

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ASKELOADDEN L.L.C.,
Petitioner,

v.

LIBERTY PEAK VENTURES LLC,
Patent Owner.

Cases IPR2023-00421 and IPR2023-00422
Patent No. 7,837,100 B2 and 8,905,301 B2

EXPERT DECLARATION OF IVAN ZATKOVICH
IN SUPPORT OF PETITIONS FOR *INTER PARTES* REVIEW OF
CLAIMS 1-17 OF U.S. PATENT NO. 7,837,100 B2 (FOR PETITION 1)
AND CLAIMS 1-20 OF U.S. PATENT NO. 8,905,301 B2 (FOR PETITION 2)

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EXHIBIT LIST

<u>EXHIBIT NO.</u>	<u>DESCRIPTION</u>
Ex1001	U.S. Patent No. 7,837,100 B2 to Bonalle et al. (“ <u>the ’100 Patent</u> ”)
Ex1002	U.S. Patent No. 8,905,301 B2 to Bonalle et al. (“ <u>the ’301 Patent</u> ”)
Ex1003	Expert Declaration of Ivan Zatkovich in Support of Petition for <i>Inter Partes</i> Review of Claims 1-17 of U.S. Patent No. 7,837,100 B2 and Claims 1-20 of U.S. Patent No. 8,905,301 B2 (“ <u>Zatkovich Decl.</u> ”)
Ex1004	<i>Curriculum Vitae</i> of Ivan Zatkovich
Ex1005	Prosecution History of the ’100 Patent (U.S. App. No. 11/478,140) (“ <u>the ’140 Application</u> ”)
Ex1006	Prosecution History of the ’301 Patent (U.S. App. No. 12/907,955) (“ <u>the ’955 Application</u> ”)
Ex1007	U.S. Pat. Pub. No. 2007/0198404 A1 to Hirka et al. (“ <u>Hirka ’404</u> ”)
Ex1008	U.S. Pat. Pub. No. 2004/0225604 A1 to Foss et al. (“ <u>Foss</u> ”)
Ex1009	WIPO Pub. No. WO 02/21374 A1 to Hirka et al. (“ <u>Hirka</u> ”)

<u>EXHIBIT NO.</u>	<u>DESCRIPTION</u>
Ex1010	U.S. Patent No. 6,330,546 B2 to Gopinathan et al. (“ <u>Gopinathan</u> ”)
Ex1011	“Financial transaction card originated messages – Interchange message specifications – Part 1: Messages, data elements and code values”, ISO 8583-1, First Edition (published June 15, 2005) (“ <u>ISO Standard 8583-1</u> ”)
Ex1012	Declaration of Glenn J. Perry (“ <u>Perry Decl.</u> ”)
Ex1013	Letter Agreement Between Glenn J. Perry and Askeladden L.L.C. dated May 20, 2020

I, Ivan Zatkovich, declare as follows:

The following is my written Declaration detailing the subject matter and my opinions on issues regarding the validity of Claims 1-17 of U.S. Patent No. 7,837,100 B2 (“**the ’100 Patent**,” Ex1001), of Claims 1-20 of U.S. Patent No. 8,905,301 B2 (“**the ’301 Patent**,” Ex1002), submitted on behalf of Petitioner Askeladden L.L.C. (“**Petitioner**”).

I. **Summary of My Declaration and Opinions**

1. As explained in this Declaration, it is my opinion that Claims 1-17 of the ’100 Patent and Claims 1-20 of the ’301 Patent are invalid as anticipated and/or obvious over one or more of the following:

- (1) U.S. Patent No. 6,330,546, entitled “*Risk Determination and Management Using Predictive Modeling and Transaction Profiles for Individual Transaction Entities*,” to Gopinathan et al. (“**Gopinathan**,” Ex1010), which issued on December 11, 2001.
- (2) The prior art as admitted by applicants both during prosecution and in the specification of the ’301 Patent.
- (3) WIPO Publication No. WO 02/21374 A1, entitled “*System and Method for Linked Account Having Sweep Feature*,” to Hirka et al., filed as International Application Number PCT/US01/26930, and published on March 14, 2002 (“**Hirka**,” Ex1009).

(4) U.S. Patent Publication No. 2004/0225604 A1, entitled “*System for Providing a Checkless Checking Account*,” to Foss et al. (“**Foss**,” Ex1008), which was published on November 11, 2004.

2. As set forth with respect to the first petition (“**Petition 1**” or the “**’100 Patent**”), in my opinion Claims 1-17 of the ’100 Patent are invalid based on the following grounds:

’100 Patent (Petition 1)	CHALLENGED CLAIMS OF THE ’100 PATENT	PRIOR ART	BASIS
Ground 1	1, 12, 15	Gopinathan (Ex1010)	§102(b)
Ground 2 (alternative)	1-17	Gopinathan (Ex1010) in view of Hirka (Ex1009)	§103(a)

3. As set forth with respect to the second petition (“**Petition 2**” or the “**’301 Patent**”), in my opinion Claims 1-20 of the ’301 Patent are invalid based on the following grounds:

’301 Patent (Petition 2)	CHALLENGED CLAIMS OF THE ’301 PATENT	PRIOR ART	BASIS
Ground 1	1, 3-5, 7-16	Foss (Ex1008)	§§102(a) & 102(e)
Ground 2 (alternative)	14	Foss (Ex1008) in view of the admitted prior art	§103(a)

Ground 3 (alternative)	3	Foss (Ex1008) in view of Gopinathan (Ex1010)	§103(a)
Ground 4	2, 6, 17-20	Foss (Ex1008) in view of Hirka (Ex1009)	§103(a)

II. **Background Information**

A. **Summary of My Professional Background and Qualifications**

4. My professional background, qualifications, and experience testifying as an expert are set forth in my *curriculum vitae*, which is marked as Ex1004. I also summarize pertinent aspects of my professional experience below.

B. **Data and Other Information Considered**

5. In preparing this Declaration, I have reviewed the '100 Patent (Ex1001) and its prosecution history (Ex1005) as well as the prior art references cited and discussed therein.

6. I have also reviewed the child of the '100 Patent, the '301 Patent (Ex1002) and its prosecution history (Ex1006) as well as the prior art references cited and discussed therein.

7. I have also reviewed Hirka '404 (Ex1007), Foss (Ex1008), Hirka (Ex1009), Gopinathan (Ex1010), ISO Standard 8583-1 (Ex1011), and other cited art and information related to the state of the art at the time that the earliest claimed priority applications of the '100 Patent and the '301 Patent were filed.

8. I have also reviewed the Complaint for patent infringement of, *inter alia*, the '301 Patent filed by Liberty Peak Ventures, LLC against Zions Bancorporation, N.A. in the U.S. District Court for the Western District of Texas on June 8, 2022, as well as the corresponding exhibits. *Liberty Peak Ventures, LLC v. Zions Bancorporation, N.A.*, No. 2:22-cv-00195, ECF No. 1 (E.D. Tex. June 8, 2022).

9. I also base this Declaration on my knowledge from over thirty years of direct experience in diverse areas including point-of-sale and payment processing systems, credit card and smart card payment transactions, and industry practices and standards for processing purchase transactions and authenticating participants.

C. Scope of the Assignment

10. I have been requested by counsel for Petitioner to study the '100 Patent and the '301 Patent, including its claims and prosecution history including the prior art cited and discussed therein, as well as the other material mentioned herein. I have also been requested by counsel for Petitioner to provide my expert opinion regarding the validity of Claims 1-17 of the '100 Patent and Claims 1-20 of the '301 Patent.

11. I anticipate using some of the above-referenced documents and other documents that may be produced during the course of this matter or as a result of my analysis to support my testimony in this matter. Additionally, I may use

representations, charts, graphs, photographs, schematics, simulations, and models based upon these documents, or other demonstrative materials.

D. Compensation

12. I am being compensated at my consulting rate of \$525 per hour for my time spent in connection with this case. I am being separately reimbursed for any out-of-pocket expenses. No part of my compensation is dependent upon the outcome of this proceeding or the nature of the opinions that I express.

E. Prior Testimony

13. I have provided declarations and deposition testimony as an expert witness in several U.S. District Court cases and Patent Trial and Appeal Board proceedings. I have listed relevant cases on my CV marked as Ex1004.

F. Legal Standards

14. To render my analysis, I have been informed about the legal standards for patent invalidity. Specifically, I am informed that in an IPR proceeding:

(a) the Petitioner must prove patent invalidity by a “preponderance of the evidence”;

(b) there is no presumption of validity;

(c) claim terms should generally be given their ordinary and customary meaning as would be understood by a person with ordinary skill in the art at the time of the invention (“**POSITA**”) in the context of the specification, the

prosecution history, other claims, and even extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises. However, extrinsic evidence is less significant than the intrinsic record; and

(d) that claim terms may be construed differently when a patentee sets out a definition and acts as his or her own lexicographer, and when a patentee disavows the full scope of a claim term either in the specification or during prosecution. If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision.

15. As discussed below, I am informed that a patent claim may be invalid as anticipated, either expressly or inherently, over the disclosure of a prior art reference, or as “obvious” in view of the combination of prior art references.

16. I am informed that in considering the issue of obviousness, I should consider what a POSITA would have known as of July 5, 2005, the earliest claimed priority date of the '301 and '100 Patents, as well as what such a person would have reasonably expected to have been able to do in view of that knowledge.

17. I am informed that in analyzing the issue of obviousness, I should consider and determine:

(a) the scope and content of the prior art;

(b) the differences between the prior art and the claims at issue; and

(c) the level of ordinary skill in the pertinent art.

I am informed that in analyzing the issue of obviousness, I also should consider secondary considerations, if they exist, as discussed below in Par. 21.

18. I am further informed that any of the following may provide a reason for combining elements known in the prior art:

(a) a need or problem known in the field at the time of invention and addressed by the patent;

(b) a design need or market pressure to solve a problem;

(c) the use of known techniques to improve similar products or methods in the same way;

(d) a simple substitution of one known element for another that would provide predictable results; or

(e) 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.

19. I also am informed that claims may be invalid if they are directed to obvious design choices. Specifically, I am informed that a patent claim that simply arranges old elements, with each element performing the same function that it had been known to perform, is not patentable. The combination of familiar elements

according to known methods is likely to be obvious when it does no more than yield predictable results.

20. I am informed that when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp with a reasonable expectation of success. I am informed that if this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. I am informed that in that instance the fact that the combination of elements was obvious to try may show that the combination was obvious.

21. I also am informed that certain “**secondary considerations**” of non-obviousness should be considered, to the extent that they exist. It is my understanding that such secondary considerations include:

- (a) commercial success;
- (b) long felt but unsolved needs;
- (c) failure of others;
- (d) industry skepticism;
- (e) praise by others; and
- (f) copying.

I am informed that there must be some connection or nexus between the secondary considerations and the claimed invention. At this point, I am not aware of any such secondary considerations as being relevant here.

G. My Professional Experience and Qualifications

22. I am currently Principal Consultant of eComp Consultants, a position I have held for over twenty years. eComp Consultants provides professional consulting services relating to computer and technical issues in a wide range of industries including Business and Finance, Telecommunications, and Internet eCommerce. Such consulting services include working with clients on specific information technology projects, process improvement, project management, and other technology issues as well as providing professional expert witness services.

23. I am an eBusiness Director and Software System Designer specializing in eCommerce and Financial transaction systems. I have over thirty years of direct experience in a diverse set of areas, including debit card and other financial transaction instrument systems including point of sale systems, payment gateways, Merchant Acquirers, payment processing, and settlement systems.

24. At eComp Consultants, I have been qualified as a technical expert in over fifty matters and, with respect to credit card and debit card systems, in over fifteen matters.

25. I received a bachelor's degree in Computer Science, with a minor in Electrical Engineering Digital Circuit Design, from the University of Pittsburgh in 1980. I completed a master's thesis in Computer Networks, results of which are published in *Byte Magazine*.

26. From 1980 to 1987, I was a software engineer at Digital Equipment Corporation where I developed complex device drivers, database storage and retrieval systems, and electronic transaction processing using electronic data interchange (EDI) standards.

27. From 1987 to 1996, I was an Architect and Manager for GTE/Verizon Telecom where I developed billing applications and systems for reconciliation of inter-exchange carrier transactions, including implementing CDC file security and data verification methods.

28. From 1996 to 1999, I was Director of Networks and Customer Support at Utility Partners Inc., where I designed and managed a system to automatically create and distribute service orders for mobile field units for various utility companies.

29. From 1999 to 2002, I was an eBusiness Manager at Tanning Technology & IMR Global. There, I developed various financial applications for companies such as ETrade, Smith Barney, and Citicorp. I have also designed and developed transaction processing applications for GEICO and Hartford Insurance.

This includes implementing various user authentication methods for access to account and financial information.

30. From 2002 to 2007, I was eBusiness Director at Evatone, Inc. While at Evatone, I developed financial applications for Wachovia and Capital One and eCommerce applications that incorporate payment gateways to process electronic payments directly through bank Merchant Accounts. Specific project experience includes:

- **Evatone**

- Developed multiple credit card and debit card payment methods and payment gateways solutions for eCommerce clients such as Warner Brothers, Wachovia Bank, Pro Marine.
- Wachovia: Developed online banking website for account inquiries, transfers, accounting, and reporting of credit and debit card transactions.

- **eComp Consultants**

- Mobile Transactions: Developed designs to cover NFC, QR display & pay, and SMS messaging transaction authorization for payment systems.
- Mobile Mesh Networks: Developed wireless Mesh Network messaging applications incorporating security, encryption, Mobile HotSpots, WiFi Hub, Broadband Hub (Android, iPhone).

- Alcatel-Lucent, Verisign: Evaluated credit card authorization, secure payment methods, and related patent portfolios.

- **Tanning Technology**

- Smith Barney: Designed and implemented mobile applications for Secure Trading System.
- eTrade: Developed stock and securities trading website including processing transactions settlements and sweep account transfers.

- **GTE / Verizon**

- Point-of-Sale platform for GTE / Verizon mobile phone retail outlets: Designed and implemented credit card and debit card payment system and calling card activation system for in-store product purchases.
- Cell phone provisioning: Implemented wireless systems for cell phone provisioning and activation. Designed online method for cell phone upgrade.

31. Based on my experience, I am intimately familiar with the subject matter of the '100 Patent and '301 Patent, namely, credit card and debit card systems.

III. **Discussion of the '100 and '301 Patents**

32. The '100 Patent (Ex1001), entitled "*System, Method, and Computer Program Product For Issuing and Using Debit Cards*," was filed on June 30, 2006 as U.S. Serial No. 11/478,140 ("**the '140 Application**"), and issued on November 23, 2010. The '140 Application claimed priority to U.S. Provisional Appl. Ser. No. 60/695,855, filed on July 5, 2005. For purposes of this Declaration, I am assuming that the earliest potential effective filing date for the '100 Patent is July 5, 2005.

33. The '301 Patent (Ex1002), entitled "*System, Method, and Computer Program Product For Issuing and Using Debit Cards*," was filed on November 19, 2010 as U.S. Serial No. 12/907,955 ("**the '955 Application**"), and issued on December 9, 2014. The '955 Application claimed priority, through the '100 Patent, to U.S. Provisional Appl. Ser. No. 60/695,855, filed on July 5, 2005. For purposes of this Declaration, I am assuming that the earliest potential effective filing date for the '301 Patent is July 5, 2005.

A. **The Specification of the '301 and '100 Patents (the "LPV Patents")**

34. Both the '301 and the '100 Patent (the "LPV Patents") contain an identical specification. Accordingly, I analyze the LPV Patents together.

35. The LPV Patents "generally relate[] to debit cards." (Ex1001, 1:16; Ex1002, 1:20). They are directed towards providing "a system, method and

computer program product for allowing companies that do not have the ability to offer consumers banking-type deposit accounts to issue pre-paid/debit-type cards to their customers.” (Ex1001, 1:30-34; Ex1002, 1:33-37)

36. In particular, the LPV Patents describe a “system, method, and computer program product...used to issue and track debit cards” which includes “an enrolling system that verifies an enrollee, associates an enrollee’s **main** and **overdraft account**, and issues a debit card, [and] an **authentication system** that receives **information** regarding a **requested transaction** of a debit card.” (Ex1001, Abstract; Ex1002, Abstract) (marked up to show “overdraft accounts” in **red**, “main [account]” in **green**, “authentication system” in **blue**, “information” in **dark gold**, and “requested transaction” in **purple**).¹ Additionally, “the **main** and **overdraft account**” are “associated with the debit card,” and the system “accepts or rejects the requested transaction based thereon.” (Ex1001, Abstract; Ex1002, Abstract).

37. The LPV Patents further disclose providing standard overdraft protection for transactions, such that “in the event that the value of the purchase exceeds the **DDA** balance, the debit card 110 uses an overdraw feature.” (Ex1001, 7:29-30; Ex1002, 7:28-29). Following an overdraft, “the purchase is then transferred

¹ For ease of reference, I use this color-coding scheme throughout this declaration to identify corresponding elements, including for relevant method steps not pictured here. Unless otherwise noted, colors and emphasis have been supplied.

to a **customer's existing credit or charge account** that has been designated for use as an **overdraft account**.” (Ex1001, 7:30-33; Ex1002, 7:30-32).

38. As is relevant to the basic claims of the '100 Patent (challenged in **Petition 1**), Figure 12 of the LPV Patents illustrates an “overall method 1200” (Ex1001, 10:40; Ex1002, 10:40), depicting a high-level flowchart of the claimed invention, with steps **1208** (authenticating a transaction) and **1210** (updating information) corresponding to the elements of Claim 1:

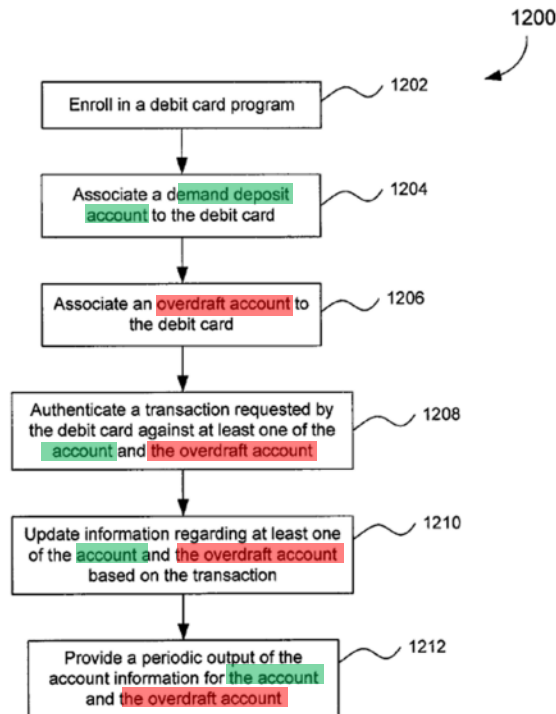


FIG. 12

(Ex1001, Fig. 12; Ex1002, Fig. 12). The basic steps are:

- “In step 1202, a consumer enrolls into a debit card program and is issued a debit card.

- In step 1204, a **DDA** is associated with the debit card.
- In step 1206, an **overdraft account** is associated with the debit card.
- In step 1208, a **transaction requested** by the debit card is **authenticated** against at least one of the **account** and **the overdraft account**.
- In step 1210, **information** regarding at least one of the **account** and **the overdraft account** is **updated** based on the transaction.
- In step 1212, a periodic output of **the account information** for **the account and the overdraft account** is provided to the consumer.”

(Ex1002, 10:40-51; Ex1001, 10:40-52).

39. As depicted in system 100 in Figure 1, and as is relevant to certain claims of the '100 Patent, the LPV Patents disclose “an enrolling system, an authentication system, and a settlement system” (Ex1001, 1:54-55; Ex1002, 1:55-56) which perform the method claimed:

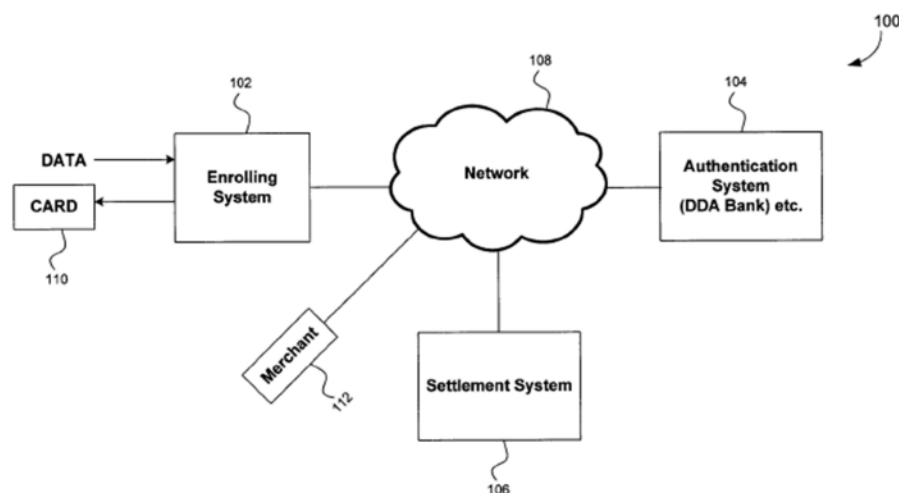


FIG. 1

(Ex1001, Fig. 1; Ex1002, Fig. 1).

40. Specifically, the LPV Patents disclose that:

“The enrolling system verifies an enrollee, associates an enrollee’s **main** and **overdraft account**, and issues a debit card. The **authentication system** receives information regarding a **requested transaction** of a debit card, receives information regarding the **main** and **overdraft account** associated with the debit card, and **accepts or rejects the requested transaction based thereon**. The settlement system generates a **periodic report** of at least one of the **transactions**, **the main account**, and **the overdraft account**. The **overdraft account** can be a charge or credit account.”

(Ex1001, 1:56-65; Ex1002, 1:57-67).

41. The LPV Patents further disclose that enrollment information “is transmitted **via network 108** (or directly in some examples) to **authentication system 104**” and that, accordingly, the “**Authentication system 104** can be operated and positioned as an issuing company’s system or can be a third party system, in various examples.” (Ex1001, 6:61-66; Ex1002, 6:56-64). The LPV Patents disclose multiple types of fraud assessments, including using a “[neural]-network decision model” and/or “Predictive Scoring” which may be performed by the authentication system. (Ex1001, 8:65-9:14; Ex1002, 8:64-9:13).

42. Figure 7, which illustrates a “transaction authorization process 700” (Ex1001, 8:52-53, Ex1002, 8:51), depicts the basic method claimed by the ’301 Patent (challenged in **Petition 2**):

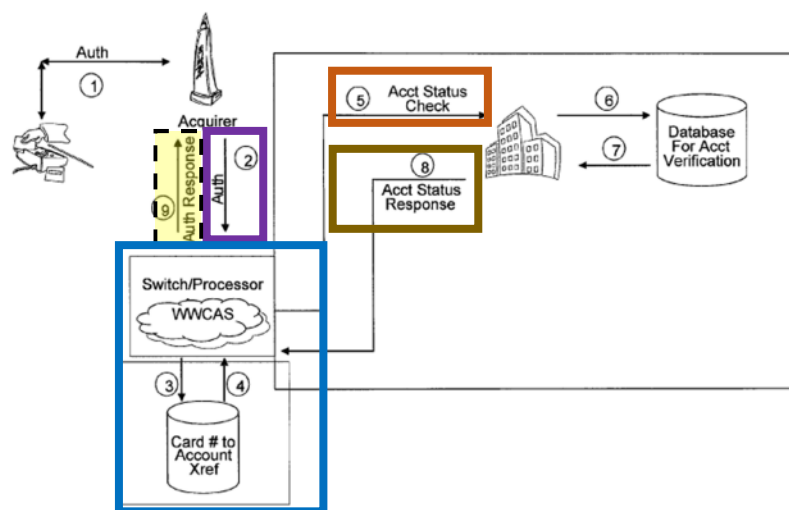


FIG. 7

(Ex1001, Fig. 7; Ex1002, Fig. 7). In particular, Figure 7 depicts:

- “**step 1**”, receiving debit card information at a merchant;
- “**step 2**”, notifying the **world-wide card authorization system** (also referred to as “**CAS**” or “**WWCAS**”, “an issuer system that authorizes point of sale transactions” (Ex1002, 8:60-9, Table 1)), or “**card issuer system** (e.g. **Amex-GES**)” “of the **requested transaction**”;
- “**step 5, 6, 7, 8**”, which retrieve an “**account status**”; and
- “**step 9**”, **authorizing** the transaction.

(Ex1001, 8:52-64; Ex1002, 8:51-63).

43. As depicted in **steps 6 and 7**, it was known (and thus admitted prior art) for a “**third party system**” to verify the account being authorized “using information stored in another database” (e.g., a bank’s database). (Ex1001, 8:60-62; Ex1002, 8:59-61).

44. At the time, it was common for card issuer systems and third-party vendors to facilitate transaction authorization by collecting transaction information from merchants and sending such information to banks, and vice versa. The **WWCAS**, **CAS**, and **Amex-GES** are examples of well-known computer-based authorization systems that existed in the prior art at the time of the invention. Furthermore, well-known third party vendors such as “eFunds” or “First Data Corporation of Greenwood Village, Colo.” were likewise common at the time of invention of the LPV Patents, as shown by the specifications’ references to existing third party vendors throughout the LPV Patents. (*See, e.g.*, Ex1001, 7:39, 8:5; Ex1002, 7:37-38, 8:8-9).

45. This conclusion is reinforced by the then existing standards governing the transmission of financial information relating to transactions. (*See generally* ISO 8583-1, Ex1011).² ISO 8583 is the international governing standard governing the

² The International Organization for Standardization (ISO) produces standards for processes and technologies that are agreed upon by experts in the field and published for use by practitioners. ISO is an independent, non-governmental international organization with a membership of over 150 national standards bodies that govern the use and update of these standards on a regular basis. ISO Standards are used by designers and developers who want to ensure their products are ISO compliant, which is critically important for product developers who want their products to support and/or interact with other third party products that are also ISO compliant, which was the case with entities managing financial transactions. For example, the

transmission of card transactions, as of July 5, 2005, the priority date of the LPV Patents. In this case, Ex1011 is a true and correct copy of Part 1 of ISO 8583, which is identified as “*Financial transaction card originated messages – Interchange message specifications – Part 1: Messages, data elements and code values*,” First edition 2005-06-15.

46. The standard demonstrates that “receiving / forwarding institution(s)” (which a POSITA at the time of the July 5, 2005 invention would understand to refer to intermediaries such as third party payment processors and credit card processing companies) may receive and authorize transactions on behalf of an issuing bank (Issuer):

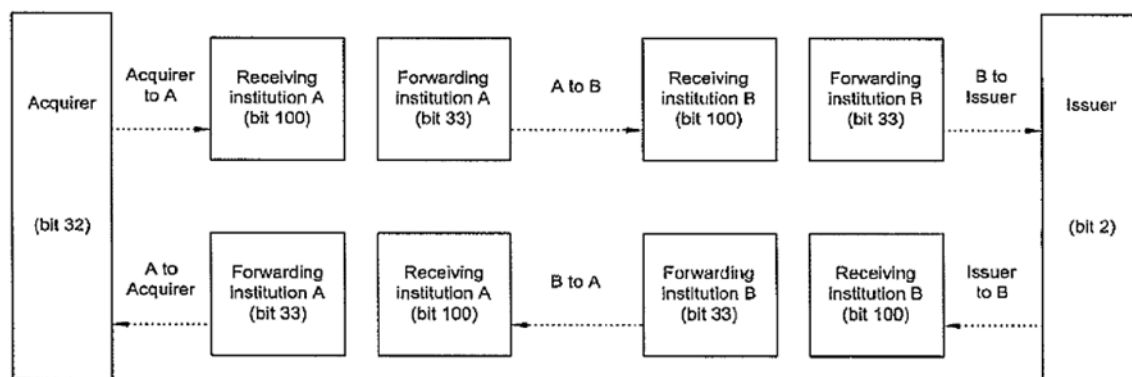


Figure 6 — Usage of institution identification codes in acquirer generated messages

LPV Patents reference ISO Standard 7811, which provides standard coding used for payment cards. (Ex1001, 6:6-52; Ex1002, 6:5-51).

(Ex1011, at 41). Similar to the role played by the third party vendors disclosed by the LPV Patents, the receiving and forwarding institutions receive information from an “acquirer” (a merchant) and then forward the transaction information to the issuing bank to identify payments that will be later processed for settlement (i.e., to perform the actual transfer of funds from the bank to the merchant). The computer-based authorization systems, as well as the third party vendors, disclosed by the LPV Patents would have used the ISO standards to communicate transaction information between themselves, merchant acquirers, and bank issuers.

