different third party system,

402. *See* Section VII.F (Limitation [1.5A]).

[22.10B] each of the service connectors being configured as a separate module for integrating a corresponding external service to the computing system;

403. *See* Section VII.F (Limitation [1.5B]).

[22.11] a payment handler that exposes a common API for interacting with different payment processors;

404. *See* Section VII.F (Limitation [1.6]).

[22.12] a security services engine that performs subscriber authentication utilizing a database-based Access Control List (ACL); and

405. *See* Section VII.F (Limitation [1.7]).

[22.13] a rules engine configured to enforce constraints on financial transactions performed with the mobile wallet application.

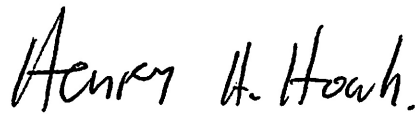
406. *See* Section VII.F (Limitation [1.8]).

VIII. CONCLUSION

This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 35 U.S.C. § 1001.

Date: December 18, 2022

Respectfully submitted,

A handwritten signature in black ink that reads "Henry H. Houh". The signature is written in a cursive, slightly stylized font.

Henry H. Houh