47. Figure 9 then depicts the “settlement process,” which follows “**step 9**” described above (authorizing the transaction). As Figure 9 shows, the contemporary settlement process (e.g., the connections branching off from the “exists today” element in Figure 9) was well-known at the time and consisted of using third party vendors such as eFunds to connect a card authorization system (e.g., the “WWCAS”) to “funding source[s]” (e.g., “Bank A” and “Bank B”):

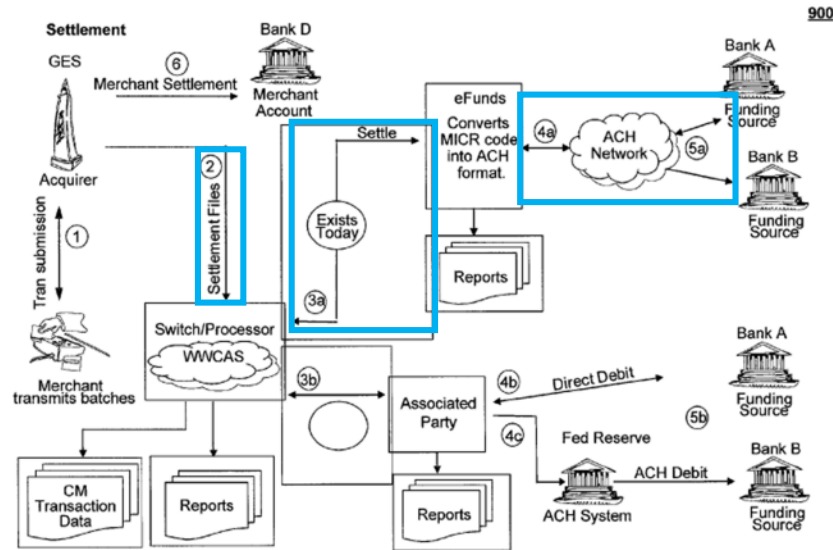


FIG. 9

(Ex1002, Fig. 9).

48. As depicted in Figure 9, the settlement process, which was typical of known settlement processes at the time of the invention involving third party vendors (See, e.g., “exists today” (step 3a)), involves:

- “**step 1**”, submitting a “transaction to a debit card issuing company;
- “**step 2**”, generating “settlement files” and “**transmit[ing]** the files”;
- “**step 3a**”, **transmitting** “the settlement files and associated data...via the **card issuer WWCAS** to a third party vendor, for example eFunds.”;
- “**step 4(a)**” and “**step 5(a)**”, establishing “a connection to an **ACH network**” from the third party vendor and “between the ACH network and the one or more funding sources (e.g., banks)” to allow for the settlement files to be transmitted.

(Ex1001, 9:24-42; Ex1002, 9:31-49).

49. The LPV Patents further disclose that if “transactions sent via ACH to the **linked DDA** [are] rejected due to non-sufficient funds, those purchases will be transferred to the customer’s existing **credit or charge account** previously associated with the debit card.” (Ex1002, 3:43-47; Ex1001, 3:39-43). In an embodiment where the transaction rejection occurs, “an excess amount over the **DDA limit** is posted to the **customer’s overdraft account**.” (Ex1002, 10:34-35; Ex1001, 10:34-35).

50. Additionally, the LPV Patents disclose a “**sample computer system**” (Ex1001, 10:56; Ex1002, 10:55) which performs the methods of the claimed invention, as shown in Figure 13:

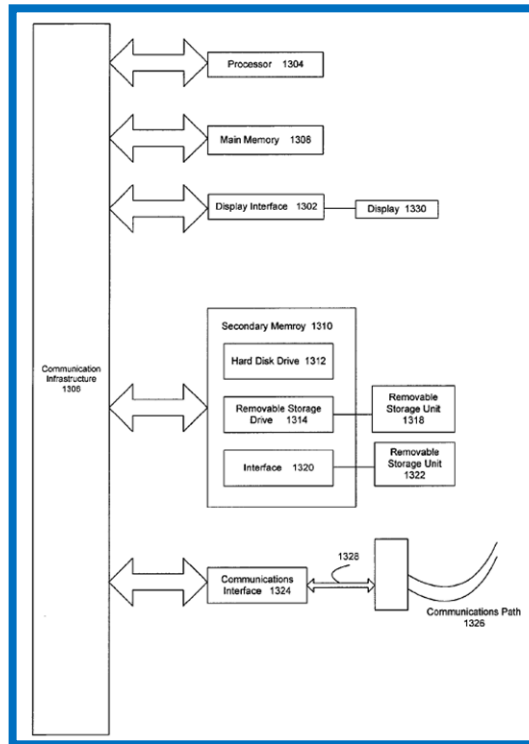


FIG. 13

(Ex1001, Fig. 13; Ex1002, Fig. 13).

51. The LPV Patents disclose that “main memory 1308 and/or secondary memory 1310” stores “computer programs” which, “when executed, enable the computer system 1300,” and in particular, the “processor 1304[,] to perform the features” of the invention. (Ex1001, 12:8-17; Ex1002, 12:8-17).

52. While disclosing the sample computer system of Figure 13, the specification also specifically states that the “present invention...may be implemented using hardware, software, or a combination thereof and may be implemented in **one or more computer systems or other processing systems.**” (Ex1001, 10:61-63; Ex1002, 10:55-62). The LPV Patents likewise disclose that

“[u]seful machines for performing the operation of the present invention include general purpose digital computers or similar devices.” (Ex1001, 11:3-6; Ex1002, 11:2-5).

53. The LPV Patents further disclose that the terms “account,” “account number,” and “account code” are used broadly and “may include any device, code, number, letter...suitably configured to allow a consumer to access, interact with or communicate with a financial transaction system...(e.g., rewards, charge, credit, debit, prepaid, telephone, embossed, smart, magnetic stripe, bar code, transponder or radio frequency card).” (Ex1001, 6:66-7:02; Ex1002, 4:39-48).

54. As is relevant to certain dependent claims, the LPV Patents further disclose that a “**transaction account...refers to an account associated with an open account or a closed account system**” and that “a physical embodiment of a transaction account may be distributed as a financial instrument.” (Ex1001, 4:36-46; Ex1002, 4:38-45). “In general, **transaction accounts** may be used for transactions between the user and merchant through any suitable communication means.” (Ex1001, 5:29-31; Ex1002, 5:30-32;).

55. The LPV Patents further disclose that the associated account may be the “**applicant’s bank accounts.**” (Ex1001, 8:27; Ex1002, 8:26).

B. LPV Patents Admit that the Use of Third Party Vendors Were Known and Prior Art

56. The LPV Patents frequently incorporate the existing use of third party vendors, as already discussed. For example, as is relevant to certain dependent claims, “the card issuer may ensure on a periodic or per transaction basis that the customer’s linked DDA is in good standing” which “may be accomplished through the use of external vendors, such as eFunds.” (Ex1001, 7:35-39; Ex1002, 7:34-39).

57. The LPV Patents further disclose that validation of account status may occur as a part of authorization, for which third party vendors may be used. In one example, “transactions are processed and authorized through CAS,” and “the authorization process **may call a third-party vendor** (e.g., eFunds or First Data Corporation of Greenwood Village, Colo.) **to validate that the DDA is in good standing.**” (Ex1001, 8:5-15; Ex1002, 8:4-14).

58. Furthermore, the “card issuer may contract with third party service providers to provide account aggregation services that can facilitate the extraction of customer data from **non-card issuer bank accounts.**” (Ex1001, 7:25-28; Ex1002, 7:24-26). One such example is “Yodlee, Inc., of Redwood City, Calif.”, which provided these services at the time of invention. (Ex1001, 3:66-4:3; Ex1002, 4:3-7). The use of the third party vendors in the LPV Patents is consistent with my

understanding of the role that third party vendors played in financial transaction networks as of July 5, 2005, the priority date of the LPV Patents.

59. In sum, the LPV Patents holds out the alleged inventions as using existing debit card processing systems, where the debit card is also associated with a “separate account” such as an overdraft account, and where transactions are authenticated at least in part using traditional fraud detection techniques. As discussed herein, this was well known in the prior art and not inventive at the time of the invention. Other aspects of the invention disclosed, as will be discussed throughout, were likewise present in the prior art.

C. Claims of the LPV Patents

1. Claims of the '100 Patent (Petition 1)

60. The '100 Patent has 17 claims of which Claims 1, 6, 12 and 15 are in independent form.

61. Independent Claims 1, 6, 12 and 15 are reproduced as follows with bolded element labels inserted in brackets for each of reference:

[1PRE] 1. A method comprising:

[1A] authenticating, by a **processing device**, a **transaction requested** by a debit card against at least one of a **demand deposit account** associated with the debit card or an **overdraft account** associated with the debit card, wherein the authentication includes **fraud assessment**,

[1B] and wherein the **fraud assessment** includes communication with **data sources via a network**; and

[1C] updating, by the **processing device**, **information** regarding at least **one of the demand deposit account** and the **overdraft account based** on the transaction.

[6PRE] 6. A system, comprising:

[6A] an **authentication system** configured to:

[6B] receive information regarding a **requested transaction** of a debit card,

[6C] receive information regarding a **main account** that has been associated with the debit card and an **overdraft account** that has been associated with the debit card, and

[6D] accept or reject the **requested transaction** based on an authorization including a **fraud assessment**, wherein the **fraud assessment** includes communication with **data sources via a network**.

[12PRE] 12. A computer program product for performing a debit card authentication the computer program product comprising a tangible computer usable medium having control logic stored therein, said control logic comprising:

[12A] first computer readable program code means for authenticating, through authorizing including **fraud assessment**, a **transaction** requested by the debit card against at least one of an **account** that has been associated with the

debit card or an **overdraft account** that has been associated with the debit card,

[12B] wherein the **fraud assessment** includes communication with **information sources via a network**; and

[12C] second computer readable program code means for updating **information** regarding at least one of the account or the **overdraft account** based on the **transaction**.

[15PRE] 15. A tangible computer-readable medium having stored thereon computer executable instructions that, if executed by a **computing device**, cause the **computing device** to perform a method comprising:

[15A] authenticating, through authorizing including **fraud assessment**, a **transaction** requested by a debit card against at least one of a **demand deposit account** that has been associated with the debit card and an **overdraft account** that has been associated with the debit card,

[15B] wherein the **fraud assessment** includes communication with **information sources via a network**; and

[15C] updating **information** regarding at least one of the demand deposit account and the **overdraft account** based on the **transaction**.

(Ex1002, Claims 1, 6, 12, and 15).

62. In this Declaration, I address each of Claims 1-17, and set forth a full claim listing in Appendix A to this report.

2. Claims of the '301 Patent (Petition 2)

63. The '301 Patent has 20 claims of which Claims 1, 7, and 16 are in independent form.

64. Independent Claims 1, 7, and 16 are reproduced as follows with bolded element labels inserted in brackets for each of reference:

[1PRE] 1. A method comprising:

[1A] receiving, at a **computer-based authorization system**, a **transaction request** associated with a **debit account**, wherein the **debit account** is associated with a **separate account**;

[1B] sending, **using the computer-based authorization system**, an **account information request** that includes **account information** of the **separate account**;

[1C] receiving, **at the computer-based authorization system**, **status information** of the **separate account** in response to the **account information request**; and

[1D] **authorizing**, **using the computer-based authorization system**, the **transaction request** based on the **status information**.

[7PRE] 7. An article of manufacture including **a non-transitory, tangible computer readable medium having instructions stored thereon** that, in response to execution by **a computer-based authorization system**, cause **the**

computer-based authorization system to perform operations comprising:

[7A] receiving, at the **computer-based authorization system**, a **transaction request** associated with a **debit account**, wherein the **debit account** is associated with a **separate account**;

[7B] sending, **using the computer-based authorization system**, an **account information request** that includes **account information** of the **separate account**;

[7C] receiving, **at the computer-based authorization system**, **status information** of the **separate account** in response to the **account information request**; and

[7D] **authorizing**, **using the computer-based authorization system**, the **transaction request** based on the **status information**.

[16PRE] 16. A method comprising:

[16A] receiving, at a **computer-based authorization system**, a **transaction request** associated with a **debit account**, wherein the **debit account** is associated with a **separate account**;

[16B] **authorizing**, **using the computer-based authorization system**, the **transaction request** based on the **status information** associated with **the separate account**; and

[16C] after **authorizing** the **transaction request**, sending, using the **computer-based authorization system**, a

fund transfer request to a financial institution associated with the **separate account**, wherein the **fund transfer request** corresponds to **the transaction request**.

(Ex1002, Claims 1, 7 and 16).

65. In this Declaration, I address each of Claims 1-20, and set forth a full claim listing in Appendix B to this report.

D. Prosecution History

66. I have reviewed the Prosecution history of both the '100 Patent and the '301 Patent.

67. The '301 Patent claims priority to U.S. Application No. 11/478,140 (Ex1005, "**the '140 Application**") which ultimately issued into the '100 Patent. The claims of the '301 Patent are similar to, and were considered not patently distinct from, the '100 Patent. During the prosecution of the '100 Patent, the Examiner cited and rejected the pending claims over U.S. Publication No. 2007/0198404 A1, to Hirka (Ex1007, "**Hirka '404**"), a related disclosure to the prior art WIPO Pub. WO 02/21374 to Hirka (Ex1009, "**Hirka**"), relied upon in proposed **Ground 1** of **Petition 1** to render Claims 1-17 of the '100 Patent obvious in combination with Gopinathan (Ex1010) and in proposed **Ground 4** of **Petition 2** to render Claims 2, 6 and 17-20 of the '301 Patent obvious in combination with Foss (Ex1008).

68. I have reviewed the prosecution history of the '100 Patent and have determined that it was allowed on a basis other than Hirka '404 not disclosing the

grounds upon which I rely on it. As discussed below, while Applicant was able to traverse Hirka '404, it was on the basis of a distinction (failure to teach fraud detection via a network) which is not pertinent to my use of Hirka (the use of (multiple) overdraft accounts, and enrollment and transaction systems and methods). As I discuss below, this purported gap in Hirka '404 was taught in Gopinathan (Ex1010) and would have been obvious in any event.

1. Prosecution History of the '100 Patent

69. The '100 Patent was initially filed on June 30, 2006, as U.S. Application No. 11/478,140, and claimed direct priority to U.S. Provisional Appl. Ser. No. 60/695,855, filed on July 5, 2005. For purposes of my analysis, I have assumed that the '100 Patent has an effective filing date of July 5, 2005, although if necessary I may revisit that assumption.

70. As originally filed, the '140 application contained seven claims, of which application Claims 1, 4 and 7 were in independent form. Independent application Claims 1, 4 and 7 of the '140 Application read as follows:

1. A method for issuing and using a debit-type card, comprising:
 - enrolling in a debit card program;
 - associating a demand deposit account to the debit card;
 - associating an overdraft account to the debit card;
 - authenticating a transaction requested by the debit card against at least one of the demand deposit account and the overdraft account;

updating information regarding at least one of the demand deposit account and the overdraft account based on the transaction; and
providing a periodic output of the account information for the demand deposit account and the overdraft account;
wherein the demand deposit account and the overdraft account are held at unrelated financial intuitions.

4. A system comprising:

an enrolling system that verifies an enrollee, associates an enrollee's main and overdraft accounts, and issues a debit card;

an authentication system that receives information regarding a requested transaction of a debit card and that receives information regarding the main and overdraft account associated with the debit card and accepts or rejects the requested transaction based thereon; and

a settlement system that generates a periodic report of at least one of the transactions, the main account, and the overdraft account.

7. A computer program product for performing a debit card enrollment, authentication, and settlement, the computer program product comprising a computer usable medium having control logic stored therein, said control logic comprising:

first computer readable program code means for enrolling into a debit card program;

second computer readable program code means for associating an account to the debit card;

third computer readable program code means for associating an overdraft account to the debit card;

fourth computer readable program code means for authenticating a transaction requested by the debit card against at least one of the account or the overdraft account;

fifth computer readable program code means for updating information regarding at least one of the account or the overdraft account based on the transaction; and

sixth computer readable program code means for providing a periodic output of the account information for the account and the overdraft account.

(Ex1006, at 26-27).

71. Prior to the first office action, Applicant added additional dependent claims and inserted independent application Claim 14, bringing the total number of claims to 17, and amended the existing independent claims, as follows:³

1. (currently amended) ~~A method for issuing and using a debit type card,~~ comprising:

³ Note that many of the removed elements were inserted as dependent claims. For example, the element of “providing a periodic output of the account information for the demand deposit account and the overdraft account” in Claim 1 was inserted in substantially the same form as application dependent Claim 9, and the struck elements relating to enrolling system and settlement system were inserted in substantially the same form as application dependent Claims 11 and 12.

~~enrolling in a debit card program;~~

~~associating a demand deposit account to the debit card;~~

~~associating an overdraft account to the debit card;~~

(a) authenticating a transaction requested by ~~the~~ a debit card against at least one of ~~the~~ a demand deposit account that has been associated with the debit card and ~~the~~ an overdraft account that has been associated with the card; and

(b) updating information regarding at least one of the demand deposit account and the overdraft account based on the transaction; ~~and~~

~~providing a periodic output of the account information for the demand deposit account and the overdraft account;~~

wherein the demand deposit account and the overdraft account are held at unrelated financial intuitions.

4. (currently amended) A system comprising:

~~an enrolling system that verifies an enrollee, associates an enrollee's main and overdraft accounts, and issues a debit card;~~

an authentication system that is configured to receive ~~receives~~ information regarding a requested transaction of a debit card and that receives information regarding ~~the~~ a main account that has been associated with the debit card and an overdraft account that has been associated with the debit card and accepts or rejects the requested transaction based thereon; ~~and~~

~~a settlement system that generates a periodic report of at least one of the transactions, the main account, and the overdraft account.~~

7. (currently amended) A computer program product for performing a debit card ~~enrollment, authentication, and settlement~~, the computer program product comprising a computer usable medium having control logic stored therein, said control logic comprising:

~~first computer readable program code means for enrolling into a debit card program;~~

~~second computer readable program code means for associating an account to the debit card;~~

~~third computer readable program code means for associating an overdraft account to the debit card;~~

~~fourth computer readable program code means for authenticating a transaction requested by the debit card against at least one of the an account that has been associated with the debit card or the an overdraft account that has been associated with the debit card;~~

~~fifth second computer readable program code means for updating information regarding at least one of the account or the overdraft account based on the transaction; and~~

~~sixth computer readable program code means for providing a periodic output of the account information for the account and the overdraft account.~~

15. (new) A computer-readable medium containing instructions for controlling at least one processor to perform a method comprising:

(a) authenticating a transaction requested by a debit card against at least one of a demand deposit account that has been associated with the debit card and an overdraft account that has been associated with the debit card; and

(b) updating information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

(Ex1006, at 82-85).

72. On July 27, 2009, in response to the amended claims, the Office issued a non-final rejection. The Office rejected the first claim, as well as other claims, as anticipated under pre-AIA 35 U.S.C. 102(e) by U.S. Publication No. 2007/0198404 to Hirka et al. (“**Hirka ’404**”) (See Ex1005, ’100 Prosecution History, at 99). The Examiner found that all elements of application Claim 1, as well as all elements of all other application claims, were disclosed by Hirka ’404.

73. In particular, as is relevant to principal claims of the ’100 Patent, the Examiner noted that Hirka ’404 teaches “**authenticating a transaction requested by a debit card** against at [least] [one] of the **demand deposit account** and **overdraft account** (See par. 006, 0012, 0017, 0019, 0020)” as well as “**updating**

information regarding the **demand deposit account** and the **overdraft account** (par. 0001, 0007, 00012, 0035, 0041, 0042)”. (Ex1005, at 99-100). The Examiner further noted that “Hirka [’404] also discloses the method of **linking debit card, demand deposit account** and an **overdraft credit line** regardless of the institution holding the accounts (par. 0019, 0022, 0041)”, using an “enrollment feature as described in figure 2 of Hirka [’404]” and that it was implemented using a “computer program product” and “different program code means” (Ex1005, at 100).

74. Additionally, as is relevant to issued Claims 19 and 20 of the ’301 Patent (**Petition 2**), the Examiner concluded that “Hirka [’404] [in par. 0041] discusses that *more than one cash account can be designated for conducting transactions*. Further, in paragraph 004 that account other than credit account can be designated for overdraft protection. **Thus, the use of another bank account as an overdraft protection account is considered as the inherent application of Hirka’s teachings.**” (Ex1005, at 100) (emphasis added).

75. In response, instead of arguing these points, Applicant thereafter amended the independent application claims as follows:

1. (*Currently Amended*) A method comprising:

[[a)] authenticating, through authorization including a fraud assessment, using a processing device, a transaction requested by a debit card against at least one of a demand deposit

account that has been associated with the debit card and an overdraft account that has been associated with the card; and

[[b]] updating, using the processing device, information regarding at least one of the demand deposit account and the overdraft account based on the transaction;

~~wherein the demand deposit account and the overdraft account are held at unrelated financial intuitions.~~

4. (*Currently Amended*) A system comprising:

an authentication system that is configured to:

receive information regarding a requested transaction of a debit card, ~~and that receives~~

receive information regarding a main account that has been associated with the debit card and an overdraft account that has been associated with the debit card, and

~~accepts or rejects~~ accept or reject the requested transaction based on authorization including fraud assessment ~~thereon~~.

7. (*Currently Amended*) A computer program product for performing a debit card authentication the computer program product comprising a tangible computer usable medium having control logic stored therein, said control logic comprising:

first computer readable program code means for authenticating, through authorizing including fraud assessment, a transaction requested by the debit card against an account that

has been associated with the debit card or an overdraft account that has been associated with the debit card; and

second computer readable program code means for updating information regarding at least one of the account or the overdraft account based on the transaction.

15. (*Currently Amended*) A tangible computer-readable medium having stored thereon computer executable containing instructions that, if executed by a computing device, cause the computing device for controlling at least one processor to perform a method comprising:

[[~~(a)~~]] authenticating, through authorizing including fraud assessment, a transaction requested by a debit card against at least one of a demand deposit account that has been associated with the debit card and an overdraft account that has been associated with the debit card; and

[[~~(b)~~]] updating information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

(Ex1005, at 121-123).

76. Applicant, in remarks submitted on August 24, 2009, accompanying the claim, did not argue that Hirka '404 failed to disclose “***more than one cash account can be designated for conducting transactions,***” or the other features I discussed in Pars. 73-74, as asserted by the Examiner. Instead, Applicant argued that, as amended, the claims should be allowed because “Hirka generally teaches of

authorization of a transaction, but lacks any explicit or implicit teaching to performing ‘authorization **including fraud assessment**’” (Ex1005, at 125). I understand this to be an admission that the prior art teaches authorizing a transaction. I also note that I do not rely on Hirka for fraud assessment in my analysis of either of the LPV Patents.

77. On December 16, 2009, the Examiner issued a final rejection, rejecting the claims as obvious under pre-AIA 35 U.S.C. 103(a) over Hirka ’404 in view of U.S. Patent No. 4,650,977 to Couch (“**Couch**”) (See Ex1005, at 141). According to the Examiner, Couch “discloses an authentication card in which the identity of the use, the card number are read and matched with the corresponding information stored in a reader; and thus is considered as the step of determining and preventing fraudulent use of the card.” (Ex1005, at 141). The Examiner continued to assert the relevance of Hirka ’404 and also explained that “reference to [Couch] is cited as evidence showing conventionality of the claimed limitation” of authorization including fraud assessment (Ex1005, at 141).

78. On January 25, 2010, in response to the final rejection, applicant further amended the claims in an after final action amendment. Application Claim 1 was changed to read as follows:

1. *(Currently Amended)* A method comprising:

authenticating, ~~through authorization including a fraud assessment, using~~ by a processing device, a transaction requested by a debit card against at least one of a demand deposit account ~~that has been associated with the debit card and~~ or an overdraft account ~~that has been associated with the card,~~ wherein the authentication includes fraud assessment, and wherein the fraud assessment includes communication with data sources via a network; and

updating, ~~using~~ by the processing device, information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

4. *(Currently Amended)* A system comprising:

an authentication system ~~that is~~ configured to:

receive information regarding a requested transaction of a debit card,

receive information regarding a main account that has been associated with the debit card and an overdraft account that has been associated with the debit card, and

accept or reject the requested transaction based on an authorization including a fraud assessment, wherein the fraud assessment includes communication with data sources via a network.

7. (*Currently Amended*) A computer program product for performing a debit card authentication the computer program product comprising a tangible computer usable medium having control logic stored therein, said control logic comprising:

first computer readable program code means for authenticating, through authorizing including fraud assessment, a transaction requested by the debit card against at least one of an account that has been associated with the debit card or an overdraft account that has been associated with the debit card, wherein the fraud assessment includes communication with information sources via a network; and

second computer readable program code means for updating information regarding at least one of the account or the overdraft account based on the transaction.

15. (*Currently Amended*) A tangible computer-readable medium having stored thereon computer executable instructions that, if executed by a computing device, cause the computing device to perform a method comprising:

authenticating, through authorizing including fraud assessment, a transaction requested by a debit card against at least one of a demand deposit account that has been associated with the debit card and an overdraft account that has been associated with the debit card, wherein the fraud assessment includes communication with information sources via a network; and

updating information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

(Ex1005, at 152-154).

79. In accompanying remarks, Applicant admitted that “Hirka [’404] generally teaches a computer implemented method for facilitating electronic transactions,” but distinguished the claims as amended from the Hirka ’404 and Couch combination by arguing that Couch teaches “off-line” fraud assessment, but the claims, as amended, required a “fraud assessment” which “includes communication with information sources via a network” (Ex1005, at 155-56) (emphasis in original remarks). I understand that this constitutes a prior admission of Applicant that computer implemented methods for facilitating electronic transactions were known in the prior art at the time of the invention in July 5, 2005, of the ’100 Patent, and thus they were also known at the time of invention of the ’301 Patent.

80. In an advisory action dated February 19, 2010, the Examiner stated that Applicant “did not place the claims in condition for allowance in that it would be possible to find a reference that shows online-fraud assessment.” (Ex1005, at 162). On March 3, 2010, Applicant filed a request for reconsideration, effectively resubmitting the amendment for full consideration by the Examiner.

81. On July 23, 2010, the Office issued a notice of allowance, with the Examiner noting that “the amendments and arguments filed on 3/3/2010 are considered persuasive.” (Ex1005, at 176). Application Claims 1, 4, 7 and 15 were renumbered as final Claims 1, 6, 12 and 15, respectively.

82. In sum, while the '100 Patent ultimately issued over the Hirka '404 prior art, the issuance was based on the distinction that neither Hirka '404 nor Couch taught fraud detection via a network. Significantly, with respect to this point, the combination of Gopinathan (Ex1010) with aspects of Hirka was not considered during prosecution. As I will discuss below with respect to both the '100 Patent (**Petition 1**) and the '301 Patent (**Petition 2**), this limitation is disclosed by the prior art. Furthermore, the Prosecution history does not reveal anything which would undermine my analysis and use of Hirka as prior art to the '301 Patent. Instead, the Examiner's analysis confirms that Hirka '404 teaches “more than one cash account can be designated for conducting transactions” and related aspects of transactions involving overdraft accounts, which is relevant to my analysis of the '100 Patent and of Claims 18-20 of the '301 Patent. Finally, the prosecution history of the '100 Patent reveals that Applicant admitted that computer implemented methods for facilitating electronic transactions were known in the prior art at the time of invention of the LPV Patents.

2. Prosecution History of the '301 Patent

83. U.S. Application No. 12/907,955 ("the '955 Application," Ex1006), the application that matured into the '301 Patent, was originally filed on November 19, 2010, with twenty (20) claims, of which Claims 1, 11 and 12 were in independent form. (Ex1006, "Prosecution History of the '955 Patent Application," at 33-35). The '955 Application claimed priority, through U.S. Serial No. 11/478,100, issued as U.S. Patent No. 7,837,100, to a provisional application having U.S. Provisional Appl. Ser. No. 60/695,855 and filed on July 5, 2005. I have described the prosecution history of the '100 Patent above (Pars. 69-82). For purposes of my analysis, I have assumed that the '301 Patent has an effective filing date of July 5, 2005, although if necessary I may revisit that assumption.

84. Along with the application, Applicant submitted an information disclosure statement, consisting of references cited in the prosecution history of the '100 Patent (Ex1006, at 1). This submission cited as a reference Hirka '404, which, as discussed above, is related to the WIPO Publication Hirka, which is cited in my discussion below as prior art. The Examiner later cited Hirka '404 (Ex1006, at 100). The Examiner did not, at any time during the prosecution of the '301 Patent, discuss, rely upon, or offer any analysis with respect to Hirka '404. Furthermore, at the time of the disclosure, no claims corresponding to issued dependent Claims 18-20, which I discuss as obvious over Foss in view of Hirka, were pending.

85. Claims 1, 11, and 12 of the '955 Application as originally filed are as follows:

1. A method comprising:

authenticating, by a computer-based authentication system, a transaction requested by a debit account based upon at least one of a demand deposit account or an overdraft account, wherein the authentication includes fraud assessment; and

updating, by the computer-based system, information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

11. An article of manufacture including a non-transitory, tangible computer readable medium having instructions stored thereon that, in response to execution by a computer-based authentication system, cause the computer-based system to perform operations comprising:

authenticating, by the computer-based system, a transaction requested by a debit account based upon at least one of a demand deposit account or an overdraft account, wherein the authentication includes fraud assessment; and

updating, by the computer-based system, information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

12. A system comprising:

a tangible, non-transitory memory communicating with an authentication processor,

the tangible, non-transitory memory having instructions stored thereon that, in response to execution by the processor, cause the processor to perform operations comprising:

authenticating, by the processor, a transaction requested by a debit account based upon at least one of a demand deposit account or an overdraft account, wherein the authentication includes fraud assessment; and

updating, by the processor, information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

(Ex1006, at 33-35).

86. The Office issued an initial non-statutory double patenting rejection over the '100 Patent, in response to which Applicant filed a terminal disclaimer. The Office accepted the terminal disclaimer and thereafter issued a non-final rejection on December 24, 2013.

87. In the December 24, 2013 non-final rejection, the Examiner rejected all claims as obvious under pre-AIA 35 U.S.C. 103(a) over Alexander IV U.S. Publication No. 2005/0246289 to Alexander IV ("**Alexander IV**") in view of U.S. Publication No. 2005/0091524 to Abe ("**Abe**"). (See Ex1006, at 121).

88. In response to this office action, Applicant, while putting forth a general disagreement with the rejection, advanced no specific arguments regarding the date

of invention or regarding the Examiner's obviousness finding as to the claims originally presented. (Ex1002, at 148-150). Instead, Applicant amended the claim set to overcome the rejection, cancelling application Claims 5-8 and 12-20, amending Claims 1-4 and 9-11, and adding in Claims 21-33. (Ex1002, at 144-147).

89. Thus, as presented below, independent Claims 1 and 11 were amended, independent Claim 12 was cancelled, and a new independent claim, Claim 29, was added:

1. (Currently Amended) A method comprising:

~~authenticating, by receiving, at a computer-based authentication authorization system, a transaction requested by request associated with a debit account, wherein the debit account is associated with a separate account; based upon at least one of a demand deposit account or an overdraft account, wherein the authentication includes fraud assessment; and~~

sending, using the computer-based authorization system, an account information request that includes account information of the separate account;

receiving at the computer-based authorization system, status information of the separate account in response to the account information request; and

~~updating, by authorizing, using the computer-based authorization system, information regarding at least one of the demand deposit account and the overdraft account~~ the transaction request based on the transaction status information.

11. (Currently Amended) An article of manufacture including a non-transitory, tangible computer readable medium having instructions stored thereon that, in response to execution by a computer-based ~~authentication~~ authorization system, cause the computer-based authorization system to perform operations comprising:

~~authenticating, by receiving, at the computer-based authentication authorization system, a transaction requested by request associated with a debit account, wherein the debit account is associated with a separate account; based upon at least one of a demand deposit account or an overdraft account, wherein the authentication includes fraud assessment; and~~
sending, using the computer-based authorization system, an account information request that includes account information of the separate account;
receiving at the computer-based authorization system, status information of the separate account in response to the account information request; and
~~updating, by authorizing, using the computer-based authorization system, information regarding at least one of the demand deposit account and the overdraft account the~~
transaction request based on the ~~transaction~~ status information.

12. (Canceled)

29. (New) A method comprising:

receiving, at a computer-based authorization system, a transaction request associated with a debit account, wherein the debit account is associated with a separate account;

authorizing, using the computer-based authorization system, the transaction request based on status information associated with the separate account; and

after authorizing the transaction request, sending, using the computer-based authorization system, a fund transfer request to a financial institution associated with the separate account, wherein the fund transfer request corresponds to the transaction request.

(Ex1006, at 144-147).

90. Based on these amendments, Applicant argued that, while Alexander teaches the sending and receiving of funds from a separate account, neither Alexander nor Abe purportedly taught or suggested sending “*an account information request*” or receiving “*status information of the separate account in response to the account information request*”. (See Ex1006, at 0149) (emphasis in original). Applicant offered no further explanation of what the allegedly missing claim terms meant. With respect to Abe, Applicant admitted that “Abe is merely cited as teaching ‘fraud detection for ACH transactions’” (*Id.* at 0149, citing Office Action at 3), and

did not dispute such teaching. Without this alleged teaching, Applicant argued the claim was not rendered obvious by Alexander or in combination with Abe.

91. On August 7, 2014, the Examiner issued a notice of allowance where it stated, “The amendments and arguments filed on 5/27/2014 are considered persuasive.” It then repeated Claim 1 and noted “Claims 11 and 29 are other independent claims reciting similar limitations to claims 1.” (Ex1006, at 0163).

92. Following the Notice of Allowance, the claims were renumbered, with independent application Claims 1, 11, and 29 becoming independent issued Claims 1, 7 and 16. The '301 Patent issued on November 19, 2014, following payment of the issue fee.

93. In summary, the claims of the '301 Patent were allowed based on the allegedly novel “account information request” with a corresponding response containing “status information.” However, sending a request for, and receiving, status information would have been well known in the prior art at the time of the invention in July 5, 2005, as evidenced by Foss, which I discuss below in my summary of prior art. Foss was not cited or otherwise considered during the prosecution of the '301 Patent or its parent, the '100 Patent. Additionally, while Hirka was cited in the '301 Patent, it was not applied.

IV. **Claim Construction of the '301 and '100 Patents**

94. In my opinion, none of the claim terms of the LPV Patents need to be construed, and, unless otherwise indicated, I give the terms their plain and ordinary meaning.

V. **The Applicable Prior Art**

95. In **Petition 1**, I am relying upon the following prior art:

- a. **U.S. Patent No. 6,330,546 B1** to Gopinathan (“**Gopinathan**,” Ex1010), entitled “*Risk Determination and Management Using Predictive Modeling and Transaction Profiles for Individual Transacting Entities*,” filed on October 5, 1998 and issued as a patent on December 11, 2001 (prior art under 35 U.S.C. §102(b)); and
- b. **Int’l Pub. No. WO 02/21374 A1** to Hirka et al. (“**Hirka**,” Ex1009), entitled “*System and Method for Linked Account Having Sweep Feature*,” filed on August 31, 2001, and published on March 14, 2002 (prior art under pre-AIA 35 U.S.C. §102(b)), which corresponds to Hirka ’404 (Ex1007) and the admitted prior art.

96. In **Petition 2**, I am relying upon the following prior art:

- a. **U.S. Publication No. 2004/0225604** to Foss (“**Foss**,” Ex1008), entitled “*System for Providing a Checkless Checking Account*,” filed on August

22, 2003 and published on November 11, 2004 (prior art under pre-AIA 35 U.S.C. §§ 102(a) & 102(e)).

- b. **Int’l Pub. No. WO 02/21374 A1** to Hirka et al. (“**Hirka**,” Ex1009), entitled “*System and Method for Linked Account Having Sweep Feature*,” filed on August 31, 2001, and published on March 14, 2002 (prior art under pre-AIA 35 U.S.C. §102(b)), which corresponds to Hirka ’404 (Ex1007) and the admitted prior art; and
- c. **U.S. Patent No. 6,330,546 B1** to Gopinathan (“**Gopinathan**,” Ex1010), entitled “*Risk Determination and Management Using Predictive Modeling and Transaction Profiles for Individual Transacting Entities*,” was filed on October 5, 1998 and issued as a patent on December 11, 2001 (prior art under 35 U.S.C. §102(b)).

97. I discuss each of these prior art as follows:⁴

⁴ Given the similarity between the claims, where feasible, I consolidate similar claims of the same Patent throughout my analysis. For example, Claims 1 and 7 of the ’301 Patent differ principally in that Claim 7 has a preamble reciting a “computer-based authorization system” whereas Claim 1 merely recites “a method” (Ex1002, 12:63, 13:25-29). However, where there is a similarity between a given claim of the ’100 Patent (**Petition 1**) and the ’301 Patent (**Petition 2**) (e.g., both claiming that an account must be a bank account), I do not rely on the same analysis and give a separate analysis with respect to each petition.

A. The Disclosure of U.S. Patent No. 6,330,546 B1 to Gopinathan (“Gopinathan,” Ex1010)

98. U.S. Patent No. 6,330,546 B1 to Gopinathan (“Gopinathan,” Ex1010), entitled “*Risk Determination and Management Using Predictive Modeling and Transaction Profiles for Individual Transacting Entities*,” was filed on October 5, 1998 and issued as a patent on December 11, 2001. I am informed that since Gopinathan issued as a patent (and thus was published) more than a year before July 5, 2005, the earliest claimed priority date of the ’100 and ’301 Patents, Gopinathan is prior art to both under pre-AIA 35 U.S.C. §102(b).

99. Gopinathan was not considered during the prosecution of the ’100 and the ’301 Patents (Ex1001; Ex1002; Ex1005; Ex1006).

100. Gopinathan is directed towards an “automated system and method” and “relates generally to the detection of fraudulent use of **customer accounts** and **account numbers**, including **for example credit card transactions**. In particular, the invention relates to **an automated fraud detection** system and **method** that uses predictive modeling to perform pattern recognition and classification in order to isolate transactions having high probabilities of fraud.” (Ex1010, Abstract; 1:29-35). Gopinathan “**detects fraudulent transactions** using a predictive model such as a neural network to evaluate individual customer accounts and identify potentially fraudulent transactions” (Ex1010, 2:41-43).

101. While Gopinathan relates generally to “credit card” transactions, it explains that the term ‘credit card’ “will be used for illustrative purposes; however, the **techniques and principles** discussed herein **apply to other types of customer accounts, such as charge cards, bank automated teller machine cards and telephone calling cards.**” (Ex1010, 1:37-41). In my opinion, a POSITA at the time of the invention in July 5, 2005, would understand that Gopinathan’s teachings would apply not merely to “credit cards”, but to “debit cards” as well, which are a kind of “charge card” which uses similar networks to charge card accounts.

102. Gopinathan implements its method by using “**information** regarding cardholders, merchants and **transactions** to **screen transactions** and isolate those which are likely to be fraudulent” (Ex1010; 2:29-31).

103. Gopinathan further discloses using a **processing device**, “**System 100**”, which authenticates **transactions** by performing a **fraud assessment** (e.g., “**determining the likelihood of fraud** for each **transaction**” (Ex1010, 5:4-5)). The “overall functional architecture of **system 100**” is shown by Figure 8:

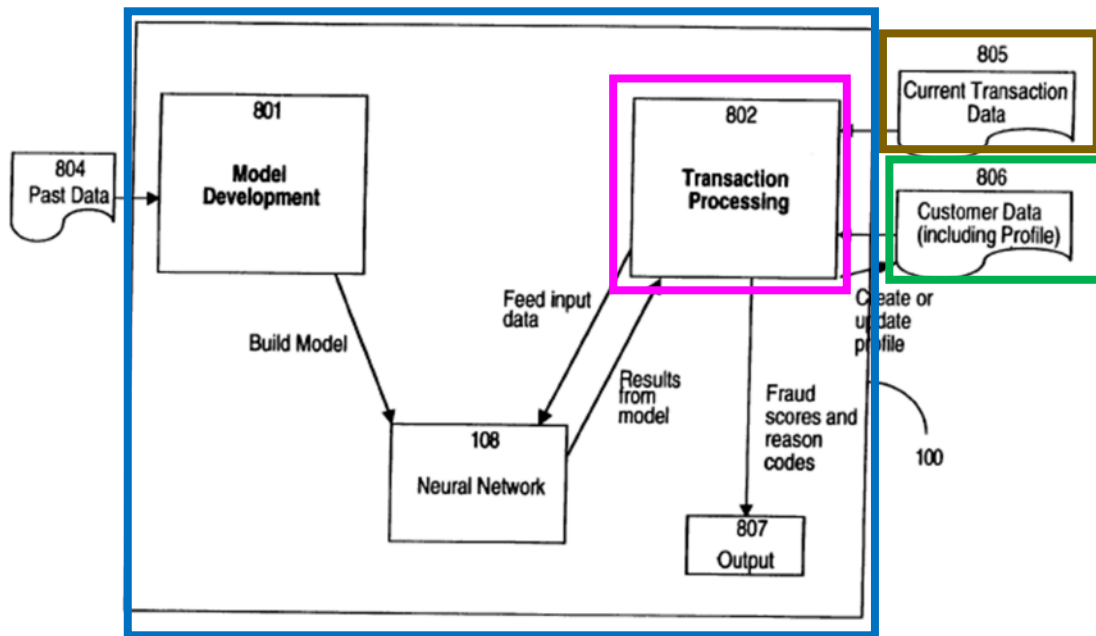


FIGURE 8

(Ex1010, Fig. 8).

104. **System 100** includes a “**transaction processing component 802**” that “performs three functions” which encompass the elements of Claim 1 of the ’100 Patent:

- “1) it **determines the likelihood of fraud for each transaction**” by **feeding data** from various sources **805, 806** into neural network 108, obtaining results, and **outputting them 807**;
- 2) when applicable, it creates a record in a profile database 806 summarizing past transactional patterns of the customer; and
- 3) when applicable, it **updates** the appropriate record in profile database 806.” (Ex1010, 5:4-10).

105. Transactional processing component 802 “runs within the context of a **conventional authorization or posting system for customer transactions.**” (Ex1010, 24:34-37).

106. Gopinathan discloses that “[t]he **current transaction data** from **database 805** typically includes information such as: **transaction dollar amount; date; time (and time zone if necessary);** approve/decline code; cash/merchandise code; **available credit (or balance);** credit line; merchant category code; merchant ZIP code; and PIN verification (if applicable).” (Ex1010, 24:44-52).

107. Gopinathan discloses that “**customer data** from **database 806** typically includes ... 1) general information on the customer; 2) data on all approved or declined transactions in the previous seven days; and 3) a profile record which contains data describing the customer’s transactional pattern over the last six months.” (Ex1010, 24:50-55).

108. Gopinathan also discloses a “typical implementation” corresponding to the hardware of **System 100**. (Ex1010, 3:49-51). **System 100**, as shown by Figure 1, includes a “CPU 101” which is directed by “software program instructions, stored in program storage 107” to “perform the various functions of the system” (Ex1010, 3:56-59):

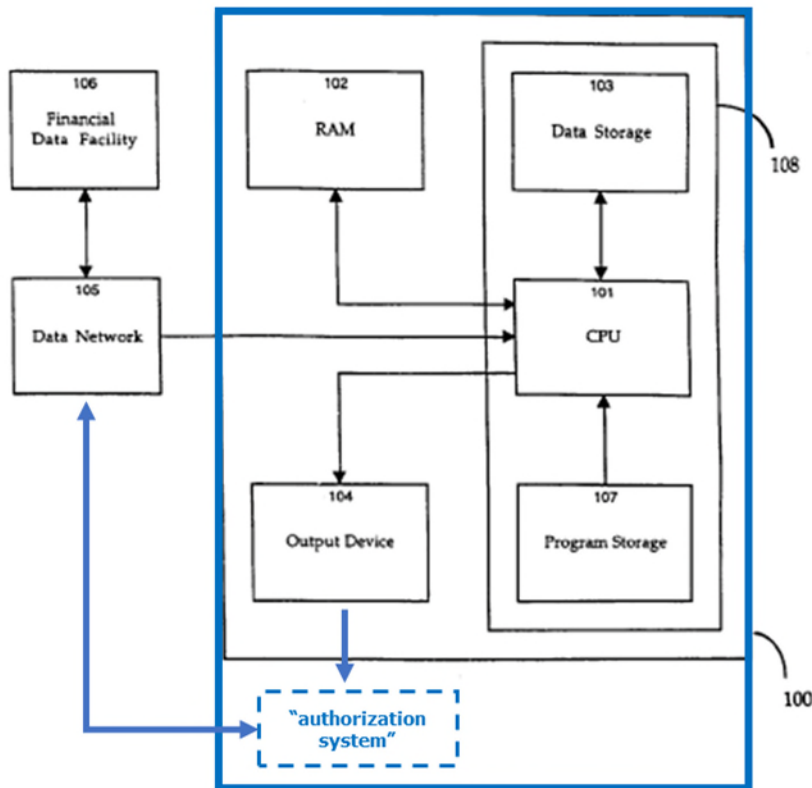


FIGURE 1

(Ex1010, Fig. 1). In embodiments, the “CPU 101 is a Model 3090 IBM mainframe computer” which uses “conventional RAM, ROM and disk storage devices for the Model 3090 CPU” (Ex1010, 4:3-7) and may send, through “output device 104” a “signal dependent on the results to an **authorization system (not shown)** for further processing”. (Ex1010, 4:11-13). The **authorization system (not shown)** has been added to FIG. 1 above to show how it is described in Gopinathan.

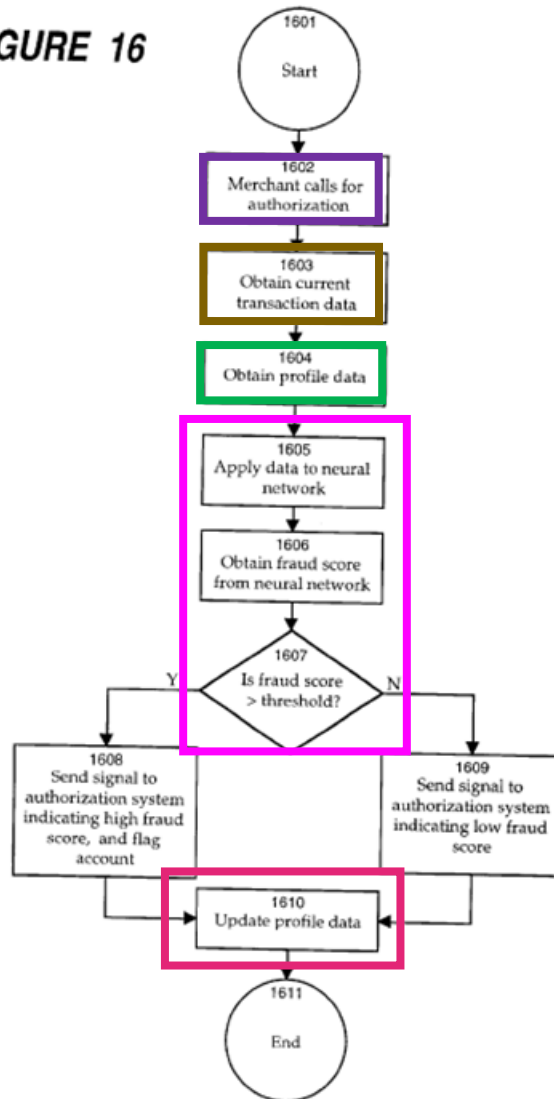
109. Gopinathan further discloses that “[t]ransaction information is **applied to system 100 via data network 105**, which is connected to a conventional financial data facility 106 collecting transaction information from conventional **sources** such

as human-operated credit-card authorization terminals and automated teller machines (not shown).” (Ex1010, 3:51-56).

110. **System 100** performs the method Gopinathan teaches that the method depicted in Figure 16, which corresponds to the elements of Claim 1. The transactional processing component 802 “reads **current transaction data** and **customer data** from **databases 805, 806**, and generates as output fraud scores representing the likelihood of fraud for each transaction. Furthermore, **transaction processing component 802 can compare the likelihood of fraud with a predetermined threshold value, and flag transactions for which the threshold is exceeded.**” (Ex1010, 24:37-43).

111. Figure 16 depicts the steps used to make a “**fraud likelihood determination** before a transaction is authorized.” (Ex1010, 25:28-29):

FIGURE 16



(Ex1010, Fig. 16). These steps include:

- **Step 1602** – The system receives “a merchant’s request for authorization on a **transaction 1602**”
- **Step 1603** – “the system **obtains data for the current transaction 1603**,”
- **Step 1604** – the system obtains “**profile data** summarizing transactional patterns for the **customer 1604**.”

- **Step 1605** – The system “then **applies this data to the stored neural network model 1605**”
- **Step 1606** – “**A fraud score (representing the likelihood of fraud for the transaction) is obtained**”
- **Step 1607** - The fraud score is “**compared to a threshold value 1607.**” (Ex1010, 25:45-52).

112. This fraud score may then be used by the **authorization system** to accept or reject transactions. Gopinathan (Ex1010) discloses that “Steps 1601 through 1607 occur before a transaction is authorized, so that the fraud score can be sent to an **authorization system 1608** and the **transaction blocked** by the authorization system if the threshold has been exceeded. If the threshold is not exceeded, the low fraud score is sent to the **authorization system 1609.**” (Ex1010, 25:45-58).

113. Afterwards, the “system then **updates** customer profile database 806 with the new transaction data”. (Ex1010, 25:58-60).

B. The Disclosure of Int’l Pub. No. WO 02/21374 A1 to Hirka et al. (“Hirka,” Ex1009)

114. **Int’l Pub. No. WO 02/21374 A1** to Hirka et al. (“**Hirka**,” Ex1009), entitled “*System and Method for Linked Account Having Sweep Feature*,” was filed on August 31, 2001, and published on March 14, 2002. I am informed that since Hirka was published more than a year before July 5, 2005, the earliest claimed

priority date of the '301 Patent, Hirka is prior art to the '301 Patent under pre-AIA 35 U.S.C. §102(b).

115. I note that Hirka (Ex1009) corresponds to the Hirka '404 (Ex1007), which was cited and discussed during the prosecution of the '100 Patent (*See* Pars. 69-82) and cited but not discussed during the prosecution of the '301 Patent. I am relying upon Hirka instead of Hirka '404 since it is published more than a year before the filing dates of the LPV Patents.

116. With respect to the prosecution history of the '100 Patent, Hirka '404 (Ex1007), a later application with substantially the same disclosure as Hirka (Ex1009), was considered by the Examiner (Ex1005). As I discussed previously, while the '100 Patent ultimately issued over the Hirka '404 prior art, the issuance was based on the distinction that neither Hirka '404 nor Couch taught **fraud detection via a network**, which is not pertinent to the proposed use of Hirka in either **Petition 1** or **Petition 2** (Ex1005; *see also* Pars. 78-82). Instead, the Examiner's analysis confirms that Hirka teaches the other features of the invention unrelated to fraud detection, such as authenticating transactions including both demand deposit and overdraft accounts, linking a debit card to demand deposit and overdraft accounts, using enrollment systems, and using computer code. (Ex1005, at 100; *see also* Pars. 73-74). Additionally, the Examiner confirmed multiple secondary accounts may be used in transactions: Hirka '404 teaches "**more than one cash**

account can be designated for conducting transactions”. In sum, the Examiner explained that Hirka ’404 teaches aspects of transactions involving **overdraft accounts**, which is relevant to my analysis of many of the claims of the ’100 Patent (**Petition 1**) as well as Claims 18-20 of the ’301 Patent (**Petition 2**). (Ex1005 at 100; *see also* Pars. 73-74). As a result, in my opinion, the Office has not previously rejected the idea that Hirka and Hirka ’404 teaches the aspects of the ’301 Patent or the aspects of the ’100 Patent unrelated to fraud assessment.

117. Additionally, Applicant failed to disagree with these interpretations in initial remarks and in fact expressly admitted that “Hirka [’404] generally teaches of authorization of a transaction.” (Ex1005, at 125). In later remarks, Applicant admitted that Hirka ’404 “generally teaches a computer implemented method for facilitating electronic transactions.” (Ex1005, at 155).

118. Also, as I noted earlier, while Hirka ’404 was cited in the prosecution history of the ’301 Patent, it was not used by the Examiner in the ’301 Prosecution for any proposition relating to the issued claims of the ’301 Patent. (Ex1006; *see also* Pars. 83-93).

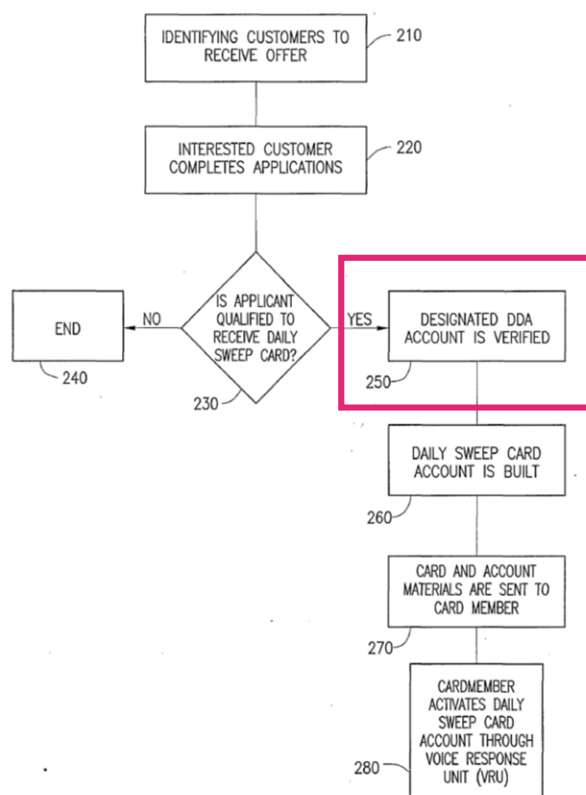
119. Hirka, like Foss (as I discuss below in Par. 133), relates to a “linked account card” which is “linked to a **cash account**, such as a **demand deposit account (DDA)**” and a “linked **credit account**”, and may be used in **transactions** (Ex1009, 2:29-30, 3:15-20). The linked account card essentially functions as a **debit**

card, “enabling individuals to purchase goods from a merchant using a **cash account** backed by a **credit account**, but with overdrafts being reconciled automatically on a daily or other basis.” (Ex1009, 2:25-29).

120. The **credit account** is one which “a potential cardholder” may “provide” and is “a designated **credit or other account to handle overdrafts**. This may be an existing credit card or other account.” (Ex1009, 7:10-12). The “**credit account**” may comprise “**a plurality of credit accounts**.” (Ex1009, Claim 5).

121. Hirka teaches that the accounts are associated during process titled “Setting up the Account”, which corresponds to the enrollment process required by several of the dependent claims of the ’100 Patent, as depicted in Figure 2:

FIG. 2



(Ex1009, Fig 2).

122. Potential cardholders are first “required to complete an application in step 220 requesting information pertaining to their financial history.” (Ex1009, 6:26-28). This information is used to verify the enrollee:

“In step 230, the potential cardholder's application may then processed by the institution that issues the linked account card. This results in a determination of the applicant's eligibility to receive a linked account card. Credit decisioning may be handled through known services, such as the Magnum™ engine or the like. If a negative decision is made, in step 240 the applicant may be denied a linked

account card. If the applicant is approved, at least two additional pieces of information may be required.” (Ex1009, 6:29-7:3).

123. Following the initial examination of a potential cardholder’s application, in **step 250**, in one embodiment, both the demand deposit account and the overdraft account may be associated with the card:

“as illustrated in **step 250**, a potential cardholder may be asked to designate a **demand deposit account (DDA)** or other backing account that will provide the cash funds for purchases made with the linked account card. A second item that a potential cardholder may be required to provide in **step 250** is a **designated credit or other account to handle overdrafts ...** Once these accounts have been identified, they may be **verified before the linked account card account** is established in step 260.” (Ex1009, 7:4-15).

124. After the potential cardholder and their accounts are verified, a linked account card, is issued:

Finally, in **step 270 the linked account card itself may be mailed to the new cardholder** along with the materials explaining the nature of the account.” (Ex1009, 7:16-17).

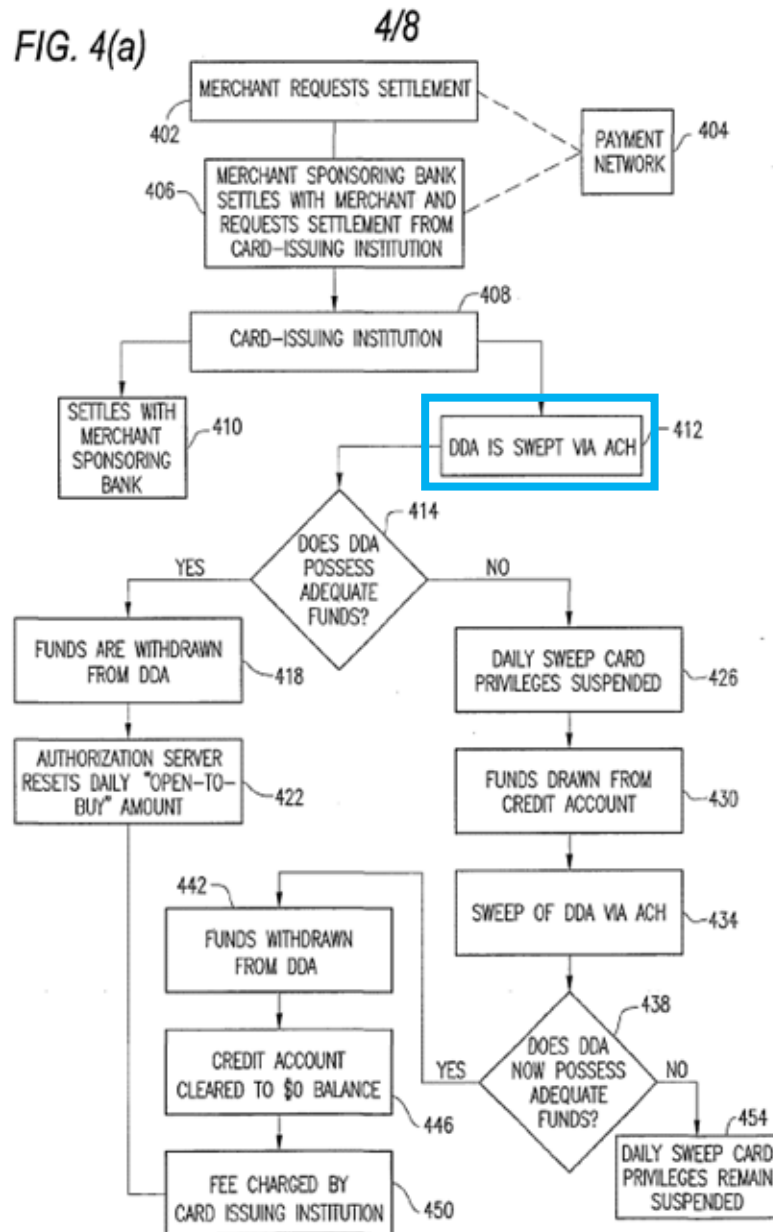
125. The linked account card may then be used in transactions.

126. Hirka also discloses a **settlement process** which sweeps the cardholder’s accounts to determine where “whether **adequate funds exist to cover all of the day’s charges accumulated** through use of the linked account card,”

based off of **individual automated clearing house debits**” associated with “**each transaction initiated** with the **linked account card**,” (Ex1009, 9:3-14, Fig. 2).

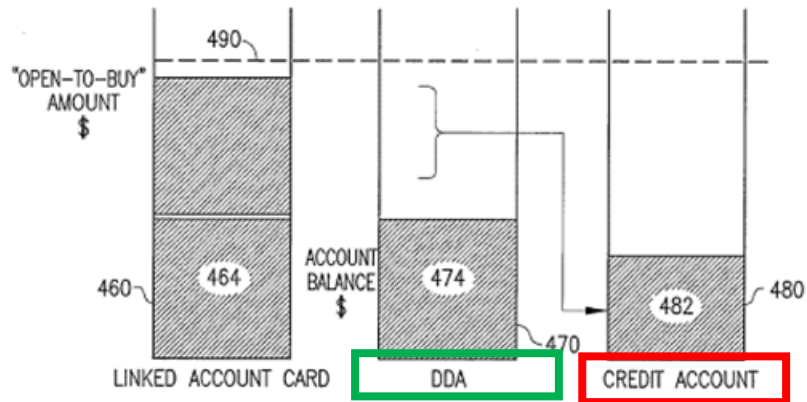
127. In particular, Hirka discloses that, at:

“a predetermined time, such as at, near or just after the end of each day, the cardholder’s designated cash account may **be swept via an automated clearing house** to determine whether **adequate funds** exist **to cover all of the day’s charges accumulated** through use of the linked account card. This is illustrated in step 412 [of Figure 4a, shown marked up below]. At step 414, an inquiry may be made to determine whether the designated cash account has sufficient funds to cover **all of the individual debits** that were generated by the authorization server 130 in response to the **charges accumulated** using the **linked account card**.” (Ex1009, 9:8-14).



(Ex1009, Fig. 4a).

128. Figure 4(c), marked-up below, depicts how the settlement process allocates funds between the overdraft account and the debit account:

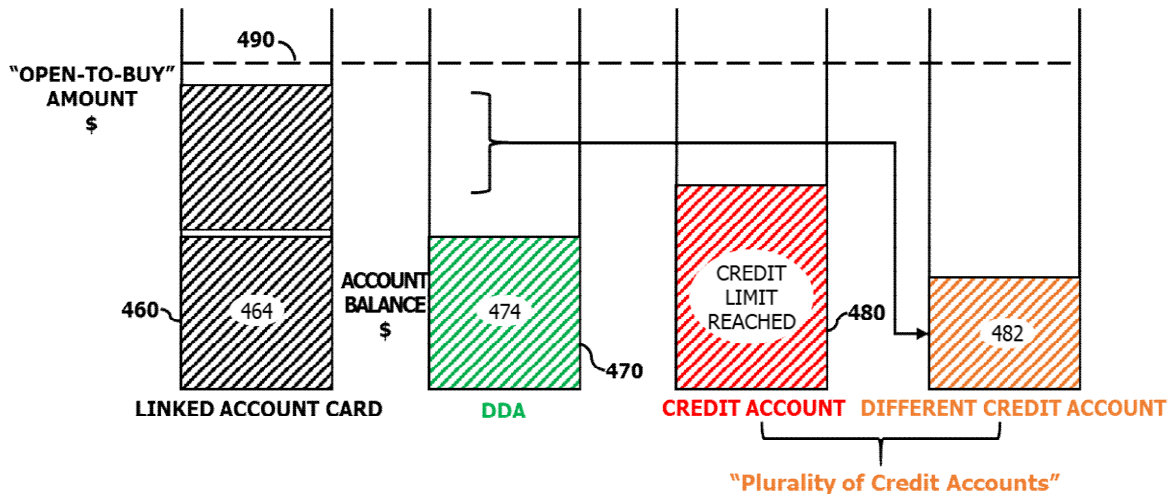


(Ex1009, Fig. 4(c)). Hirka discloses that when the “balance 474 of **the cash account** is inadequate to cover the aggregate of the day’s purchases... the funds 482 that cannot be drawn from the **designated cash account** (the overdraft amount) may be drawn from the **credit account 480**.”:

“FIG. 4c illustrates an example in which a cardholder has maxed out the “open to buy” amount 490 of the **linked account card 460**, by purchasing goods and services in a graphically **illustrated dollar amount 464** that exceeds the “open to buy” amount 490. In this example, when the predetermined time arrives for **the sweep of the designated cash account 470**, it is discovered that the balance 474 of **the cash account** is inadequate to cover the aggregate of the day’s purchases. At this point, the funds **482** that cannot be drawn from the **designated cash account (the overdraft amount)** may be drawn from the **credit account 480**.” (Ex1009, 11:30-12:5).

129. Furthermore, as is pertinent to Claims 19 and 20 of the '301 Patent, Hirka also discloses an embodiment wherein the “**credit account**” includes “a **plurality of credit accounts**.” (Ex1009, 15:20-21). In my

opinion, a POSITA at the time of the July 5, 2005 invention would understand that the **settlement processes** would result in funds being drawn against an **additional credit account**, as depicted in the below modification of Figure 4(c) created for **Petition 2**:



130. In my opinion, A POSITA would have understood, as depicted in the above image, that if, for some reason, **one of the credit accounts** of the **plurality of credit accounts** could not be charged for excess funds 482 (such as in the circumstance that the credit limit had been reached), a **different account** of the plurality of credit accounts would be charged. While Figure 4(c) does not explicitly show that a **different account** may be used, in line with Hirka's admonition that the "specification should be considered exemplary only" (Ex1009, 14:19-23), a POSITA at the time of the July 5, 2005 invention would understand that Hirka

discloses that all or a portion of the funds can instead be charged to a **different credit account** (See Ex1009, 15:20-21).

C. The Disclosure of Foss (Ex1008)

131. **U.S. Publication No. 2004/0225604** to Foss (“**Foss**,” Ex1008), entitled “*System for Providing a Checkless Checking Account*,” was filed on August 22, 2003 and published on November 11, 2004. I am informed that since Foss was published before July 5, 2005, the earliest claimed priority date of the ’301 Patent, Foss is prior art to the ’301 Patent under pre-AIA 35 U.S.C. §§ 102(a) & 102(e). I understand from my review of the prosecution history of the ’301 Patent (Ex1006, *see* Pars. 83-93) and the patents listed on the cover of the ’301 Patent (Ex1002), that the USPTO did not consider any version of Foss during the prosecution of the ’301 Patent.

132. As I discuss with respect to Figure 4 below, each of the steps of Independent Claim 1 of the ’301 Patent’s status-based method of authorization are disclosed in Foss.

133. Foss is directed towards “a system and method for providing a **checkless checking account** that provides transactional functionality of a branded card wherein the account is funded from the account owner’s personal funds” and wherein the “**checkless checking account** may be combined with a **credit component**.” (Ex1008, Abstract).

134. The term “**checkless checking account**” is used interchangeably with other terms corresponding to a **debit account**, including: “**basic card account**” (Ex1008, [0037]), “**Primary Account**” (Ex1008, [0038]), “**funding account**” (Ex1008, [0046]), “**stored value component**” (Ex1008, [0046]), “**deposit... account**” (Ex1008, [0066]), and “**Direct Deposit Account (DDA)**” (Ex1008, [0052]). The term “**credit component**” as used by Foss is used interchangeably with other terms corresponding to an **overdraft account**, including “**savings account**” (Ex1008, [0004]), “**credit account**” (Ex1008, [0004]), “**overdraft option**” (Ex1008, [0065]), “**overdraft component**” (Ex1008, [0035]), and “**overdraft account**” (Ex1008, [0066]). Foss thus discloses a debit card with an overdraft facility.

135. Foss explains that “[t]he typical **stored value system** operates to create accounts for the issuance of a card, and provide the settlement and authorization functionalities. The present invention provides **a customization or modification** to such **stored value systems**. The modification operates to allow for a linkage to be created between a **credit/overpayment** component and the **stored value** component.” (Ex1008, [0017]).

136. Fig. 2 illustrates Foss’ modification to existing **stored value systems** (a **computer-based authorization system**):

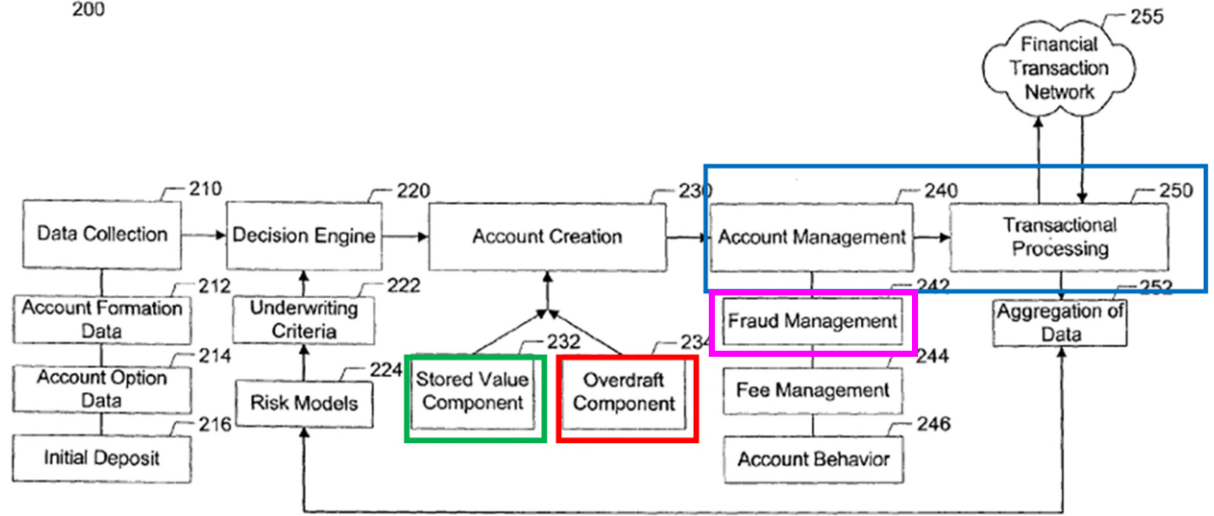


Fig. 2

(Ex1008, Fig. 2).

137. As Foss discloses, the “main functions or components” of the system include “**the account management component 240 and the transactional processing component 250.**” (Ex1008, [0033]). Account management component 240, as is relevant to Claim 3 of the ’301 Patent (**Petition 2**), includes the “**fraud management model 242**” component which performs fraud detection (Ex1008, [0055]). Furthermore, the “**functions or components of the present system could be combined or split in many manners.**” (Ex1008, [0033]).

138. As depicted in Figure 2, this system is also in communication with a “financial transaction network 255”. In embodiments, Foss teaches that the disclosed system, is "implemented in cooperation or in partnership with a bank or financial institution" (i.e., a different entity) and communicates "in real time" with such partnering banks or financial institutions (Ex1008, [0018]):

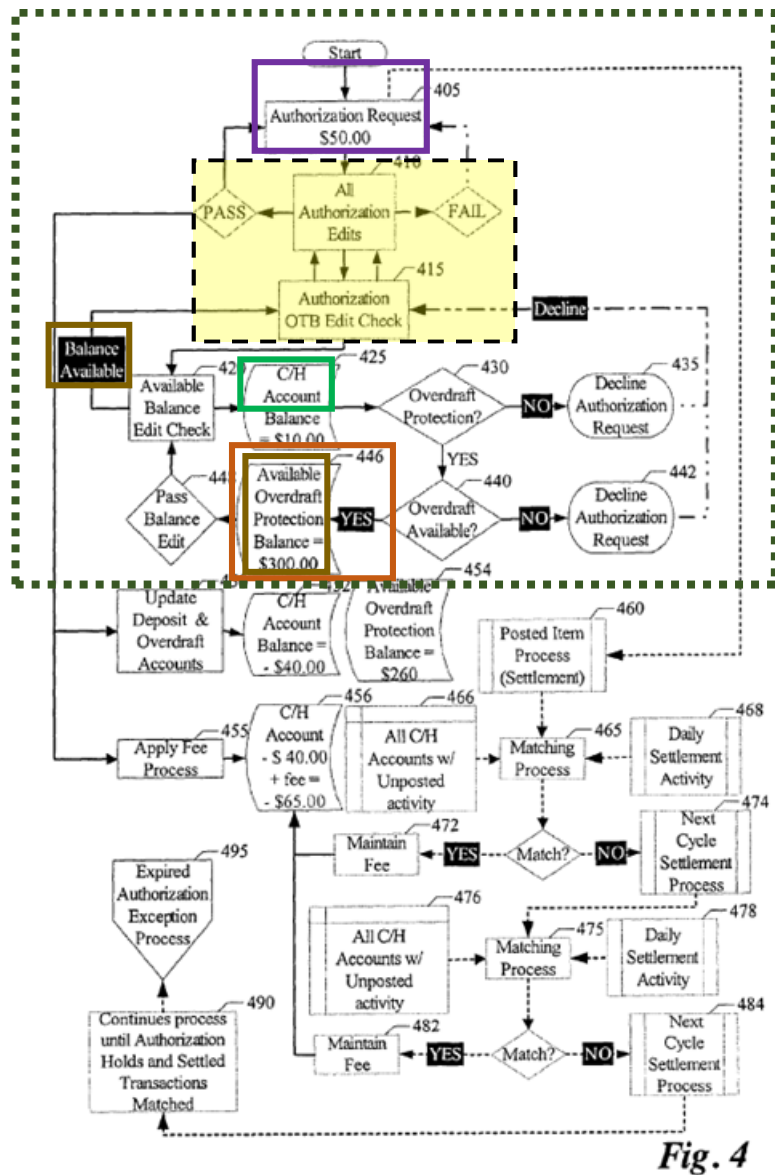
“The present invention is most likely implemented in cooperation or in partnership with a bank or financial institution. The bank provides a funding account that typically holds 100% of the funds. The funding account operates in conjunction with the **Stored Value System** to provide notice and receive status **in real time**. Once a customer is accepted as a customer, the funds are deposited into the funding account. The Stored Value System maintains a master file of all accounts that have been issued, the current balance for each account, what has been posted, what is being held for authorization, etc.” (Ex1008, [0018]).

139. As part of Foss’ computer-based authorization system, Foss incorporates existing **Stored Value Systems** which “operate[] to create accounts for the issuance of a card and provide the settlement and authorization functionalities” (Ex1008, [0017] and were commonly operated by third party vendors (“credit card processing companies”) such as eFunds and First Data Corp, referenced in the ’301 Patent (Ex1002, 8:4-14) that were well known in the industry. (Ex1008, [0016], [0018]).

140. As illustrated in Figure 2, Foss proposes a modification to the existing **Stored Value Systems** where the third-party vendors also access **overdraft account** information by establishing a link between the **debit account** and the **overdraft account**:

“The present invention provides a customization or modification to such stored value systems. The modification operates to allow for a linkage to be created between a **credit/overpayment component** and the **Stored value component**.” (Ex1008, [0017], *see also* Fig. 4).

141. Foss also discloses a method of authorization, which a POSITA at the time of the July 5, 2005 invention would understand to be implemented by the computer system shown in Figure 2. As depicted in Figure 4, this method covers the basic steps of the claimed invention:



(Ex1008, Fig. 4).

142. For example, with respect to Claims 1 and 7 of the '301 Patent (**Petition 2**), Foss discloses in FIG. 4:

- Elements [1A/7A]: Foss discloses that a customer may have a “**basic card account**” with an “**overdraft option**” associated with the basic card account. (Ex1005, [0065]). As depicted in Figure 4, given that the

customer has an account, “the first step of transaction 400 is **receiving an authorization request 405**” at a computer-based system (Ex1005, [0065]). In practice, the “**authorization request 405** may be made through a variety of different sources including but not limited to, ATM, automated telephone services, in-person customer service representative, phone customer service representatives or a website.” (Ex1005, [0065]).

- Element [1B/7B]: Foss’ authorization process sends an **information request** with **account information** of the **separate account**. First, “[i]f the account has overdraft protection 430, the process checks if overdraft funds are available at step 440.” (Ex1005, [0066]). If funds are available, “**the available overdraft protection balance is checked at step 446**” (Ex1005, [0066]).
- Element [1C/7C]: As part of step 446 of Foss, **status information** (information regarding the balance) is returned to the computer-based authorization system. Foss discloses that “if overdraft funds are available at step 440, the available **overdraft protection balance** is checked at step 446” and “a pass balance edit 448 is returned to the available balance edit check at step 420.” (Ex1008, [0066]).

Additionally, “a **balance available** is returned to the authorization OTB edit check 415.” (Ex1008, [0066]).

- Element [1D/7D]: Foss **authorizes** the transaction based on the balance available. Following the return of the balance available, the “**authorization OTB edit check 415 step then returns** either a fail (from step 435 or step 442) or **a pass (from step 420) back to the all authorization edits 410 step....** [I]f the all authorization edits 410 step **passes,** the process proceeds to update the **deposit** and **overdraft accounts,** step 450.” (Ex1008, [0066] and [0067]).

143. Foss also discloses a settlement process (See element [16C]) which occurs following the initial authorization. Referencing steps in Figure 4, Foss discloses that “a posted item process (settlement), step 460, **posts the item for settlement and continues to the matching process** at step 465. The matching process at step 465 attempts to match all accounts with un-posted activity 466 with the daily settlement activity 468.” (Ex1008, [0068]).

144. Additionally, as is relevant to Claim 3 of the '301 Patent, Foss discloses that the computer-based authorizing system is capable of fraud detection.

145. Foss includes as part of its **computer-based authorization system** in Fig. 2, an “account management component 240” which includes the “**fraud management model 242**” component (Ex1008, [0055]). This component

“determines if any fraudulent activities are associated with the account” and notifies the account management component if “fraudulent activities are detected.” (Ex1008, [0055]):

“In one embodiment, the **account management component 240** can include the functions of **fraud management model 242**, fee management model 244 and account behavior model 246. The **fraud management model 242** can utilize the operation of the account behavior model 246 to determine if any fraudulent activities are associated with the account. If any fraudulent activities are detected, the account management component 240 can be notified by the fraud management model 242 to suspend the account.” (Ex1008, [0055]).

146. Corresponding to claim element [’301-3A] of the ’301 Patent, the account management component detects fraud by using “**real-time data**” in the process of “**soliciting or calculating a fraud possibility** based on such **data**” (Ex1008, [0019]). The component:

“performs the day-to-day transactional activity for the present invention. Among other things, these day-to-day activities include the **provision of fraud management**. **Fraud management** is provided through prevention, **detection** and control. Prevention includes creating certain criteria aimed at preventing fraud from occurring. One example of a form of fraud is card stealing. **Detection involves taking real-time data and soliciting or calculating a fraud possibility based on such data**. Control involves recover of losses after the fact, for example charge-backs.” (Ex1008, [0019]).

147. Foss also discloses the use of aggregation data, containing information of all accounts, to “identify trends in behaviors”:

“The account management component also operates to control or alter the behavior or characteristics of an account based at least in part on the outputs of various risk models. In operation, the account manager receives a dump of **all accounts and account activity** at some period of time, such as during the night. This data is referred to as **aggregation data**. The data obtained in the dump is examined to **identify trends in behaviors**. The trends may result in certain actions taking place, for instance, a missed payment may trigger a dialer to be scheduled for the customer or may result in a lock down of further authorizations. Other actions based on the aggregation data can also be performed and the present invention anticipates such actions. Thus, the dumped data is used as the basis for actions that can be taken to limit any, or any further loss.”

148. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that both the “**real-time data**”, used to “**calculate a fraud possibility**” in order to “detect fraud”, as well as the “account aggregation data” which includes information relating to all accounts, would include **status information** of the account, such as an **account balance**, in addition to other information, such as data associated with a transaction. This information is used in performing fraud assessments. Similar information is used by Gopinathan, as discussed above in Pars. 106-109.

149. Corresponding to claim element [**'301-3B**] of the '301 Patent, **data** used to **calculate the fraud possibility** is retrieved, through "**Financial Transaction Network 255**", from **transactional data sources**, such as a "website", and **account data sources**, such as a partnering "bank or financial institution" which holds the accounts (Ex1008, [0065], [0018], [0057])).

150. Foss discloses that **data concerning the transaction** (concerning the "authorization request 405") may come from:

"a variety of different sources including but not limited to, ATM, automated telephone services, in-person customer service representative, phone customer service representatives or a website." (Ex1008, [0065]).

151. Additionally, **data regarding the account** is communicated either as "a dump of **all accounts and account activity** at some period of time, such as during the night" (Ex1008, [0020]), or "in real time" (as is the case with account "status") from a "partnering bank or financial institution" (Ex1008, [0018]).

152. A POSITA would have understood that the "financial transaction network 255" disclosed by Foss and depicted in Figure 2, facilitates the communication of data from these sources to the account management component (Ex1008, [0057]).

153. As an aside, the '301 Patent specification does not disclose any specific methods or algorithms that may be used for fraud assessment for Claim 3 other than

general purposes computer implemented schemes. For example, the “neural-network [sic: read neural-network] decision model” disclosed by the ’301 Patent simply describes computer method for defining a series of relationships between entities that to mimic a biological network of neurons. However, the ’301 Patent provides no indication of how that would apply to fraud management other than stating “enrollment-Fraud Assessment” is used to determine “Identity Information Validation”. The specification then follows with the conclusory objective of seeing if “the applicant is who they say they are” by scoring information obtained from various resources. These resources include primarily the applicants current and previous financial account records including “Thomson MICR* ID, Unpaid NSF checks written to retailers, ... closed account references from Multiple sources” etc. (Ex1002, 8:64-9:14).

154. As a result, in my opinion, to the extent that the specification is understood to relate fraud assessment to transaction authorization, a POSITA at the time of the July 5, 2005 invention would understand that the specification only *broadly identifies* fraud identification techniques as well as commonly used methods to find current or previous accounts associated with the applicant. For example, many well-known financial bureaus such as Experian, Equifax, and TransUnion use these same techniques.

155. Foss discloses fraud assessment using these same general methods and information resources. For example, Foss' fraud management model uses the same type of information sources of the applicants current and previous account records including "direct deposit account (DDA) information and account number, Savings account information and account number, credit history, debt to credit ratio, assets" (Ex1008, [0034]).

156. Fraud-assessment scoring methods also implied by the '301 Patent spec include measurement of "Private/Shared velocity of all consumers as MICR funding activity" (Ex1002, 9:7-8) which identifies velocity spending behavior of consumers by dollar value and or quantity on sales channels such as the internet. Foss also limits fraudulent activity by employing "velocity controls to limit both dollar and quantity of sales" on sales channels such as "retail point of sale ("POS") channel ... "and internet channel" (Ex1008, [0040 - 41]).

157. Foss also discloses other aspects of the authorization system which I reference throughout, relating to the provision of overdraft accounts, collection of information, fraud detection, settlement and other aspects (*See, e.g.*, Ex1008, [0019] [0020], [0028], [0038], [0052], [0055], and [0068]).

VI. **Claims 1-17 of the '100 Patent (Petition 1) and Claims 1-20 of the '301 Patent (Petition 2) are Unpatentable**

158. As I discuss below, the '100 Patent and the '301 Patent are unpatentable in light of the disclosures provided by the prior art (*See, e.g.*, “Foss”, Ex1008, “Hirka”, Ex1009, and “Gopinathan”, Ex1010).

A. **Level of Ordinary Skill in The Art**

159. I have been advised that in evaluating obviousness of the claims of the LPV Patents, the level of ordinary skill in the art is to be considered as of the earliest claimed priority date of each patent. As noted above, the applications that resulted in the '100 Patent and the '301 Patent claim priority to U.S. Provisional Application 60/695,855 which was filed on July 5, 2005. Since it will not otherwise impact my analysis, I am assuming for the sake of argument that the claims are entitled to the priority date of the provisional application, since it will not otherwise impact my analysis. Thus, in my analysis, I have considered the level of skill of the POSITA, as of July 5, 2005, which is the earliest claimed priority date for the LPV Patents.

160. In my opinion, a POSITA at the time of the July 5, 2005 invention would have a bachelor's degree in computer science, computer engineering, data science, electrical engineering, or a related study, and would have at least one or two years of experience with payment processing systems, credit card and debit card

payment transactions, and industry practices and standards for processing purchase transactions and authenticating participants.

161. The basis for my familiarity with the level of ordinary skill is my experience with developing and implementing electronic payment and e-commerce systems, as well as interaction with large numbers of workers in the computing field who were of the level of ordinary skill in the art, as well as my own professional experience in the pertinent field. The pertinent field was the design and implementation of systems providing debit and credit cards to consumers, including implementing the technical systems required to authorize and authenticate transactions.

B. Claims 1, 12, and 15 of the '100 Patent Are Anticipated Under 35 U.S.C. §§102(a) & 102(e) by Gopinathan (Ex1010) (Ground 1, Petition 1) and Claims 2-11, 13-14, and 16-17, as well as 1, 12 and 15 in the alternative, of the '100 Patent Are Rendered Obvious Under 35 U.S.C. §103(a) over Gopinathan (Ex1010) in view of Hirka (Ex1009) (Ground 2, Petition 1)

162. As discussed below, as **Ground 1 of Petition 1**, it is my opinion that Gopinathan (Ex1010) discloses, expressly or inherently, each and every element of Claims 1, 12 and 15 of the '100 Patent. To the extent that the claims are interpreted as requiring an overdraft account in addition main account or demand deposit account or other features not expressly stated, for Claims 1, 12 and 15, as **Ground 2 of Petition 1**, such elements are obvious over Gopinathan (Ex1010) in view of

Hirka (Ex1009). Claims 3-11, 13-14, and 16-17 are likewise, as **Ground 2 of Petition 1**, obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009).

1. Gopinathan and Hirka are analogous art

163. As a preliminary matter, I note that Gopinathan and Hirka are analogous art and in the same field of endeavor (e.g., debit card and financial transaction instrument systems). Gopinathan provides a **fraud detection** component which detects “**credit card**”, “charge card” (which includes debit cards) and “**bank automated teller machine card**” fraud in the “context of a **conventional authorization or posting system**” (Ex1010, 1:29-41, 24:34-36). Hirka provides a “**linked account instrument**” (e.g., a “**plastic card similar to a credit card or ATM card**”) (Ex1009, 5:18-19) which is used “at a point of sale (P.O.S. terminal 110)”, wherein the transactions are authorized “from an **authorization server 130** through a processing network 120.” (Ex1009, 5:22-29). In short, Gopinathan and Hirka both modify, and relate to, conventional authorization systems for payment transaction instruments, like debit cards and credit cards.

164. Thus, in my opinion, as of July 5, 2005, a POSITA at the time of the July 5, 2005 invention would have appreciated that Gopinathan and Hirka were in the same field of endeavor, and therefore, those references are analogous art.

165. Given these similarities, in my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify Gopinathan to include

certain features of Hirka, e.g., those relating to overdraft protection. I discuss the specific motivations in greater detail below.

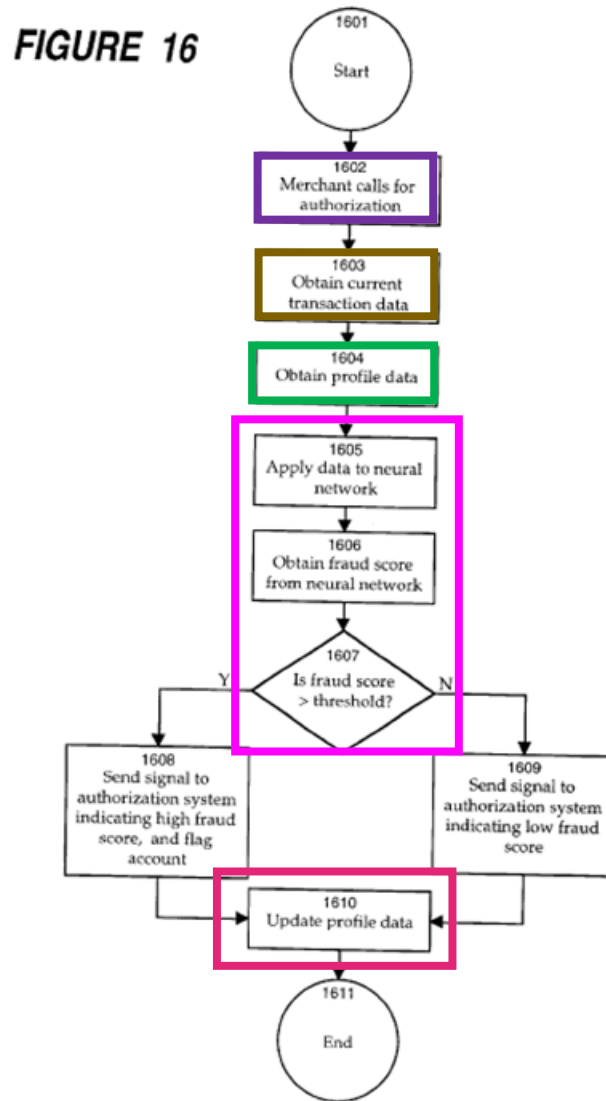
2. **Independent Claim 1 of the '100 Patent is Anticipated by Gopinathan (Ex1008) (Ground 1, Petition 1) and/or Rendered Obvious over Gopinathan in view of Hirka (Ex1009) (Ground 2, Petition 1).**

166. As I discuss herein, as **Ground 1** of **Petition 1**, in my opinion, a POSITA, as of July 5, 2005 would understand that each and every element of Claim 1 of the '100 Patent is expressly or inherently taught by the disclosure of Gopinathan (Ex1010). In any event, and in the alternative, as **Ground 2** of **Petition 1**, in my opinion, a POSITA, as of July 5, 2005 would understand that to the extent the Claim 1 is interested as requiring an overdraft account in addition to a demand deposit account or other features not expressly stated in Gopinathan, it would have been obvious to modify Gopinathan in view of Hirka (Ex1009) to include such features.

a. **['100-1PRE] 1. A method comprising:**

167. Gopinathan “relates generally to the detection of fraudulent use of **customer accounts** and **account numbers**, including **for example credit card transactions**. In particular, the invention relates to **an automated fraud detection** system and **method** that uses predictive modeling to perform pattern recognition and classification in order to isolate transactions having high probabilities of fraud.” (Ex1010, 1:29-35).

168. Figure 16 of Gopinathan is a “flowchart of a real-time system using the profile database.” (Ex1010, 25:44-45). As discussed herein, all of the elements of the claimed method, besides the use of an **overdraft account** (which is not required by the claim language), are depicted in Figure 16:



(Ex1010, Fig. 16). I discuss the individual steps in elements [’100-1A], [’100-1B], and [’100-1C].

169. Gopinathan explains that for its purposes, “the term ‘credit card’ will be used for illustrative purposes; however, the **techniques and principles** discussed herein **apply to other types of customer accounts, such as charge cards, bank automated teller machine cards and telephone calling cards.**” (Ex1010, 1:37-41). In my opinion, a POSITA at the time of the invention in July 5, 2005, would understand that Gopinathan’s teachings would apply not merely to “credit cards”, but to “debit cards” also which is a kind of “charge card” which uses the same networks and payment transaction types as charge card accounts.

170. This point is explained in the Background of the Invention of Hirka which confirms that “Millions of Americans use traditional bank-sponsored credit cards, private merchant sponsored cards, **debit cards**, stored value cards, combinations of those instruments and other accounts for retail, Internet and other purposes.” (Ex1009, p.1). Hirka further explains, consistent with my understanding of what a POSITA would have known and understood at the time of the invention in July 5, 2005, that:

“A **debit card** is a card that may be linked to a **consumer's cash account, such as a demand deposit account (DDA), typically a checking account.** When the consumer wishes to make a purchase from a merchant, **the debit card is swiped at the point of sale as a credit card** would be, except the funds used to pay the merchant are **deducted from the cardholders checking account** rather than paid from a third party credit network. The need to carry

a checkbook is eliminated, while concerns regarding credit cards are avoided.” (Ex1009, p.1).

171. During prosecution of the '100 Patent, the Examiner cited Hirka '404 (Ex1007) as teaching “**authenticating a transaction requested by a debit card** against at [least] [one] of the **demand deposit account** and **overdraft account** (See par. 006, 0012, 0017, 0019, 0020).” (Ex1005, at 99, citing Ex1007). In response, Applicant admitted that Hirka '404 taught “authorization of a transaction” and instead of disputing the Examiner’s read on the original claim, amended the claim to modify the claim to read on an authentication process including **fraud assessment**, which as I discuss herein is expressly taught by Gopinathan. (Ex1005, 124-126). As noted above, Hirka '404 (Ex1007) as cited during prosecution corresponds in substance to Hirka (Ex1009) relied upon herein. This is consistent with Gopinathan’s disclosure that one of the data sources could be an “automated teller machine” (Ex1010, 3:56), thus recognizing, at least in some embodiments, the charge card is tied to banking accounts like **checking accounts** and **savings accounts**.

172. In any event, as **Ground 2 of Petition 1**, to the extent that Gopinathan does not expressly state it is applicable to “debit cards” as a kind of “charge card”, it would have been obvious to a POSITA at the time of the invention in July 5, 2005, to use the “techniques and principles” of fraud detection processes taught by

Gopinathan with a “debit card” system as taught in Hirka (*See* Par. 170, above, citing Hirka at 3), since debit cards use the same standardized transaction requests as credit cards.

173. In my opinion, Hirka’s explanation of the wide variety of charge cards (or “transaction cards”) used by “Millions of Americans” as including not only “traditional bank-sponsored credit cards”, but also “debit cards” and “stored value cards” as well as a “combination of those instruments” (*See* Par. 170, discussing Ex1009, p.1), was not only well known to a POSITA at the time of the invention in July 5, 2005, but also would have been motivation for a POSITA to look to Gopinathan’s “techniques and principles” (*See* Par. 169, discussing Ex1010, 1:38-39) to be used in conjunction with fraud detection and authentication of “debit cards” and “stored value cards” in the same manner that it is expressly taught to be used for “credit cards” and other “charge cards”.

174. In my opinion, at the time of the invention, a POSITA at the time of the July 5, 2005 invention would have been motivated to use Gopinathan’s fraud detection “techniques and principles” for all the reasons discussed in Gopinathan. (*See* Ex1009, 1:26-2:39). As Gopinathan explains:

“It is desirable, therefore, to have an automated system that uses available information regarding cardholders, merchants, and transactions to screen transactions and isolate those which are likely to be fraudulent, and which

captures a relatively high proportion of frauds while maintaining a relatively low false-positive rate. Preferably, such a system should be able to handle a large number of interdependent variables, and should have capability for re-development of the underlying system model as new patterns of fraudulent behavior emerge.”

(Ex1009, 2:29-2:38).

175. Moreover, in my opinion, a POSITA at the time of the July 5, 2005 invention would have found it easy to adapt the transaction authorization system of Gopinathan to be used with debit cards, as such cards bear substantial similarity in design and form with credit cards and processed using very similar networks and transaction authorization systems.

176. Furthermore, to the extent any additional of the elements of Claim 1 of the '100 Patent are not expressly disclosed, as **Ground 2** and discussed below, it would have been obvious to a POSITA as of the July 5, 2005 date of invention, to modify the method of FIG. 16 of Gopinathan to include such missing elements in view of Hirka.

177. Accordingly, in my opinion, as will be discussed with respect to each step claimed by Claim 1 below, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [**'100-1PRE**] is disclosed in Gopinathan (Ex1010) (**Ground 1, Petition 1**) and in the alternative would be

rendered obvious over Gopinathan in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- b. **[’100-1A] authenticating, by a processing device, a transaction requested by a debit card against at least one of a demand deposit account associated with the debit card or an overdraft account associated with the debit card, wherein the authentication includes fraud assessment,**

178. Gopinathan teaches authenticating, by a **processing device** (e.g., “**System 100**” (Ex1010, 3:50)) a **debit card** (e.g., a “charge card[]” and “bank automated teller machine card” (Ex1010, 3:40-41) as discussed in [**’100-1PRE**]) against at least one of a **demand deposit account** associated with the debit card, wherein the authentication process includes fraud **assessment** (e.g., “**determining the likelihood of fraud** for each transaction” (Ex1010, 5:4-5)). Because this claim is written using the disjunctive, it is my understanding that this limitation may be met regardless of if an “**overdraft account**” has been associated with a debit card. However, as discussed in Pars. 186-191 below, in the event an “overdraft account” is necessary to be associated with the debit card, it would in any event be obvious in view of Hirka (as set forth as **Ground 2, Petition 1**).

179. Gopinathan teaches using “**System 100**” to perform the disclosed invention (Ex1010, 3:50). **System 100** includes a “CPU 101” which is directed by

“software program instructions” to “perform the various functions of the system”
(Ex1010, 3:56-59):

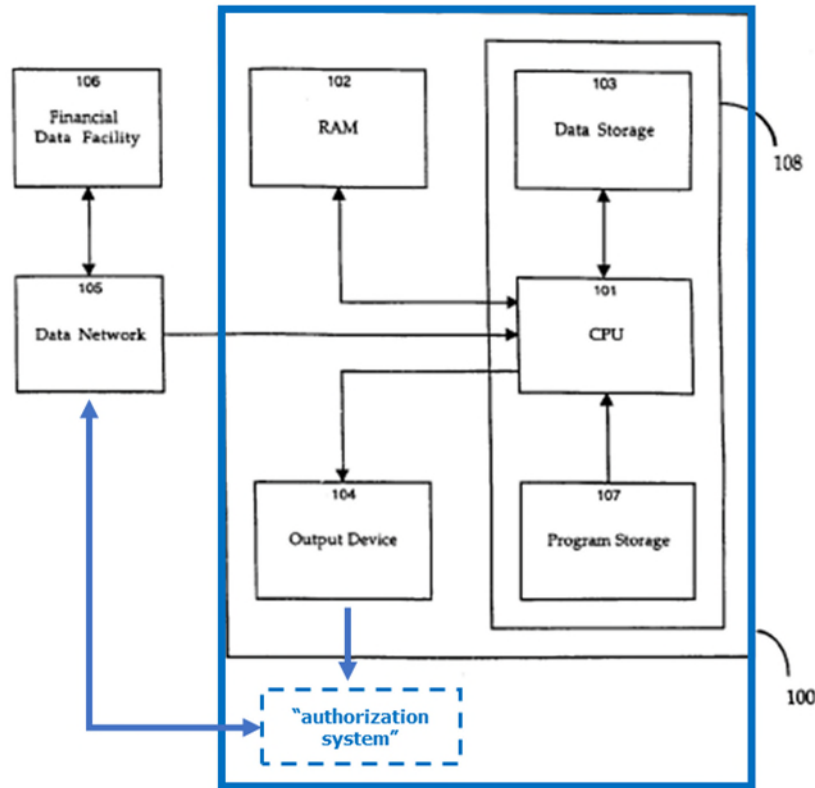


FIGURE 1

(Ex1010, Fig. 1). In embodiments, the “CPU 101 is a Model 3090 IBM mainframe computer” which uses “conventional RAM, ROM and disk storage devices for the Model 3090 CPU.” (Ex1010, 4:3-7) and may send, through “output device 104”, a signal dependent on the results to an **authorization system (not shown)** for further processing”. (Ex1010, 4:11-13). The **authorization system (not shown)** has been added to FIG. 1 above to show how it is described in Gopinathan. In my opinion, a POSITA at the time of the July 5, 2005 invention would therefore understand

System 100 to be a “**processing device**” which performs the invention disclosed by Gopinathan.

180. Gopinathan further teaches that **System 100** performs **authentication** of a **transaction** associated against an account by performing a **fraud assessment** (e.g., “**determining the likelihood of fraud** for each **transaction**” (Ex1010, 5:4-5)). The “overall functional architecture of system 100” is shown by Figure 8, which includes a “**transaction processing component 802**” that “**determines the likelihood of fraud** for **each transaction** by feeding them from various sources 805, 806 and feeding them into neural network 108, obtaining results, and outputting them” (Ex1010, 4:79-83, 5:4-7):

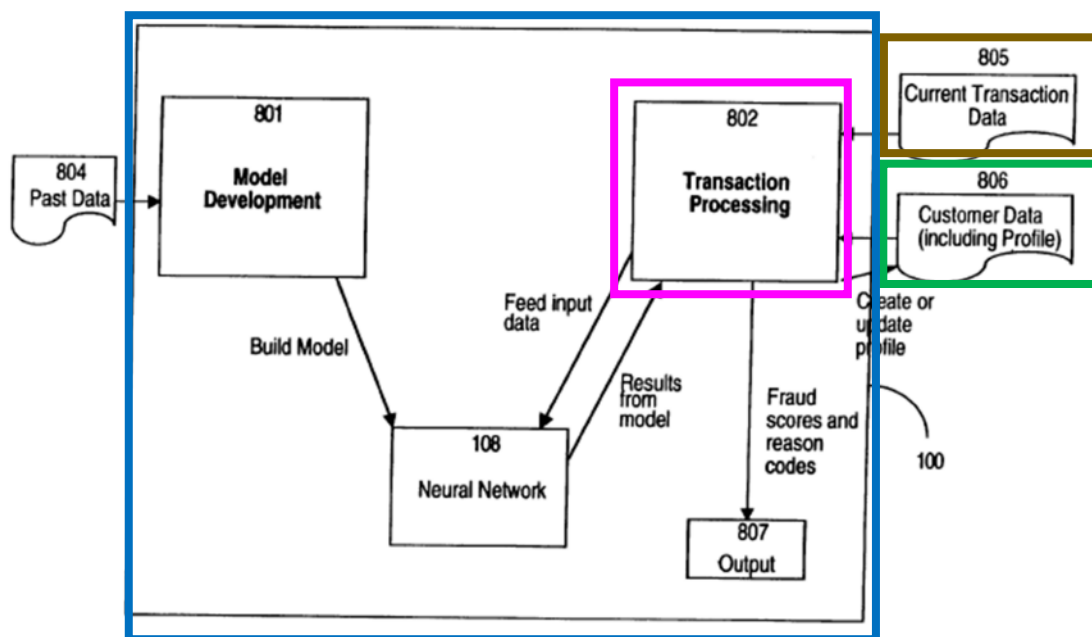
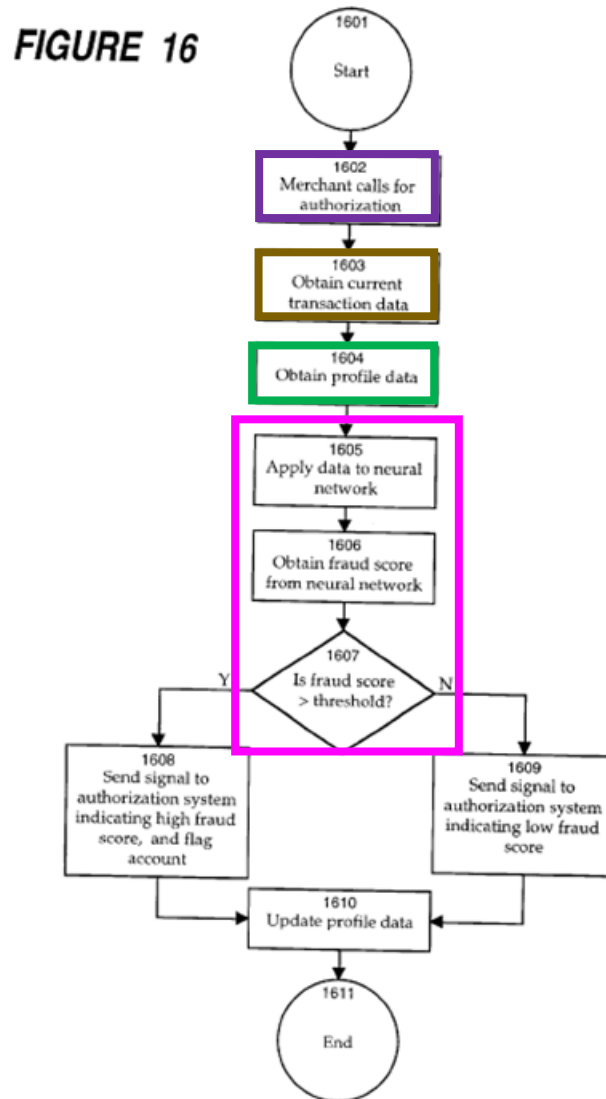


FIGURE 8

(Ex1010, Fig. 8). “[D]etermin[ing] the likelihood of fraud” includes feeding information associated with the **transaction** (e.g., “**current transaction data** from **database 805**” (Ex1010, 24:44)) and a customer’s **account** (e.g., “**Customer data** from **database 805**” (Ex1010, 24:50-60)) into “neural network 108”, which evaluates transactions based upon “the learned relationships” between the various forms of information (Ex1010, 24:62-67).

181. These learned relationships are used to perform an authentication of the **transaction** against an **account** of the customer. Gopinathan discloses that the “**current transaction data**” includes the “**transaction dollar amount**”, the “**Merchant ZIP code**” as well as “**date**” and “**time**” of the transaction, and the **customer data** includes account data such as “**customer ZIP code**” and “**account open date**” (Ex1010, 24:44-62). Based on this data, the neural network uses learned relationship to determine if the transaction is fraudulent. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that when the “**Merchant ZIP code**” and the “**customer ZIP code**” are different, the neural network will, assuming that historical data suggests these variables are related, generate a higher fraud score. Likewise, “**date**” and “**time**” of the transaction would interact with the “**account open date**”. Information related to the account is thus used to authenticate the transaction.

182. Figure 16 shows this same process as a flowchart. The neural network produces a “fraud score (representing the likelihood of fraud for the transaction)” in steps 1605-1607 based on “**data for the current transaction, 1603**, as well **profile data** summarizing transactional patterns for the customer 1604”:



(Ex1010, Fig. 16). As Gopinathan discloses, this data is applied “to the stored neural network model 1605. A fraud score (representing the likelihood of fraud for the

transaction) is obtained 1606 and compared to a threshold value 1607.” (Ex1010, 25:50-52). Gopinathan further discloses that the fraud score is sent to an authorization system, which uses the fraud score to make an authorization decision. (Ex1010, 24:53-58).

183. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention, would understand that Gopinathan authenticates the card **transaction** against the account by **determining the likelihood of fraud**. A lower fraud score would be authenticated, and a higher fraud score would be rejected as not authenticated, or fraudulent. (Ex1010, 25:50-58).

184. Further, as discussed with respect to element [**’100-1PRE**], Gopinathan teaches the transaction is from a **“charge card”**, which would include **“debit cards”** (See Pars. 169-172). Alternatively, it would have been obvious to a POSITA at the time of the invention in July 5, 2005, to use the “methods and techniques” of Gopinathan with “debit cards” as a kind of “charge card” in view of Hirka. (See Pars. 172-175).

185. As discussed above in Par. 170, Hirka further confirms “A **debit card** is a card ... linked to a consumer's cash account, **such as a demand deposit account (DDA), typically a checking account.**” (Ex1007, [0004] (Hirka ’404); Ex1009, p.1). This understanding is consistent with my experience in the industry at the time of the invention in July 2005 and is consistent with Gopinathan’s disclosure that one

of the data sources could be an “automated teller machine” (Ex1010, 3:56), thus recognizing, at least in some embodiments, the charge card is tied to banking accounts like **checking accounts** and **savings accounts**. As such, at least in some embodiments, Gopinathan’s authentication would be against the **customer’s DDA or checking account**.

186. Because this claim is written using the disjunctive, to the extent that element [’100-1A] requires authentication against an **overdraft account** in addition to the **demand deposit account**, in my opinion, as **Ground 2 of Petition 1**, it would have been obvious to a POSITA at the time of the July 5, 2005 invention to do so in view of Hirka (Ex1009).

187. As discussed above, during the prosecution of the ’100 Patent, the Examiner asserted that Hirka ’404 discloses “authenticating a transaction requested by a debit card against at [least] [one] of the demand deposit account and **overdraft account** (see par. 006, 0012, 0017, 0019, 0020).” (Ex1005, at 99, citing Ex1007). I agree with the Examiner’s conclusion with respect to Hirka. Moreover, this analysis was not seriously challenged by applicants and applicant’s subsequent modification to the claims principally resulted in the additional limitation requiring the authentication to include “fraud assessment” “via a network”, a modification unrelated to the use of overdraft accounts. See Pars. 69-82.

188. Hirka and Hirka '404 demonstrate that a debit card used in the transaction in embodiments is associated with both a **demand deposit account** (e.g., “**cash account**”) and an **overdraft account**:

“[0019] One advantage of the invention is the ability of a cardholder to set up a **cash account** of their choice to make purchases, and **have the funds withdrawn from one or more of** demand deposit or **other accounts**, regardless of the institution holding the account. This allows consumers to benefit from card purchases even if their bank does not offer traditional debit-card services.

[0020] Another advantage of the invention is the flexibility of the **collateral credit account**. The consumer may use **an existing credit account**, open a credit account with the institution issuing the linked account card, or set **up another type of account to supply the overdraft protection.**” (Ex1007, [0019] and [0020] (Hirka '404); see also Ex1009, 3:30-4:7).

189. Accordingly, in view of this prior art teaching, which is consistent with my experience in the art at the time of the invention in July 5, 2005, in my opinion a POSITA at the time of the July 5, 2005 invention would understand that it would be obvious and desirable to additionally link the charge card (e.g., a debit card) to an **overdraft account**, as taught in Hirka and as was well known at the time with respect to debit cards in general. Transactions conducted using such a debit card would result in authentication against the **overdraft account** using the systems and methods disclosed by Gopinathan.

190. Furthermore, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the system of Gopinathan would be easily configured to authenticate transactions involving cards associated with overdraft accounts. Gopinathan is directed towards authenticating transactions involving “**credit cards**” (which Hirka confirms, in embodiments, are set up to “handle overdrafts” (Ex1009, 7:10-12)) and uses data commonly associated with such accounts such as “**available credit**” and “**credit line**”. (Ex1010, 1:29-31; 24:44-47).

191. In my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify Gopinathan to include authentication against an **overdraft account** as discussed and taught in Hirka because doing so would have protected cardholders and card issuing systems from fraud associated with debit cards with overdraft protection.

192. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-1A] is disclosed in Gopinathan (**Ground 1, Petition 1**) and in the alternative would be rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

c. [’100-1B] wherein the **fraud assessment** includes communication with data sources via a network;

193. Gopinathan teaches that the **fraud assessment** (e.g., making a “**fraud likelihood determination**” (Ex1010, 25:28-29)) includes communication with **data**

sources (“**various sources 805, 806**”) (Ex1010, 5:6)) **via a network** (e.g., “**data network 105**”). This is the feature that Applicant successfully argued during Prosecution of the ’100 Patent to distinguish the claimed invention from the cited prior art. (Ex1005, at 155). As discussed herein, Gopinathan teaches this limitation in full.

194. As **Ground 1** of **Petition 1**, as discussed in element [’**100-1A**], Pars. 178-183, Gopinathan discloses that the transactional processing component 802 of System 100 “**determines the likelihood of fraud** for each transaction by feeding **data** from **various sources 805, 806** into neural network 108, obtaining results, and outputting them.” (Ex1010, 5:5-8). In my opinion, a POSITA at the time of the July 5, 2005 invention at the time of the invention in July 5, 2005, would understand that these “various sources 805, 806” are “**data sources**”.

195. As shown in Figure 1, “**Transaction information**” is obtained via “**data network 105**, which is connected to a conventional **financial data facility 106** collecting transaction information from **conventional sources**” (Ex1010, 3:51-53):

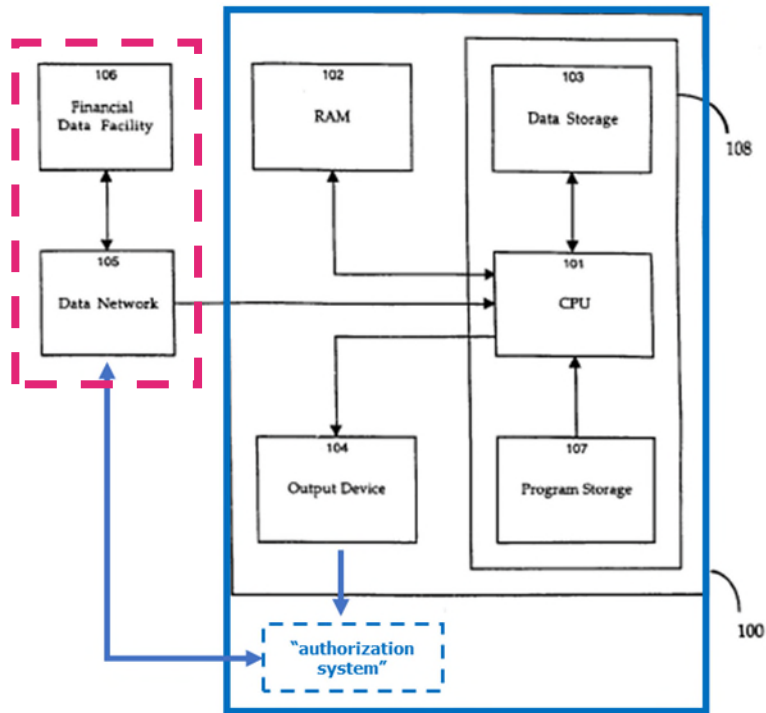


FIGURE 1

(Ex1010, Fig. 1). These conventional sources include “human-operated credit-card authorization terminals and automated teller machines (not shown).” (Ex1001, 10:55-56). In my opinion, a POSITA at the time of the July 5, 2005 invention would understand these conventional sources are data sources that are remotely located from **System 100** and thus would necessarily communicate via a network.

196. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that in Fig. 1 of Gopinathan “**sources 805, 806**” would be located at the “financial data facility 106” and communicated via “data network 106” (Ex1010, 3:51-53). Additionally, a network would be used to communicate with “**conventional sources**” associated with transactions, as discussed above. Accordingly, a POSITA at the time of the July 5, 2005 invention would understand

that Gopinathan teaches that the **fraud assessment** includes communication with **data sources** via a **network**.

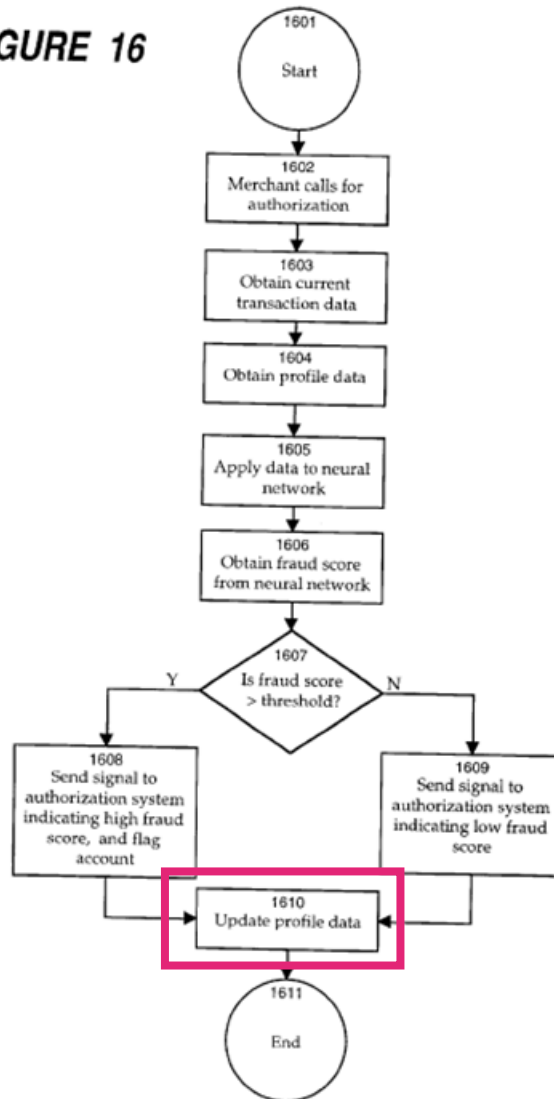
197. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-1B] is disclosed in Gopinathan (**Ground 1, Petition 1**) and/or rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

- d. [’100-1C] And **updating**, by the **processing device**, information regarding at least one of the **demand deposit account** and the **overdraft account** based on the **transaction**.

198. Element [’100-1C] requires “**updating**, by the **processing device**, information regarding at least one of the **demand deposit account** and the **overdraft account** based on the **transaction**” (Ex1001, 13:4-6). It is my understanding that this element is satisfied if information regarding the **demand deposit account** is updated. However, as discussed in Pars. 203-204 below, in the event an “**overdraft account**” is required to be updated, it would in any event be obvious in view of Hirka (as set forth as **Ground 2, Petition 1**).

199. Gopinathan discloses that following the fraud assessment (as discussed in element [’100-1A]), “the system then **updates customer profile database 806** with the **new transaction data 1610**” (Ex1010, 25:58-60):

FIGURE 16



(Ex1010, Fig. 16). This data is “**updated** after each **transaction**” (Ex1010, 25:37-38). Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the **processing device updates** information regarding each of the accounts associated with the charge card (e.g., the debit card) being authenticated by Gopinathan.

200. Further, as discussed with respect to element [**100-1PRE**], Gopinathan teaches the transaction is from a “charge card”, which, as **Ground 1 of Petition 1**, would include “**debit cards**” (See Pars. 169-172) or would have been obvious to a POSITA, as **Ground 2 of Petition 1**, at the time of the invention in July 5, 2005, to use the “methods and techniques” of Gopinathan with “debit cards” as a kind of “charge card” in view of Hirka. (See Pars. 172-175). These accounts are associated with cash accounts like demand deposit accounts.

201. Hirka confirms that “A **debit card** is a card ... linked to a consumer’s cash account, **such as a demand deposit account (DDA), typically a checking account.**” (Ex1007, [0004] (Hirka ’404); Ex1009, p.1). As such, Gopinathan’s authentication would be against the **customer’s DDA or checking account**. This is consistent with Gopinathan’s disclosure that one of the data sources could be an “automated teller machine” (Ex1010, 3:56), thus recognizing, at least in some embodiments, the charge card is tied to banking accounts like **checking accounts** and **savings accounts**. Accordingly, Gopithan’s **update** would contain **information** regarding the **DDA or checking account**. Further, as Hirka confirms, a “debit card” would after processing pay the merchant using funds “**deducted from the cardholders checking account**”, thus further confirming the need to update the cardholder’s balance in the checking account. (Ex1007, [0004] (Hirka ’404); Ex1009, p.1).

202. In my opinion, since element [’100-1C] discusses the “**demand deposit account**” in the alternative to an “**overdraft account**”, as **Ground 1**, the claim would be expressly met by Gopinathan’s teaching with respect to “charge cards”.

203. To the extent that element [’100-1C] requires the information **update** to concern an **overdraft account** in addition to the **demand deposit account**, as **Ground 2** of **Petition 1**, in my opinion, it would have been obvious to a POSITA at the time of the July 5, 2005 invention in view of Hirka (Ex1009) to update both the associated **overdraft** and **demand deposit** accounts.

204. As discussed with respect to element [’100-1A], it would have been obvious to authenticate a debit card transaction against a **demand deposit** and **overdraft accounts**. See Pars. 186-191. In such an embodiment, in my opinion, a POSITA at the time of the July 5, 2005 invention would be motivated to further update the profile information associated with both types of accounts. Doing so would have been trivial to implement and would insure that a cardholder’s accounts remain up-to-date.

205. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-1C] is disclosed in Gopinathan (**Ground 1, Petition 1**) and/or rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

3. **Dependent Claims 2-5 of the '100 Patent Are Rendered Obvious over Gopinathan in view of Hirka (Ex1009) (Ground 2, Petition 1)**

206. Claims 2-5 of the '100 Patent depend from Claim 1. For the same reasons as discussed above, as **Ground 1** of **Petition 1**, Claim 1 is anticipated by Gopinathan (Ex1010). In the alternative, as **Ground 2** of **Petition 1**, Claim 1 is rendered obvious over Gopinathan in view of Hirka (Ex1009). See Pars. 167-205. The remaining limitations of Claims 2-5, as I discuss herein, are taught by Hirka and thus rendered obvious over Gopinathan in view over Hirka (**Ground 2, Petition 1**).

a. **['100-2] 2. The method of Claim 1, wherein the overdraft account is a transaction account.**

207. Claim 2 of the '100 Patent limits the method of Claim 1 by further requiring that the “**overdraft account** is a transaction account” (Ex1001, 13:10-11).

208. According to the '100 Patent, a “**transaction account**” includes a traditional credit card account, which may be an “account associated with an open account ... system” (like “American Express®, **Visa**®, **MasterCard**®, and Discover® cards”) or a “closed account system” (e.g., like a branded “The Gap® store” card, usable only at The Gap). (Ex1001, 4:35-37, 4:60-5:2). Thus, the limitation of Claim 2 may be met if the **overdraft account** is another **credit card like account**.

209. As Ground 2 of Petition 1, as was previously discussed with respect to element [’100-1A], it would have been obvious to modify Gopinathan (Ex1010) in view of Hirka (Ex1009) to modify the authentication system of Gopinathan to associate an “**overdraft account**” (e.g., an “account to supply the **overdraft protection**” (Ex1009, 4:6-7)) with the “charge card” (such as a debit card) as taught in Hirka, and recognized as admitted prior art during the prosecution of the ’100 Patent. (See Pars. 203-205).

210. Hirka teaches that, in embodiments, the associated **overdraft account** for a debit card includes a “**credit card**” account:

A second item that a potential cardholder may be required to provide in step 250 is a **designated credit or other account to handle overdrafts**. This may be **an existing credit card** or other **account**. If the linked account cardholder does not already have an existing credit account, one may be established through the institution that is issuing the linked account card. (Ex1009, 7:10-15).

211. A POSITA would be motivated to use an existing line of credit like a credit card as an overdraft facility in view of this teaching in Hirka because it would give the customer some protection against overdrafts within the existing credit parameters established by the issuing institution.

212. Further, as Hirka teaches, and as discussed with respect to the compatibility of Gopinathan with credit cards, see Par. 190, such a modification

would be easy to implement. Gopinathan is already designed for use with credit cards.

213. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 2 of the '100 Patent, including those of Claim 1 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

**b. [’100-3] 3. The method of Claim 1, wherein the
overdraft account is a bank account.**

214. Claim 3 of the '100 Patent limits the method of Claim 1 by further requiring that the “**overdraft account** is a bank account” (Ex1002, 13:10-11).

215. As discussed above in Par. 169, Gopinathan (Ex1010) discloses that its “techniques and principles” of fraud assessment apply to accounts associated with “**credit cards**” and “to other types of customer accounts, such as **charge cards**, bank automated teller machine cards and telephone calling cards.” (Ex1010, 1:37-41).

216. As **Ground 2 of Petition 1**, as was previously discussed with respect to element [’100-1A], it would have been obvious to modify Gopinathan (Ex1010) in view of Hirka (Ex1009) to modify the authentication system of Gopinathan to associate an “**overdraft account**” (e.g., an “account to supply the **overdraft protection**” (Ex1009, 4:6-7)) with the “charge card” (such as a debit card) as taught in Hirka. See Pars. 203-205.

217. Hirka further teaches that the **overdraft account** disclosed in embodiments is a bank account (e.g., a second of the “**more than one cash account**” which may be “**held at a bank**” (Ex1009, 7:4-9)). In my opinion, it would be obvious to a POSITA at the time of the July 5, 2005 invention to further modify Gopinathan to include a **bank account** as **the overdraft account**.

218. Hirka discloses that:

“[0041] First, as illustrated in **step 250**, a potential cardholder may be asked to designate a demand deposit account (DDA) or other backing account that will provide the cash funds for purchases made with the linked account card. The **designated cash account** may be a **checking account**, a savings account or other account **held at a bank** or other institution. In an alternative embodiment discussed below, **more than one cash account may be selected to provide the cash or cash equivalent** for transaction processing.” (Ex1007, [0041]; *see also* Ex1009, 7:4-9).

219. Hirka further teaches in this embodiment where “more than one cash account” operates to be provide overdraft protection so that funds are provided should a first designated cash account not have “sufficient funds”:

“In another alternative embodiment of the invention, the linked account card may be linked to **multiple cash accounts** designated by the cardholder in order to **allow each to be swept in search of sufficient funds before the credit account 140 is needed.**” (Ex1009, 12:18-20).

220. Like the designated cash account, a POSITA at the time of the July 5, 2005 invention would understand the “multiple cash accounts” used to provide overdraft protection would be “**held at a bank**” (Ex1009, 7:7).

221. Additionally, Hirka explains that the “**overdraft account**” may be an “**other account used to handle overdrafts**”:

[0042] A second item that a potential cardholder may be required to provide in **step 250** is a designated credit or **other account to handle overdrafts**. This may be an existing credit card or **other account**. If the linked account cardholder does not already have an existing credit account, one may be established through the institution that is issuing the linked account card. Once these accounts have been identified, they may be verified before the linked account card account is established in step 260.” (Ex1007, [0042]; *see also* Ex1009, 7:10-15).

222. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that an “other account” as taught in Hirka would include any other type of suitable account, such as, “a checking account, a savings account or other account **held at a bank** or other institution” (Ex1009, 7:6-7).

223. This is consistent with the Examiner’s understanding during prosecution of the ’100 Patent. As the Examiner explained, and as was not contradicted by Applicant, Hirka ’404 discloses the “use of another **bank account** as an **overdraft protection account**” (Ex1005, p. 100, p. 142):

“Regarding claims 3, 6, see the discussions in par. 0041 wherein Hirka [’404] discusses that more than one cash account can be designated for conducting transactions. Further, in paragraph 0042 that account other than credit account can be designated for overdraft protection. Thus, the use of another bank account as an overdraft protection account is considered as the inherent application of Hirka [’404’s] teachings” (Ex1005, p. 100, p.142).

224. A POSITA would be motivated to use a second bank account as an **overdraft account** because it would give the customer some protection against overdrafts regardless of their ability to obtain a line of credit. In other words, it would extend the “debit card” protection from the balance of a checking account to also include as an overdraft feature the balance from a savings account, by example.

225. Further, as Hirka teaches, and as discussed with respect to the compatibility of Gopinathan with automated bank teller machine cards, *see* Par. 169, such a modification would be easy to implement.

226. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 3 of the ’100 Patent, including those of Claim 1 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- c. [’100-4] 4. The method of Claim 1, further comprising, before the authenticating, enrolling in a debit card program during which the associating of the **demand deposit account** and **the overdraft account** are performed.

227. Claim 4 of the ’100 Patent limits the method of Claim 1 by further requiring the step of “before the authenticating, **enrolling** in a **debit card program** during which the associating of the **demand deposit account** and **the overdraft account** are performed.” (Ex1002, 13:10-11).

228. I note that unlike the authentication step of element [’100-1A], this step does not need to be performed by the **processing device**.

229. As previously discussed in element [’100-1A], Gopinathan, either alone (**Ground 1, Petition 1**) or in combination with Hirka (**Ground 2, Petition 1**) discloses authenticating a transaction of a **debit card** (e.g., a “**charge card**” and “bank automated teller machine card” (Ex1010, 3:40-41)), which involves authenticating (e.g., “**determining the likelihood of fraud** for each **transaction**” (Ex1010, 5:4-5)) the card against any associated accounts, which as previously discussed in element [’100-1PRE] (See Par. 170) and in element [’100-1A] (See Pars. 186-191), may include both “a consumer's cash account, **such as a demand deposit account (DDA), typically a checking account**” (Ex1009, p.1) as well as an “account to supply the **overdraft protection**” (Ex1009, 4:6-7)).

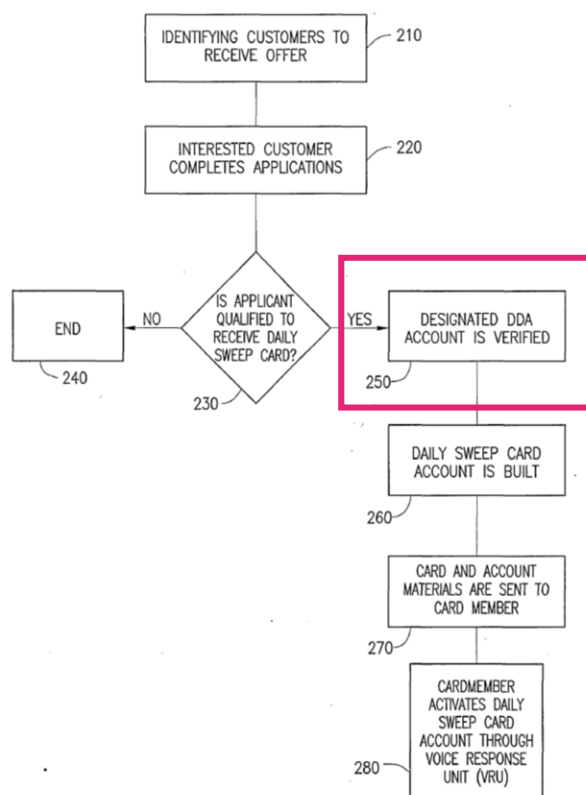
230. Gopinathan teaches that the data used to authenticate transactions against these accounts includes, *inter alia*, the “account open date”. (Ex1010, 24:57).

231. In my opinion, a POSITA, as of the date of invention in July 5, 2005, would understand that a necessary preceding step of authenticating a transaction by a card with information regarding the “**account open date**” would be enrolling a cardholder in a debit card program by opening the account as well as associating the account with the debit card used.

232. In any event, to the extent enrollment in a card program is not expressly taught by Gopinathan, it would be obvious to further modify the method taught by Gopinathan in view of Hirka to include the enrollment process of Hirka for both accounts (e.g., “steps that may be followed when establishing a linked account card”, including “**step 250**” (Ex1009, 6:23-24, 7:16).

233. Figure 2 of Hirka depicts enrollment process “steps that may be followed when establishing a linked account card account according to one embodiment of the invention”. (Ex1009, 6:23-24). Among these steps includes “**step 250**”, which associates both the “**demand deposit**” and “**overdraft**” accounts:

FIG. 2



(Ex1009, Fig 2, 7:4-15). Hirka discloses that, with respect to Figure 2:

“as illustrated in **step 250**, a potential cardholder may be asked to designate a **demand deposit account (DDA)** or other backing account that will provide the cash funds for purchases made with the linked account card. A second item that a potential cardholder may be required to provide in **step 250** is a **designated credit or other account to handle overdrafts** ... Once these accounts have been identified, they may be verified before the linked account card account is established in step 260.” (Ex1009, 7:4-15).

234. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that Figure 2 depicts enrollment in a debit card program,

during which a **demand deposit account** and an **overdraft account** are associated with the debit card (e.g., the “linked account card” (Ex1009, 7:15)). A POSITA would further understand this must take place *before* the debit card transaction authentication, as **step 250** occurs “before the linked account card account is established in step 260” (Ex1009, 7:14-15).

235. This is in line with the Examiner’s analysis of Hirka, which was not contradicted by Applicant (“Regarding Claims 8,^[5] 11, see the enrollment feature as described in figure 2 of Hirka” (Ex1005, p. 100, p.142)).

236. In my opinion, a POSITA at the time of the July 5, 2005 invention would be motivated to include the feature of enrolling in a debit card program before the debit card is used as doing so would allow funds to be withdrawn from the appropriate accounts during a transaction. Moreover, doing so would have been easy to implement, as shown by Hirka (Ex1009).

237. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 4 of the ’100 Patent, including those of Claim 1 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

⁵ Claim 8, as presented, is essentially the same as Claim 4 of the issued patent. See Ex1005, at 83.

- d. [’100-5] 5. The method of Claim 1, further comprising: providing a periodic output of the account information for the **demand deposit account** and **the overdraft account**.

238. Claim 5 of the ’100 Patent limits the method of Claim 1 by further requiring the step of “providing a **periodic output** of the account information for the **demand deposit account** and **the overdraft account**.” (Ex1002, 13:10-11).

239. I note that unlike the authentication step of element [’100-1A], this step does not need to be performed by the **processing device**.

240. As previously discussed in element [’100-1A], Gopinathan, either alone (**Ground 1, Petition 1**) or in combination with Hirka (**Ground 2, Petition 1**) discloses authenticating a transaction of a **debit card** (e.g., a “**charge card**” and “bank automated teller machine card” (Ex1010, 3:40-41)), which involves authenticating (e.g., “**determining the likelihood of fraud** for each **transaction**” (Ex1010, 5:4-5)) the card against any associated accounts, which as previously discussed in element [’100-1PRE] (See Par. 170) and in element [’100-1A] (See Pars. 186-191), may include both “a consumer's cash account, **such as a demand deposit account (DDA), typically a checking account**” (Ex1009, p.1) as well as an “account to supply the **overdraft protection**” (Ex1009, 4:6-7)).

241. Gopinathan teaches that information concerning an **account** is commonly disclosed periodically (e.g., on “**monthly statement**” (Ex1010, 1:59-

60)), as was, in accordance with my experience, a common feature at the time in the industry:

“In many cases, however, fraudulent use occurs without the knowledge of the cardholder, and therefore no report is made to the issuer. This may occur if the customer is unaware that the card has been lost or stolen, or if other techniques are employed to perpetrate the fraud, such as: use of counterfeit cards; merchant fraud; application fraud; or interception of credit cards in the mail. In all these situations, the fraudulent use may not be detected until (and unless) the cardholder notices an unfamiliar **transaction** on his or her next **monthly statement** and contests the corresponding charge. The concomitant delay in detection of fraud may result in significant losses. User fraud, in which the user claims that a valid transaction is invalid, is also possible.” (Ex1010, 1:51-63).

242. As Gopinathan teaches, the statement includes “transaction” information, which enable the cardholder to notice if “an unfamiliar transaction” is on “his or her next monthly statement”. Gopinathan further teaches, as discussed with respect to element [’**100-1C**], that the customer profile is updated, which would be outputting the account information. See Par. 199.

243. In any event, to the extent that Gopinathan (Ex1010) does not expressly disclose providing a periodic output of the account information, in my opinion, it would be obvious to a POSITA as of July 5, 2005, to modify Gopinathan with Hirka (Ex1009), which discloses providing statements as a form of a periodic output of the

account information (e.g., a “**statement of linked account card activity**” which is “sent on a **regular basis**” (Ex1009, 14:13-14)):

“Communication with the cardholder (step 588) may take one or more forms. **Statements of linked account card activity will be sent on a regular basis to the cardholder detailing each card transaction (step 590).** Additionally, the cardholder may have access to their transaction history and daily spending limit information, via additional services (step 592) such as an interactive voice response (IVR) unit. This information may also be accessible through a web-site hosted by the card-issuing institution.” (Ex1009, 14:12-18).

244. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that “Statements of linked card activity” includes information concerning the accounts used by the “linked account card”, which would include the **demand deposit account** and the **overdraft account**, as taught by Hirka.

245. Furthermore, in my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to include this information as doing so would allow consumers to use the statements to confirm the status of their accounts, and notify the cardholder of any potential fraud as expressly taught to be a concern in Gopinathan (see Par. 241, quoting Ex1010, 1:51-63). As Hirka demonstrates, this feature would have been easy to implement.

246. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 5 of the ’100 Patent are

rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

4. **Independent Claim 6 of the '100 Patent is Rendered Obvious over Gopinathan in view of Hirka (Ex1009) (Ground 2, Petition 1)**

247. As I discuss herein, as **Ground 2 of Petition 1**, a POSITA, as of July 5, 2005, would understand that Claim 6 of the '100 Patent is rendered obvious over Gopinathan in view of Hirka (Ex1009).

a. **['100-6PRE] 6. A system, comprising: an authentication system configured to:**

248. To the extent element ['100-6PRE] is considered a limitation, a POSITA at the time of the July 5, 2005 invention would have understood that Gopinathan teaches a system which includes an authentication system configured to perform the elements of Claim 6 (['100-6A], ['100-6B], ['100-6C] and ['100-6D]) which, similar to the elements of Claim 1, relate to receiving information and authorizing a transaction.

249. Gopinathan teaches the use of an authentication system (e.g., “System 100” in communication with a “conventional authorization or posting system” (Ex1010, 3:56-59, 24:34-37)).

250. As discussed with respect to element ['100-1A], Gopinathan teaches a “System 100” which is configured to perform authentication including fraud

assessment. (Ex1010, Fig. 1; 3:56-59). As further discussed with respect to element [’100-1A], **System 100** as taught by Gopinathan in view of Hirka (**Ground 2, Petition 1**) receives information regarding transactions and associated accounts via a “data network 105” (Ex1010, 3:51-52).

251. More particularly, Gopinathan discloses that “transaction processing component 802 of **system 100** runs in the context of a **conventional authorization** or posting **system** for customer transactions”:

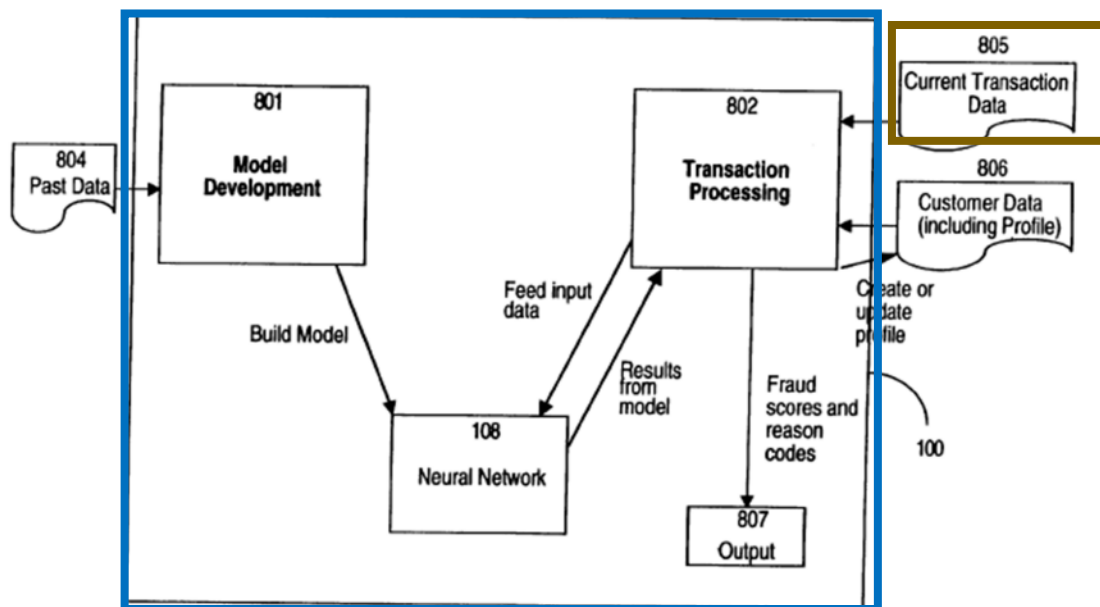


FIGURE 8

(Ex1010, Fig. 8).

252. Gopinathan further explains that **System 100** communicates, via “Output Device 104”, with the “**authorization system** (not shown) for further processing” of the transaction. (Ex1010, 4:4-13):

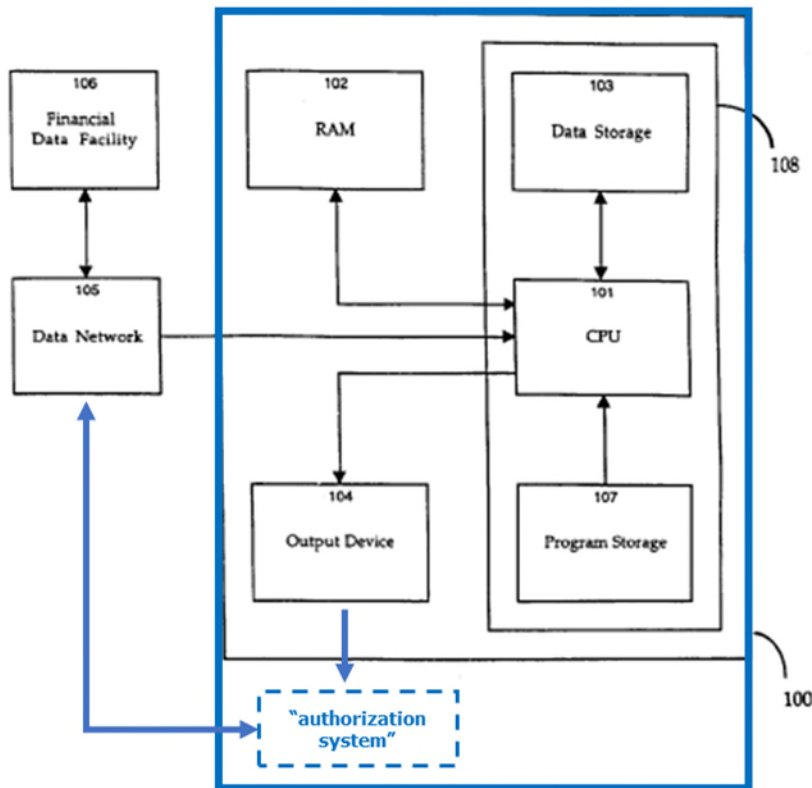


FIGURE 1

(Ex1010, Fig. 1).

253. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand “transaction processing component 802” (shown in Fig. 8) to operate as a part of the “**conventional authorization system**”, which corresponds to the “authorization system (not shown)” in FIG. 1 and which would necessarily be configured to authorize transactions. A POSITA would therefore understand that for purposes of Claim 6, the “**authentication system**” would include “**System 100**” including transaction processing component 802/authorization system.

254. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-6PRE] is rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

b. [’100-6A] receive **information** regarding a **requested transaction** of a debit card,

255. Element [’100-6A] requires that the authentication system be configured to “receive information regarding a **requested transaction** of a **debit card**”. (Ex1001, 13:21-22).

256. As discussed with respect to element [’100-1A], Gopinathan discloses receiving **information** regarding a **requested transaction**. For example, as shown in Figure 8, “**Current Transaction Data**”, which includes information regarding the **transaction** (e.g., “**transaction dollar amount**” (Ex1010, 23:45)), is transmitted to **System 100**:

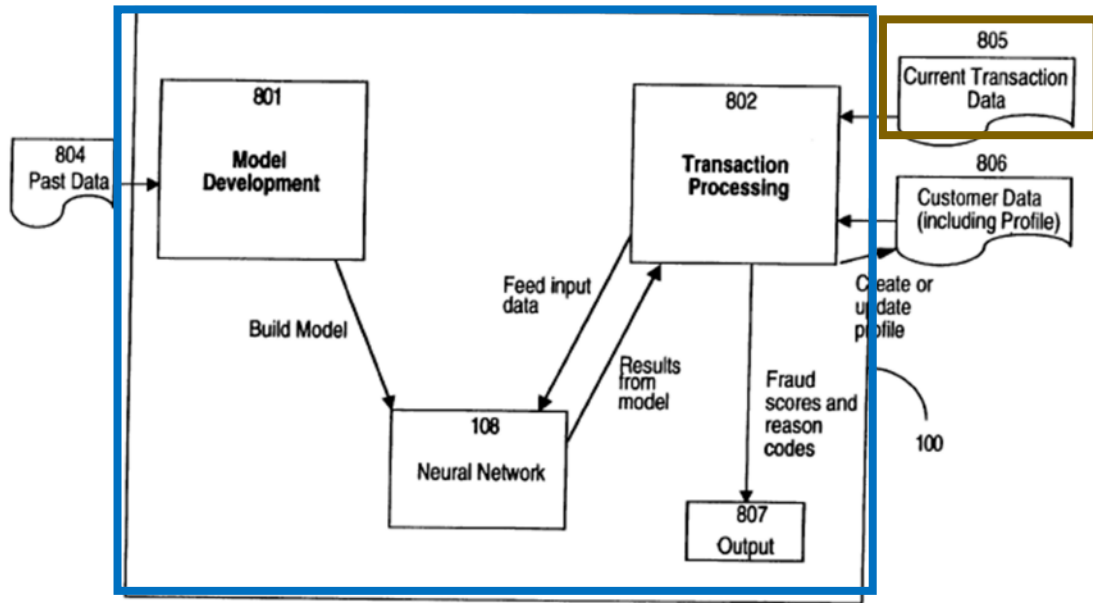


FIGURE 8

(Ex1010, Fig. 8).

257. Further, as discussed with respect to element [’100-1PRE] and [’100-1A], Gopinathan teaches the transaction is from a “charge card” would include “**debit cards**” (see Pars. 169-172). Alternatively, in my opinion, it would have been obvious to a POSITA at the time of the invention in July 5, 2005, to perform the “methods and techniques” of Gopinathan with “debit cards” as a kind of “charge card” in view of Hirka. (See Pars. 172-175).

258. Additionally, as discussed with respect to element [1PRE] in Pars. 169-175, a POSITA at the time of the July 5, 2005 invention would understand that the **transaction** can be a “charge card” (which would include a **debit card**) **transaction**.

259. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [6A] of the '100 Patent is rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

- c. **['100-6B] receive information regarding a main account that has been associated with the debit card and an overdraft account that has been associated with the debit card, and**

260. Element [**'100-6B**] requires that the **authentication system** be configured to “receive information regarding a **main account** that has been associated with the debit card and an **overdraft account** that has been associated with the debit card”. (Ex1001, 13:22-25).

261. Gopinathan teaches that **System 100** is configured to receive information concerning an account associated with a charge card (e.g., account information from “database 805” and “database 806”).

262. Gopinathan discloses that **System 100** receives, from “database 805” transaction information such as “**available credit (or balance)**” as well as the customer’s “**credit line**”. (Ex1010, 24:47-48). Gopinathan further discloses that it receives, from “database 806” other data regarding the customer’s accounts:

“The customer data from database 806 typically includes information from three sources: 1) **general information on the customer**; 2) data on all approved or declined transactions in the previous seven days; and

3) a **profile record** which contains data describing the customer's transactional pattern over the last six months. **The general information** on the customer typically includes information such as: customer ZIP code; **account open date**; and **expiration date**. The profile record is a single record in a profile database summarizing the customer's transactional pattern in terms of moving averages. The profile record is updated periodically (usually monthly) with all of the transactions from the period for the customer” (Ex1010, 24:50-62).

263. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that these forms of information would be related to any account linked to the “charge card” used in transactions.

264. Further, as discussed with respect to element [1PRE] and [1A] of the '100 Patent, Gopinathan teaches that the transaction is from a “charge card”, which, as **Ground 1**, would include “**debit cards**” (See Pars. 169-172). Alternatively, as **Ground 2**, it would have been obvious to a POSITA at the time of the invention in July 5, 2005, to perform the “methods and techniques” of Gopinathan with “debit cards” as a kind of “charge card” in view of Hirka. (See Pars. 172-175).

265. Hirka further confirms “a **debit card** is a card ... linked to a consumer's cash account, **such as a demand deposit account (DDA), typically a checking account.**” (Ex1007, [0004] (Hirka '404); Ex1009, p.1). As such, a POSITA at the time of the July 5, 2005 invention would understand that information received would

include information about a **main account** linked with a **debit card** (e.g., “available credit (or balance)” (Ex1010, 24:47-48)).

266. Additionally, as discussed with respect to element [’**100-1A**] (*See* Pars. 186-192**Error! Reference source not found.**), to the extent Gopinathan does not expressly teach that the “charge card” is linked to an **overdraft account**, it would have been obvious for the “charge card” to be linked with an “**overdraft account**” as taught by Hirka. In such modification, the system would be configured to receive information associated with the overdraft account.

267. In my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify Gopinathan to include receiving information associated with an **overdraft account** because doing so would have protected cardholders and card issuing systems from fraud associated with overdraft accounts, and would increase the predictive power of the neural network employed by Gopinathan, leading to a more accurate fraud assessment. It would have been trivial to configure receiving and incorporating this information, as Gopinathan, as discussed in element [’**100-1A**] is configured to receive credit card information, and in any event explicitly recognizes that “other variables might be used in both the model development and transaction processing components” (Ex1010, 29:26-28).

268. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-6B] is rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

d. [’100-6C] accept or reject the requested transaction based on an authorization including a fraud assessment,

269. Element [’100-6C] requires that the **authentication system** be configured to “**accept or reject the requested transaction** based on an **authorization** including **a fraud assessment**”. (Ex1001, 13:22-25).

270. As discussed with respect to element [’100-1A], Gopinathan teaches performing a **fraud assessment**. See Pars. 178-192.

271. Gopinathan teaches that the **authentication system** is configured to accept or reject transactions. As discussed in [’100-1A], see Par. 179, Gopinathan discloses sending a fraud score to the “**authorization system** (not shown) for further processing” of the transaction (Ex1010, 4:4-13):

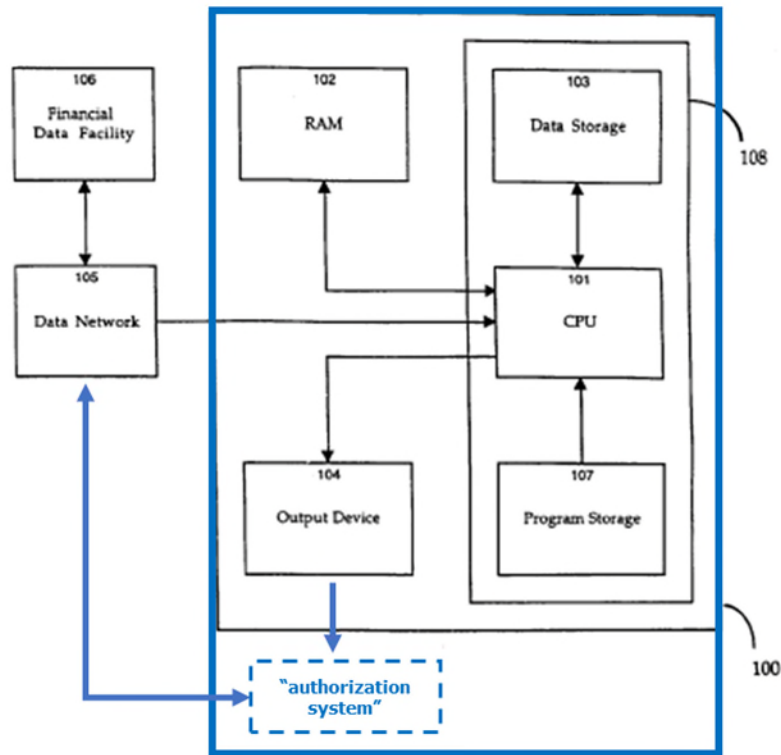


FIGURE 1

(Ex1010, Figure 1).

272. Similarly, Gopinathan further teaches that “transaction processing component 802 of system 100 runs in the context of a **conventional authorization or posting system** for customer transactions”. (Ex1010, 24:34-47).

273. Gopinathan further teaches that the “further processing” of the **fraud assessment** results in the “**transaction is authorized**” by the authorization system:

“**Steps 1601 through 1607** occur before a transaction is authorized, so that the fraud score can be sent to **an authorization system 1608** and the **transaction blocked if the threshold has been exceeded**. If the threshold is not exceeded, **the low fraud score is sent to the authorization system 1609**” (Ex1010, 25:53-56).

274. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that at the time of the invention, the further processing of the “**authorization system**” referenced would include accepting or rejecting the transaction based at least in part on the **fraud assessment** (e.g., a “low fraud score” which results in authorization or a score where “the threshold is exceeded” which results in the authorization being “blocked” or rejected (Ex1010, 25:53-56)).

275. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-6C] is rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

e. [’100-6D] wherein the **fraud assessment includes communication with data sources via a network.**

276. Element [’100-6D], which is identical to element [’100-1B], requires that “the **fraud assessment includes** communication with data sources via a network”. (Ex1001, 13:22-25).

277. For the same reasons discussed with respect to [’100-1B], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of element [’100-6D] rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

5. **Dependent Claims 7-11 Are Rendered Obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (Ground 2, Petition 1)**

278. Claims 7-11 of the '100 Patent depend from Claim 6. For the same reasons as discussed above, as **Ground 2** of **Petition 1**, Claim 6 is rendered obvious over Gopinathan in view of Hirka. *See* Pars. 247-277. The remaining limitations of Claim 7-11 are likewise rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**), as discussed herein.

279. Claims 8 and 11 concern similar limitations as Dependent Claims 4 and 5 and are rendered obvious for similar reasons. *See* Pars. 227-246.

280. Claims 9 and 10 depend from Claim 8. The additional limitations embodied in these claims concern similar limitations relating to **overdraft accounts** as required by Dependent Claims 2 and 3 and are rendered obvious for similar reasons. *See* Pars. 207-226.

a. **[’100-7] 7. The system of Claim 6, wherein the **main account** and the **overdraft account** are held at unrelated financial institutions.**

281. Claim 7 of the '100 Patent limits the system of Claim 6 by further requiring that “the **main account** and the **overdraft account** are held at unrelated financial institutions.” (Ex1001, 13:10-11).

282. As discussed with respect to Claim element [’100-6B], as **Ground 2** of **Petition 1**, it would be obvious to modify Gopinathan in view of Hirka to use both

a **main account** as taught by Gopinathan (e.g., an **account** associated with a “charge card”, a kind of debit card used in transactions (Ex1010, 1:37-41), which may be a debit account) and an overdraft account as taught by Hirka (e.g., a card linked to an account configured to “**supply the overdraft protection**” (Ex1009, 4:6-7)).

283. In my opinion, it would be obvious to a POSITA at the time of the July 5, 2005 invention as of the date of invention in July 5, 2005, to further modify Gopinathan in view of Hirka, to have **the main account** and **the overdraft account** at different institutions. For example, Hirka provides as an example embodiment, where the “**main account**” is a **demand deposit account** “held at a bank” while the overdraft account is an **existing credit card account** through “**the institution that is issuing the linked account card**”. (Ex1009, 7:4-7, 10-14). In such an embodiment, the two accounts would be at different institutions, a bank and a card issuer, which is not necessarily the same bank.

284. Hirka teaches embodiments where the **main** and **overdraft** accounts are held at unrelated, or different, financial institutions. In one embodiment, the **main account** is “**held at a bank**” and the **overdraft account** is an “existing credit card account” which would be operated by a “**card issuer**”:

“[0041] First, as illustrated in step **250**, a potential cardholder may be asked to designate a **demand deposit account (DDA)** or **other backing account** that will provide the cash funds for purchases made

with the linked account card. The designated cash account may be a checking account, a savings account or other account **held at a bank or other institution ...**

[0042] A second item that a potential cardholder may be required to provide in step 250 is a designated credit or other **account to handle overdrafts**. This may be an **existing credit card** or other account. If the linked account cardholder does not already have an existing credit account, one may be established **through the institution that is issuing the linked account card.**” (Ex1010, [0041] and [0042], *see also* Ex1009, 7:4-7, 10-14).

285. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the **overdraft account** and the **demand deposit account** in such embodiment would be held by different financial institutions which are not related to one another. The Examiner, during prosecution had a similar understanding of the teachings of Hirka '404:

“Hirka also discloses the method of linking debit card, demand deposit account and an overdraft credit line **regardless of the institution holding the accounts** (par. 0019, 0022, 0041)” (Ex1005, at 100, 141)

286. A POSITA would have been motivated to make this modification as doing so would expand the base of customers who would be able to use the card. It would also expand the credit facilities available to provide the overdraft protection to include “existing credit cards” issued by other institutions, thus lower risk to the

debit card issuer. Additionally, as shown by Hirka (Ex1009), doing so would have been easy to implement.

287. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 7 of the '100 Patent, including those of Claim 6 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- b. **['100-8] 8. The system of Claim 6, further comprising: an enrolling system that is configured to [1] verify an enrollee, [2] to perform the associating of the main and overdraft accounts of the enrollee with the debit card, and [3] to issue the debit card.**

288. Claim 8 of the '100 Patent limits the system of Claim 6 by further requiring there be an “**enrolling system**” which is **['100-8-1]** “configured to **verify** the enrollee, **['100-8-2]** to perform the **associating** of the **main** and **overdraft accounts** of the enrollee with the **debit card**, and **['100-8-3]** to **issue** the debit card” (Ex1001, 13:10-11).

289. I note that this element describes an enrolling system which is not necessarily the same system as the **authentication system** discussed in element **['100-6PRE]**.

290. As a preliminary matter, as discussed with respect to Claim 4, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Gopinathan recognizes that its system is used in conjunction with some sort of

enrollment process (which would be presumably performed by an enrollment system) (See Pars. 229-231). Moreover, it would be obvious to further modify the method (or system) of Gopinathan to include the enrollment process (and by extension enrollment system) from Hirka (See Pars. 232-236).

i. [’100-8-1] Verifying an enrollee

291. As discussed above in Pars. 229-236, Gopinathan contemplates an enrollment process, including an “**account open date**”, and, in any event, it would be obvious to modify the system of Gopinathan to include the enrollment system from Hirka. The enrollment system in Hirka is configured to first verify the enrollee. (Ex1009, 6:26-7:3, 7:14-15).

292. Hirka teaches verifying an enrollee in at least two ways: by first determining the “applicant’s eligibility” (Ex1009, 6:30-31) and then by “verif[ying] any identified accounts before establishing the linked account card” (Ex1009, 7:14-15).

293. Hirka teaches in at least one embodiment that issuing a “linked account card” first requires the applicant to provide information, which is used to determine an “applicant’s eligibility”:

“These potential cardholders, or applicants, may be required to complete an application in step 220 requesting information pertaining to their financial history. // **In step 230, the potential cardholder's application may then processed by the institution that issues the**

linked account card. This results in a determination of the applicant's eligibility to receive a linked account card. Credit decisioning may be handled through known services, such as the Magnum™ engine or the like. If a negative decision is made, in step 240 the applicant may be denied a linked account card. If the applicant is approved, at least two additional pieces of information may be required.” (Ex1009, 6:26-7:3).

294. Further, Hirka goes on to explain that in step 260 it verifies an enrollee as follows: “these accounts have been identified, they may be **verified before the linked account card account** is established in **step 260**”. (Ex1009, 7:14-15).

295. Thus, in my opinion, a POSITA, as of July 5, 2005, would understand that when the enrollment system of Hirka is used in conjunction with the authentication system of Gopinathan, the enrollment system would be configured to verify information associated with the enrollee.

296. In addition to the reasons discussed in Par. 236, with respect to Claim 4 of the '100 Patent, a POSITA as of July 5, 2005, would have been motivated to verify an enrollee, as taught in Hirka, in order to reduce enrollment fraud as well as to make sure that an enrollee has provided actual and correct information to the system. Additionally, this feature would have been easy to implement, as shown by Hirka.

ii. **[’100-8-2] Associating the main and overdraft accounts of the enrollee with the debit card**

297. As discussed above in Pars. 229-236, Gopinathan contemplates an enrollment process, including an “**account open date**”, and, in any event, it would be obvious to modify the system of Gopinathan to include the enrollment system from Hirka. The enrollment system in Hirka is configured to first associate the main and overdraft accounts of the enrollee with the debit card.

298. As discussed with respect to element [’100-6B], the system of Gopinathan as modified by Hirka would be configured for a "charge card", which is a debit card, to be tied to a “**checking account**” such as a “**demand deposit account**” and to an “**overdraft account**”, as taught in Hirka. (Ex1009, p.1, 3:30-4:7; see Pars. 264-267).

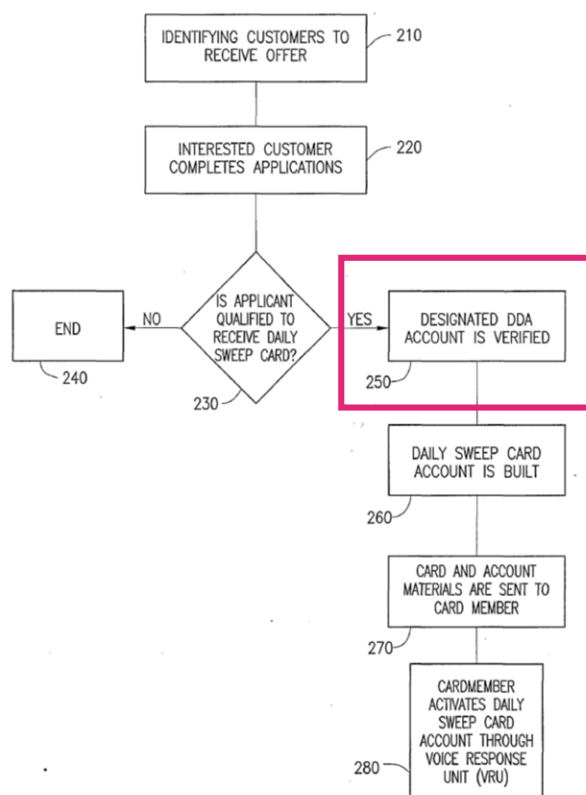
299. Hirka teaches “a **debit card** is a card ... linked to a consumer's cash account, **such as a demand deposit account (DDA), typically a checking account.**” (Ex1007, [0004] (Hirka ’404); Ex1009, p.1). As such, a POSITA at the time of the July 5, 2005 invention would understand that information received would include information about a **main account** linked with a **debit card** (e.g., “available credit (or balance)” (Ex1010, 24:47-48).

300. For the same reasons I discussed with respect to Claim [’100-4], in my opinion, a POSITA, as of the date of invention in July 5, 2005, would understand

that a necessary preceding step of authenticating a transaction by a card with information regarding the “**account open date**” would be enrolling a cardholder in a debit card program by opening the account as well as associating the account with the debit card used. *See* Pars. 227-237.

301. Moreover, for the same reasons, it would be obvious to combine Gopinathan with the enrollment system of Hirka, as previously discussed, to include associating the accounts in an enrollment process, as taught by “**step 250**” disclosed in Hirka. *See* Figure 2, which depicts the “steps that may be followed when establishing a **linked account card account** according to one embodiment of the invention” (Ex1009, 6:23-24):

FIG. 2



(Ex1009, Fig 2). Hirka teaches that:

“as illustrated in **step 250**, a potential cardholder may be asked to designate a **demand deposit account (DDA)** or other backing account that will provide the cash funds for purchases made with the linked account card. A second item that a potential cardholder may be required to provide in **step 250** is a **designated credit or other account to handle overdrafts ...** Once these accounts have been identified, they may be **verified before the linked account card account** is established in step 260” (Ex1009, 7:4-15).

302. In my opinion, a POSITA at the time of the July 5, 2005 invention would be motivated to include the feature of associating a debit card account as

doing so would allow funds to be withdrawn from the appropriate accounts during a transaction. Moreover, doing so would have been easy to implement, as shown by Hirka (Ex1009).

iii. [’100-8-3] Issuing the debit card

303. As discussed above in Pars. 229-236, Gopinathan contemplates an enrollment process, including an “**account open date**”, and, in any event, it would be obvious to modify the system of Gopinathan to include the enrollment system from Hirka. The enrollment system in Hirka is configured to issue a debit card.

304. Hirka teaches as the step 270 of the enrolling process issuing a debit card:

Finally, in **step 270 the linked account card itself may be mailed to the new cardholder** along with the materials explaining the nature of the account.” (Ex1009, 7:4-14).

305. In my opinion, a POSITA would have been motivated to issue a debit card so would enable the user to use the debit card. Furthermore, this modification would have been trivial to perform, as debit cards were frequently issued at the time of invention in July 5, 2005.

306. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 8 of the ’100 Patent,

including those of Claim 6 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009).

c. **[’100-9] 9. The system of Claim 8, wherein the enrolling system is configured to use a transaction account as the overdraft account.**

307. Claim 9 further limits the system of Claim 8 of the ’100 Patent by requiring that “the enrolling system is configured to use a **transaction account** as the **overdraft account**.” (Ex1001, 13:38-40).

308. As discussed with respect to Claim 8 of the ’100 Patent, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Gopinathan recognizes that its system is used in conjunction with some sort of enrollment process (which would be presumably performed by an enrollment system) (See Pars. 229-231, 290). Moreover, it would be obvious to further modify the method (or system) of Gopinathan to include the enrollment process (and by extension enrollment system) from Hirka (See Pars. 232-236).

309. Further, as discussed with respect to [’100-8] (See Pars. 297-302), a POSITA at the time of the July 5, 2005 invention would understand, as obvious over Gopinathan in view of Hirka, that an **overdraft account** is associated with a debit card by an enrolling system (e.g., as “**Step 250**” indicates providing “a **designated credit or other account to handle overdrafts**” (Ex1009)).

310. For the same reasons as discussed in [’100-2], see Pars. 207-213, a POSITA at the time of the July 5, 2005 invention would have understood that the **overdraft account**, in embodiments, as taught by Hirka, is a **transaction account** (e.g., an account associated with “credit cards” (Ex1009, 1:37) and “**a credit card ... account**” (Ex1010, 7:12)).

311. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 9 of the ’100 Patent, including those of Claim 8 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

d. [’100-10] 10. The system of Claim 8, wherein the enrolling system is configured to use a banking account as the **overdraft account.**

312. Claim 10 further limits the system of Claim 8 of the ’100 Patent by requiring that “**the enrolling system** is configured to use a banking account as the **overdraft account**.” (Ex1001, 13:41-42).

313. As discussed with respect to Claim 8 of the ’100 Patent, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Gopinathan recognizes that its system is used in conjunction with some sort of enrollment process (which would be presumably performed by an enrollment system) (See Pars. 229-231, 290). Moreover, it would be obvious to further modify

the method (or system) of Gopinathan to include the enrollment process (and by extension enrollment system) from Hirka (*See* Pars. 232-236).

314. Further, as discussed with respect to [’100-8] (*See* Pars. 297-302), a POSITA at the time of the July 5, 2005 invention would understand, as obvious over Gopinathan in view of Hirka, that an **overdraft account** is associated with a debit card by an enrolling system (e.g., as “**Step 250**” indicates providing “a **designated credit or other account to handle overdrafts**” (Ex1009)).

315. For the same reasons as discussed in [’100-3], *see* Pars. 214-225, it would have been obvious to a POSITA at the time of the July 5, 2005 invention, as taught by Hirka, for the **overdraft account** to be a **banking account** (e.g., “**more than one cash account**” which in embodiments would be “**held at a bank**” (Ex1009, 7:4-9)). A POSITA would be motivated to use a second bank account as an **overdraft account** because it would give the customer some protection against overdrafts regardless of their ability to obtain a line of credit. In other words, it would extend the “debit card” protection from the balance of a checking account to also include as an overdraft feature the balance from a savings account, by example.

316. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 10 of the ’100 Patent, including those of Claim 8 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- e. [’100-11] 11. The system of Claim 6, further comprising: a settlement system configured to generate a periodic report of at least one of the transactions, the main account, and the overdraft account.

317. Claim 11 further limits the system of Claim 6 by requiring the system to comprise a “settlement system configured to generate a periodic report of at least one of the transactions, the main account, and the overdraft account”. (Ex1001, 13:43-46).

318. It is my understanding that this claim limitation is met if the report contains information concerning any one of transactions or the main account or the overdraft account.

319. I note that this element describes a settlement system, which is not necessarily the same system as the authentication system discussed in element [’100-6PRE].

320. As discussed with respect to [’100-5], Gopinathan teaches, either alone or combination with Hirka, providing a periodic output of transaction information (e.g., a “monthly statement” which may contain “an unfamiliar transaction” (Ex1010, 1:59-60) and/or a “statement of linked account card activity” which is “sent on a regular basis detailing each card transaction” (Ex1009, 14:13-14)). See Pars. 238-246. In my opinion, a POSITA at the time of the July 5, 2005 invention

would understand these periodic statements to be “**periodic reports**” concerning **transactions**.

321. Furthermore, in my opinion, a POSITA at the time of the July 5, 2005 invention as of July 5, 2005, would understand that a computer system would perform the generation of these periodic reports to consumers. Applicant admitted that Hirka ’404 (Ex1007) “**generally teaches a computer implemented method for facilitating electronic commerce transactions**” (Ex1010, at 155). Additionally, Hirka (Ex1009) discloses that it is directed towards a “system and method for a linked account having a sweep feature” (Ex1009, 2:25-26) and a POSITA at the time of the July 5, 2005 invention would therefore understand the generation of settlements, as taught by Hirka, would be performed by a system.

322. Additionally, because the transactions are necessarily reported following settlement (e.g., after a transaction occurs), a POSITA at the time of the July 5, 2005 invention would understand any reporting system would be part of a “settlement system” as claimed by the ’100 Patent.

323. As a result, in my opinion, a POSITA at the time of the July 5, 2005 invention would have found it obvious to modify Gopinathan (Ex1010) to include the statement generation as taught by Hirka (Ex1009). A POSITA would have been motivated to provide periodic statements to allow for customers to confirm the status

of their accounts. As Gopinathan demonstrates, this feature would have been easy to implement.

324. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 10 of the '100 Patent, including those of Claim 8 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (**Ground 2, Petition 1**).

6. **Independent Claims 12 and 15 of the '100 Patent are Anticipated by Gopinathan (Ex1010) (Ground 1, Petition 1) and/or Rendered Obvious over Gopinathan in view of Hirka (Ex1009) (Ground 2, Petition 1)**

325. Claims 12 and 15 of the '100 patent correspond very closely to Claim 1, except that Claims 12 is directed to a “**computer program product**” including “a **tangible computer-readable medium**” containing “**control logic**” which can use “**program code means**” to perform the method claimed, and Claim 15 is directed to a “**tangible computer-readable medium**” which uses “**computer executable instructions**” to perform the method claimed. Additionally, elements [’100-12A/15A] differ in that they call for “authenticating, through **authorization** including **fraud assessment**” instead of “authenticating... wherein the authentication includes **fraud assessment**”. Authorization, as discussed with respect to Claim 6 of the '100 Patent, is amply disclosed by Gopinathan (Ex1010) and/or by Gopinathan in view of Hirka (Ex1009).

326. As I discuss herein, as **Ground 1** of **Petition 1**, in my opinion, a POSITA, as of July 5, 2005 would understand that each and every element of Claims 12 and 15 of the '100 Patent is expressly or inherently taught by the disclosure of Gopinathan (Ex1010). In any event, and in the alternative, as **Ground 2** of **Petition 1**, in my opinion, a POSITA, as of July 5, 2005 would understand that to the extent any of the elements of Claims 12 and 15 of '100 Patent are not expressly or inherently disclosed in Gopinathan (Ex1010), such element(s) is/are at least obvious over Gopinathan in view of Hirka (Ex1009).

- a. **[’100-12PRE] 12. A computer program product for performing a debit card authentication the computer program product comprising a tangible computer usable medium having control logic stored therein, said control logic comprising:**

327. Element [’100-12PRE] includes the requirement of a “**computer program product**” “comprising a **tangible computer usable medium** having **control logic stored therein**” to perform debit card authentication. (Ex1010, 13:47-14:2). The control logic “comprises ... computer readable **program code means**” which describe the claimed invention. (Ex1010, 14:2-14:13). In other words, **executable software** capable of performing a “debit card authentication” must be stored in **computer-accessible memory**.

328. As discussed with respect to elements [’100-1PRE] and [’100-1A], Gopinathan teaches, either alone (**Ground 1, Petition 1**) or in combination with

Hirka and the prior art (**Ground 2, Petition 1**) performing a debit card authentication using a “**System 100**”. See Pars. 167-192.

329. As **Ground 1 of Petition 1**, Gopinathan discloses that “**System 100**” stores “software program instructions” “**in program storage 107**” (Ex1010, 3:56-60):

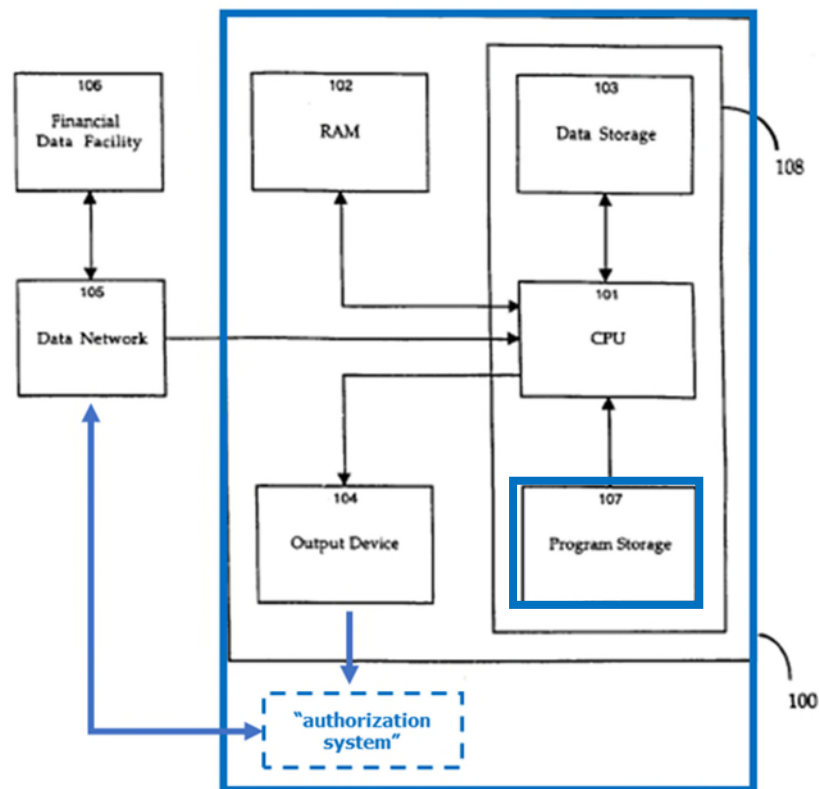


FIGURE 1

(Ex1010, Fig. 1). Gopinathan further discloses that discloses that the “software program instructions” cause the operations of the methods disclosed by Gopinathan to be performed:

“CPU 101 runs software program instructions, **stored in program storage 107**, which directs CPU 101 to perform the various functions of the system. In the preferred embodiment, the software program is written in the ANSI C language, which may be run on a variety of conventional hardware platforms. In accordance with the software program instructions, CPU 101 stores the data obtained from data network 105 in data storage 103, and uses RAM 102 in a conventional manner as a workspace. CPU 101, data storage 103, and **program storage 107** operate together to provide a neural network model 108 for predicting fraud. After neural network 108 processes the information, as described below, to obtain an indication of the likelihood of fraud, a signal indicative of that likelihood is sent from CPU 101 to output device 104.” (Ex1010, 3:56-67).

330. In any event, as **Ground 2 of Petition 1**, to the extent Gopinathan does not expressly disclose that **program storage 107** contains a particular piece of **executable software**, in my opinion, it would be obvious to a POSITA at the time of the July 5, 2005 invention modify the system disclosed to do so in light of Hirka (Ex1009).

331. Hirka (Ex1009) discloses that it is directed towards a “system and method for a linked account having a sweep feature” (Ex1009, 2:25-26). As discussed with respect to the prosecution history, Applicant admitted that Hirka ’404 (Ex1007) “**generally teaches a computer implemented method for facilitating electronic commerce transactions**” (Ex1010, at 155). In my opinion, a POSITA

would understand, as of the date of invention in July 5, 2005, that “**computer implemented**” methods of similar complexity and scale as the methods described by Hirka and Hirka ’404 would necessarily be implemented using **executable software** stored on **system memory**. This understanding matches my experience at the time developing financial applications and authentication methods.

332. Furthermore, in my opinion, a POSITA at the time of the July 5, 2005 invention would be motivated to implement the features taught by Gopinathan, or by Gopinathan in view of Hirka, using **executable software** stored on system memory because software provides a high degree of efficiency, flexibility and cost savings compared to the alternative modes of performing methods. Using such software was common at the time and would have been trivial to implement.

333. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’100-12PRE] of the ’100 Patent is disclosed in Gopinathan (**Ground 1, Petition 1**) and in the alternative would be rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

- b. [’100-15PRE] 15. A **tangible computer-readable medium having stored thereon computer executable instructions that**, if executed by a computing device,

cause the computing device to perform a method comprising:

334. Element [’100-15PRE] requires a “A **tangible computer-readable medium having stored thereon computer executable instructions that**, if executed by a **computing device**, **cause the computing device** to perform a method” of authenticating a transaction. (Ex1010, 14:27-30). In other words, like the claim element of [’100-12PRE], the method must be stored in **accessible memory** as **executable software**.

335. For the same reasons discussed with respect to [’100-12PRE], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of element [’100-15PRE] are disclosed in Gopinathan (**Ground 1, Petition 1**) and/or rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

- c. [’100-12A/15A] ... authenticating, through authorizing including **fraud assessment**, a **transaction** requested by the debit card against at least one of an **[account/demand deposit account]** that has been associated with the debit card or **an overdraft account** that has been associated with the debit card,

336. Claim element [’100-12A] requires that the control logic comprise “first computer readable program code means for **authenticating**, through **authorizing including fraud assessment**, a **transaction** requested by the debit card against at least one of an **account** that has been associated with the debit card or an

overdraft account that has been associated with the debit card”. (Ex1001, 14:3-8). Claim element [’100-15A] requires “**authenticating**, through **authorizing including fraud assessment**, a **transaction** requested by the debit card against at least one of an **demand deposit account** that has been associated with the debit card or an **overdraft account** that has been associated with the debit card”. (Ex1001, 14:31-35). Claim element [’100-15A] differs from claim element [’100-12A] principally in that it requires a “**demand deposit account**” as opposed to just an “**account**”. An “**demand deposit account**” would meet the limitation of an “**account**” in [’100-12A].

337. Because this claim is written using the disjunctive, it is my understanding that this limitation may be met regardless of if an “**overdraft account**” has been associated with a debit card. However, as discussed with respect to Pars. 186-191 in the event an “overdraft account” is necessary to be associated with the debit card, it would in any event be obvious in view of Hirka (as set forth as **Ground 2, Petition 1**).

338. As discussed with respect to element [’100-1A], Gopinathan teaches, either alone (**Ground 1, Petition 1**) or in combination with Hirka (**Ground 2, Petition 1**) authenticating a **transaction** against a **demand deposit account associated** with a debit card (e.g., by using learned relationships to compare “**current transaction data** from **database 805**” (Ex1010, 24:44) with “**Customer**

data from **database 805**” (Ex1010, 24:50-60)), wherein the authentication includes a **fraud assessment** (e.g., “**determining the likelihood of fraud** for each **transaction**” (Ex1010, 5:4-5)). (See Pars. 178-192).

339. Furthermore, as discussed with respect to element [’100-6C] Gopianthan teaches, either alone (**Ground 1, Petition 1**) or in combination with Hirka (**Ground 2, Petition 1**), an **authorization** including a **fraud assessment** (e.g., “**Steps 1601 through 1607**” of the fraud assessment which leads to the result that the “**transaction is authorized**” (Ex1010, 25:50-52)). (See Pars. 269-275).

340. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of elements [’100-12A/15A] of the ’100 Patent is disclosed in Gopinathan (**Ground 1, Petition 1**) and in the alternative would be rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

d. [’100-12B/15B] wherein the fraud assessment includes communication with information sources via a network; and

341. Claim elements [’100-12B/15B] both further require that “**the fraud assessment** includes communication with **information sources** via a **network**” (Ex1001, 14:8-10, 14:35-37).

342. For the same reasons discussed with respect to [’100-1B], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that

all of the features of elements [’100-12B/15B] of Claims 12 and 15 the ’100 Patent are disclosed in Gopinathan (Ex1010) (**Ground 1, Petition 1**) and/or rendered obvious over Gopinathan in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- e. [’100-12C/15C] ... **updating** information regarding at least one of the [account/demand deposit account] or the **overdraft account** based on the transaction.

343. Claim element [’100-12C] requires that the control logic comprise “second computer readable program code means for **updating** information regarding at least one of the **account** or **the overdraft account** based on the transaction.” (Ex1001, 14:11-13). Claim elements [’100-15C] require “**updating** information regarding at least one of the **account** or the overdraft account based on the transaction.” (Ex1001, 14:11-13, 14:38-40). Element [’100-12C] differs from element [’100-15C] principally in that it requires a “**demand deposit account**” as opposed to just an “**account**”. A “**demand deposit account**” would meet the limitation of an “**account**” in [’100-12C].

344. Because this claim is written using the disjunctive, it is my understanding that this limitation may be met regardless of if an “**overdraft account**” is **updated**. However, as discussed with respect to Pars. 203-204, in the event an “**overdraft account**” is necessary to be updated, it would in any event be obvious in view of Hirka (as set forth as **Ground 2, Petition 1**).

345. The limitations of claim elements [’100-12C/15C] are nearly identical to claim element [1C], except that claim element [’100-1C] uses “**and**” instead of “**or**”. I analyzed claim element [’100-1C] with respect to **updating** both a **demand deposit account** and **an overdraft account**. My analysis regarding the **demand deposit account** applies equally to element [’100-12C/15C], as Gopinathan teaches, either alone (**Ground 1, Petition 1**) or in combination with Hirka (**Ground 2, Petition 2**) **updating** an “**account**” and a “**demand deposit account**”, respectively (e.g., “the system then **updates customer profile database 806** with the **new transaction data 1610**” (Ex1010, 25:58-60)). (See Pars. 198-205).

346. Accordingly, for the same reasons discussed with respect to [’100-1C], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of elements [’100-12C/15C] of Claims 12 and 15 the ’100 Patent are disclosed in Gopinathan (**Ground 1, Petition 1**) and/or rendered obvious over Gopinathan in view of Hirka (**Ground 2, Petition 1**).

7. **Dependent Claims 13-14, 16-17 of the ’100 Patent Are Rendered Obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (Ground 2, Petition 1)**

347. Claims 13 and 14 of the ’100 Patent depend from Claim 12 and Claims 16 and 17 of the ’100 Patent depend from Claim 15. For the same reasons as discussed above, as **Ground 1 of Petition 1**, Claims 12 and 15 are anticipated by

Gopinathan, and in the alternative, as **Ground 2 of Petition 1**, Claim 12 and 15 are rendered obvious over Gopinathan in view of Hirka. See Pars. 325-346.

348. The remaining limitations of Claims 13 and 16 relate to, like Claim [’100-4], enrolling a potential cardholder. The remaining limitations of Claims 14 and 17 relate to providing a periodic output of associated information, like Claim [’100-5]. As I earlier discussed, both Claims 12 and 15 require only the association of either a **main/demand deposit account** or an **overdraft account**. However, these claims require both types of accounts. As a result, in my discussion, I consider the remaining limitations of Claims 13-14 and 16-17 to be rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- a. [’100-13] 13. **The computer program product of Claim 12, further comprising: third computer readable program code means for enrolling into a debit card program; fourth computer readable program code means for associating the **account** to the debit card; and fifth computer readable program code means for associating the **overdraft account** to the debit card.**

349. Claim 13 further limits the computer program product of Claim 12 of the ’100 Patent by requiring that the computer program product further comprise “third” “fourth” and “fifth computer readable means” for “enrolling into a debit card program; associating the **account** to the debit card; and associating the **overdraft account** to the debit card”, respectively. (Ex1001, 14:14-21). These limitations are

essentially the same as the enrollment steps in claim [**'100-4**] and would be performed by the enrollment system discussed in claim [**'100-8**]. For the reasons I discuss in [**'100-12PRE**], a POSITA at the time of the July 5, 2005 invention would have understood that these features would be implemented using software stored on system memory. *See* Pars. 327-333.

350. Accordingly, in my opinion, for the same reasons as discussed in claim [**'100-4**], a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 13 of the '100 Patent, including those of Claim 12 from which it depends, are rendered obvious over Gopinathan (Ex1010) in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- b. [**'100-16**] **16. The method of Claim 15, further comprising, before the authenticating, enrolling in a debit card program during which the associating of the demand deposit account and the overdraft account are performed.**

351. Claim 16 further limits the computer program product of Claim 15 of the '100 Patent by requiring that the method performed by the stored instructions further comprise “before the authenticating, enrolling in a debit card program during which the associating of the demand deposit account and the overdraft account are performed.” (Ex1001, 14:41-44). The limitation of Claim 16 is identical to the limitation of Claim [**'100-4**]. A POSITA would also understand that this method

would be performed by software, as I discussed in elements [**'100-12PRE/15PRE**] and claim [**'100-13**]. (See Pars. 327-335, 349).

352. Accordingly, for the same reasons discussed in Claim [**'100-4**], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 16 of the '100 Patent, including those of Claim 15 from which it depends, are rendered obvious over Gopinathan in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

- c. [**'100-14**] **14. The computer program product of Claim 12, further comprising: third computer readable program code means for providing a periodic output of the account information for the account and the overdraft account.**

353. Claim 14 further limits the computer program product of Claim 12 of the '100 Patent by requiring that the computer program product further comprise “third computer readable program code means for providing a periodic output of the account information for the account and the overdraft account.” (Ex1001, 14:22-26). The limitation of Claim 14 is identical to the limitation of Claim [**'100-5**] except that it applies to an “**account**” instead of “**demand deposit account**” and calls for “third computer readable code means”. These differences are trivial, as a “**demand deposit account**” is an “**account**”. For the reasons I discuss in [**'100-12PRE**], a POSITA at the time of the July 5, 2005 invention would have understood that these features would be implemented using software stored on system memory. See Pars. 327-333.

354. Accordingly, for the same reasons discussed in Claim [’100-5], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 14 of the ’100 Patent, including those of Claim 12 from which it depends, are rendered obvious over Gopinathan in view of Hirka (Ex1009) **(Ground 2, Petition 1)**.

- d. [’100-17] 17. The method of Claim 15, further comprising: providing a periodic output of the account information for the demand deposit account and the overdraft account.

355. Claim 17 further limits the computer program product of Claim 15 of the ’100 Patent by requiring that the method performed by the stored instructions further comprise “providing a **periodic output** of the **account information** for the demand deposit account and the overdraft account.” (Ex1001, 14:45-47). The limitation of Claim 17 is identical to the limitation of Claim [’100-5]. A POSITA would also understand that this method would be performed by software, as I discussed in elements [’100-12PRE/15PRE] and Claim [’100-14]. (See Pars. 327-335, 353).

356. Accordingly, for the same reasons discussed in Claim [’100-5], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 17 of the ’100 Patent, including those of Claim 15 from

which it depends, are rendered obvious over Gopinathan in view of Hirka (Ex1009) (**Ground 2, Petition 1**).

C. **Claims 1, 4-5, and 7-16 of the '301 Patent Are Anticipated Under 35 U.S.C. §§102(a) & 102(e) by Foss (Ex1008) (Ground 1, Petition 2) and Claim 14 is Additionally Rendered Obvious Under 35 U.S.C. § 103(a) over Foss in view of the admitted prior art (Ex1008) (Ground 2, Petition 2)**

357. As discussed below, as **Ground 1 of Petition 2**, it is my opinion that Foss (Ex1008) discloses, expressly or inherently, each and every element of Claims 1, 4-5, and 7-16 of the '301 Patent. With respect to Claim 14 of the '301 Patent, as alternative **Ground 2 of Petition 2**, it is my opinion that Claim 14 is additionally rendered obvious over Foss in view of the admitted prior art.

1. **Independent Claims 1 and 7 of the '301 Patent Are Anticipated by Foss (Ex1008) (Ground 1, Petition 2)**

358. Independent Claims 1 and 7 of the '301 Patent (**Petition 2**) are virtually identical, except Claim 1 reads on a “method” while Claim 7 reads on “an article of manufacture” which includes a “computer readable medium” programmed to perform the same method. As I discuss herein, as **Ground 1 of Petition 2**, in my opinion, a POSITA, as of July 5, 2005 would understand that each and every element of the Claim 1 and 7 of the '301 Patent are expressly or inherently taught by the disclosure of Foss (Ex1008).

a. **[’301-1PRE] 1. A method comprising:**

359. “FIG. 4 [of Foss] is a flow diagram that illustrates the operation of performing a transaction 400 according to an exemplary embodiment of the present invention.” (Ex1008, [0065]). As discussed herein, each of the steps of the claimed method are depicted in Fig. 4:

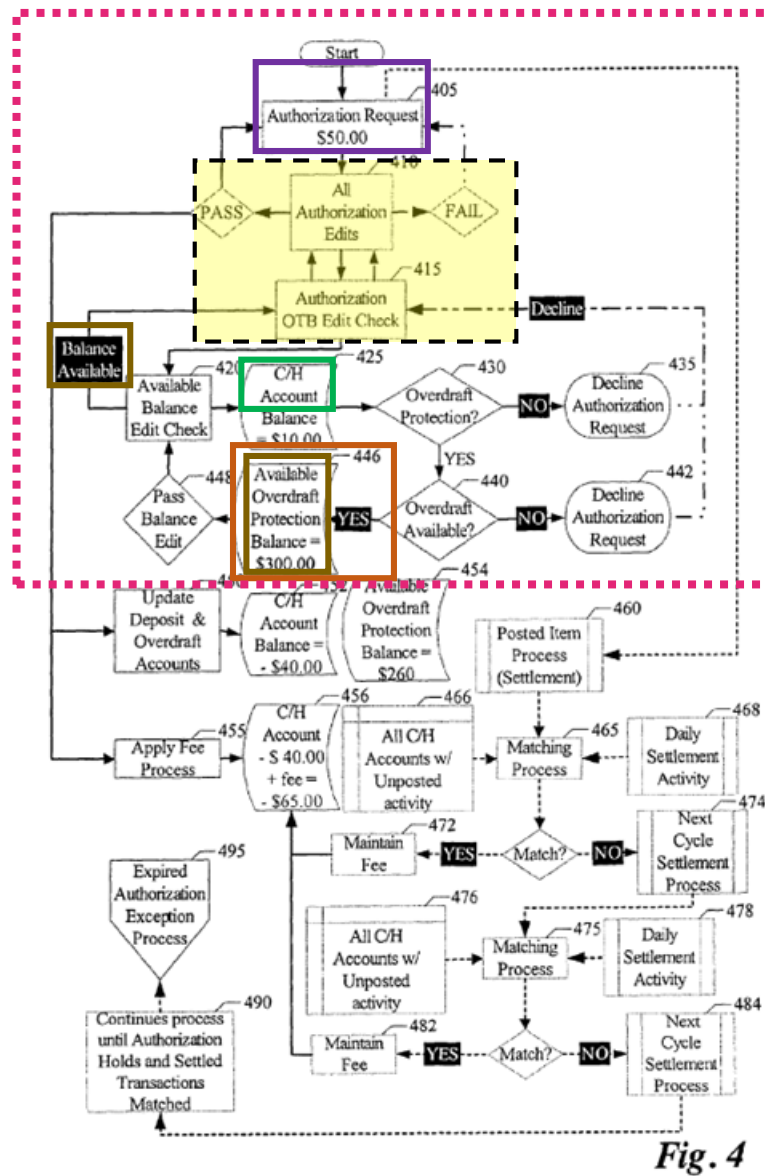


Fig. 4

(Ex1008, Fig. 4).

360. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would have understood that each and every feature of element [’301-1PRE] is disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- b. [’301-7PRE] 7. **An article of manufacture including a non-transitory, tangible computer readable medium having instructions stored thereon that, in response to execution by a computer-based authorization system, cause the computer-based authorization system to perform operations comprising:**

361. In my opinion, to the extent [’301-7PRE] is considered a limitation, Foss (Ex1008) teaches [a]n article of manufacture including a non-transitory, tangible computer readable medium having instructions stored thereon that, in response to execution by a **computer-based authorization system** cause[s] the **computer-based authorization system** to perform operations.

362. To the extent it is considered a limitation, Foss discloses a computer system, which is a modification of existing stored value systems, comprising the “account management component 240” which may be “combined” with “the transactional processing component 250” and Foss’ proposed stored value component and credit/overpayment component. (Ex1008, [0017], [0033], [0055], [0057]; see Pars. 135-138 (discussing Ex1008, Fig. 2)).

363. As discussed above, as illustrated in Figure 2, which is “an exemplary application of the present invention”, Foss discloses its modification of existing

stored value systems, a computer-based authorization system, comprising an “account management component 240” which, in embodiments, is “combined” with a “transactional processing component 250” and Foss’ proposed stored value component and credit/overpayment component (Ex1008, [0017], [0033], [0055], and [0057]):

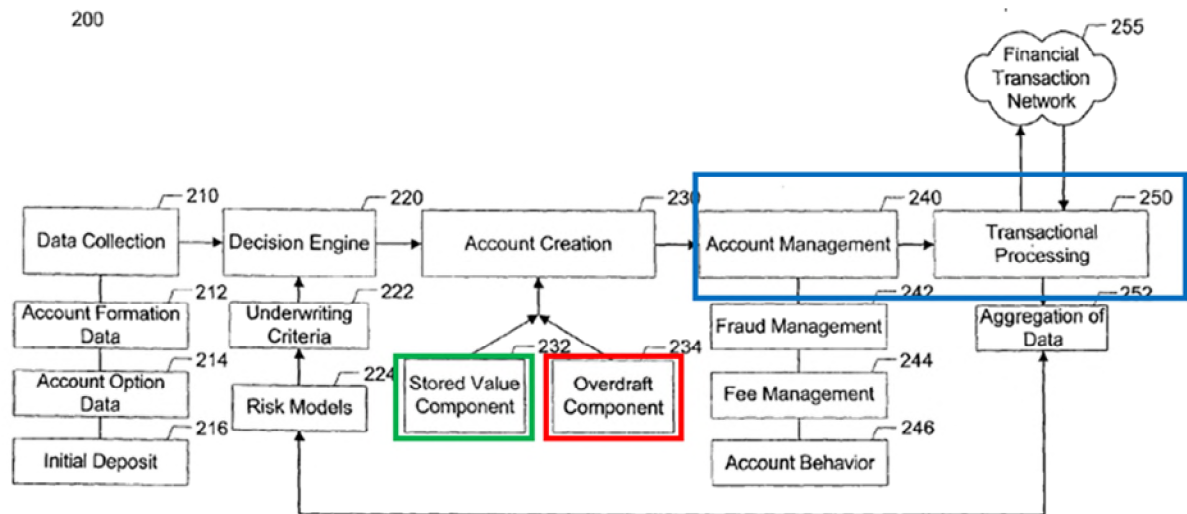


Fig. 2

(Ex1008, Fig. 2).

364. The “account management component 240 manages the customer account” and the “transactional processing component 250 processes and monitors the day to day transactions between the account and the financial transaction network 255.” (Ex1008, [0057]). Foss teaches that, in embodiments, these components are combined:

“In general, the illustrated embodiment includes five main functions or components: the data collection component 210, the decision engine 220, the account creation component 230, the account management component 240 and the transactional processing component 250. **It should be understood that structure illustrated in this figure is for discussion purposes only and the various functions or components of the present system could be combined or split in many manners.**” (Ex1008, [0033]).

365. In my opinion, a POSITA at the time of invention in July 5, 2005 time of invention, would understand that the improved stored value system and its components depicted in Figure 2 that make up Foss’ “present system”, and discussed above, would constitute a “**computer-based authorization system**”. These systems were generally employed within the industry by “credit card processing companies.” (Ex1008, [0016]).

366. Specifically, in my opinion, a POSITA as of the July 5, 2005 time of invention would expect to use a computer-based authorization system as the stored value system in Foss “to provide notice and receive status in real time”, to “maintain a master file of all accounts that have been issued”, “to place a temporary hold on” accounts, and “to release funds if a settlement does not come through.” (Ex1008, [0018]). A POSITA at the time of the invention would understand to implement Foss using a **computer-based authorization system** since such systems would be used

in order to operate with existing card transaction systems such as Mastercard, Visa, and American Express networks. (See Ex1008, [0016] (citing to the Visa Network)).

367. Indeed, this is consistent with the admission by Applicant during prosecution of the '100 Patent that computer-implemented methods for facilitating electronic transactions were known in the prior art at the time of the invention of the '301 Patent: “Hirka generally teaches a **computer implemented method for facilitating electronic transactions.**” (Ex1005 at 155).

368. Likewise, as previously discussed in Pars. 56-58, the '301 Patent calls out as admitted prior art examples of known **computer-based authorization systems** at the time of the invention, such as those implemented by “**eFunds** or **First Data Corporation of Greenwood Village, Colo.**” (See, *e.g.*, Ex1002, 8:8-9).

369. In my opinion, a POSITA at the time of the July 5, 2005 invention would therefore understand that the process described with respect to Figure 4 and discussed below would be performed by the components disclosed in Foss, particularly by the **transactional processing component 250**.

370. In my opinion, a POSITA at the time of the July 5, 2005 invention would further understand that the components described in Foss, like **Stored Value Systems** and other computers used at the time of the invention, would necessarily include “a non-transitory, tangible computer readable medium having instructions

stored thereon,” the execution of which would cause the methods disclosed in Foss to execute via the **transactional processing component 250**.

371. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would have understood that each and every feature of element [’301-7PRE] is disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- c. [’301-1A/7A] receiving, at [a/the] **computer-based authorization system**, a **transaction request** associated with a **debit account**, wherein the **debit account** is associated with a **separate account**;

372. Foss teaches receiving, at a **computer-based authorization system** (e.g., a computer system including the “**account management component 240**” which may be combined with **the transactional processing component 250** and Foss’ proposed **stored value component** and **credit/overpayment component** (Ex1008, [0017] [0033], [0055], [0057])) a **transaction request** (e.g., the “**authorization request 405**” (Ex1008, [0065])) associated with a **debit account** (e.g., a “**basic card account**” (Ex1008, [0065],[0053])).

373. As **Ground 1 of Petition 2**, as discussed with respect to element [’301-7PRE], Foss discloses with respect to Figure 2 a **computer-based authorization**

system (the modified **Stored Value System**) to perform the steps set out in Figure 4. (See Pars. 361-365; Ex1008, Fig. 2, [0017], [0033], [0055] and [0037]).⁶

374. With respect to elements [**301-1A/7A**], Foss discloses receiving a **transaction request**. For example, in “the operation of performing a transaction 400” in Fig. 4, the first step is “**receiving an authorization request 405** requesting a \$50 withdrawal”. (Ex1008, [0065]). Foss further discloses that the **transaction request** is associated with a **debit account** (e.g., a “**basic card account**”) (Ex1008, [0065]).

375. An illustrative example in Foss discloses receiving a **transaction** for the **basic card account**, assuming that:

“a customer has opened a **basic card account** which has a current balance of \$10 and an **overdraft option** with a limit of \$300. In an exemplary embodiment, the first step of a debit card transaction 400 is **receiving an authorization request 405** requesting a \$50 withdrawal.” (Ex1008, [0065]).

⁶ This same analysis as to **Ground 1** applies to the “computer-based authorization system” set forth in the remaining elements of [**1B/7B**], [**1C/7C**] and [**1D/7D**], the respective dependent Claims 3 and 15, and claim elements [**16A**], [**16B**], and [**16C**], and will not be repeated in my analysis of the invalidity of the ’301 Patent (**Petition 2**).

376. Based on the authorization request 405, the process checks the status and balance of “**the deposit and overdraft accounts**”. Subsequently, as a result of **receiving the authorization request**, “an all authorization edits 410 step is performed. The all authorization edits 410 step authorizes the transaction.” (Ex1008, [0065], [0066]). “If the all authorization edits [sic] 410 step passes, the process proceeds to update **the deposit and overdraft accounts**, step 450, and applies any applicable fees, step 455.” (Ex1008, [0066]).

377. The following markup of Fig. 4 illustrates the “operation of performing [] transaction 400”, and specifically highlights the relevant elements of [**301-1A/7A**]:

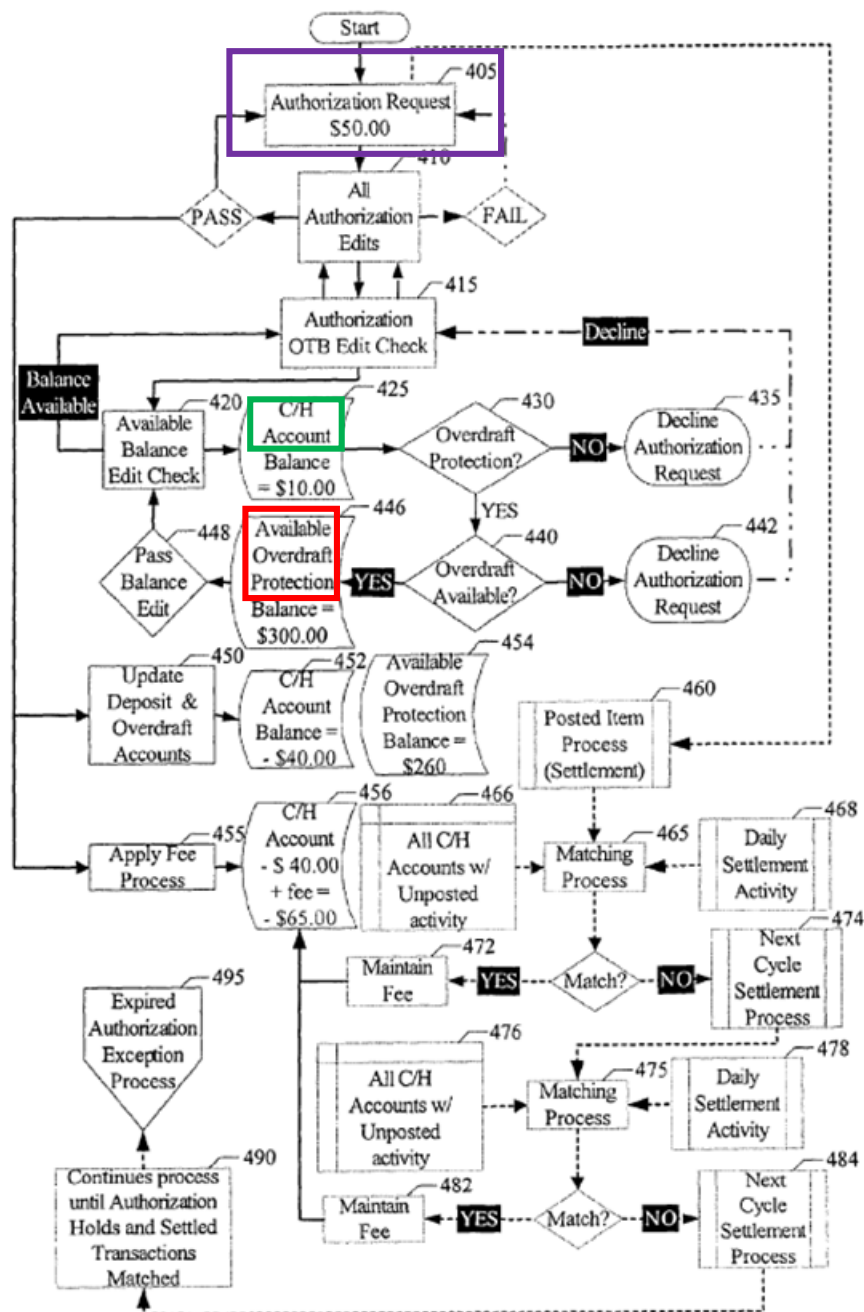


Fig. 4

(Ex1008, Fig. 4).

378. With respect to the final limitation of element [’301-1A], Foss also teaches that the **debit account** is **associated with a separate account** (e.g., an

“**overdraft account[]**” or “**overdraft component**” (Ex1008, [0053],[0054], [0066])). In particular, Foss teaches as the primary modification of the invention, the creation of a “linkage ... between a **credit/overpayment component** and the **stored value component**” (Ex1008, [0017]). Thus, in my opinion, a POSITA at the time of the July 5, 2005 invention would also understand that the **debit account** (“**stored value component**”) is associated with a **separate account** (“**credit/overpayment component**”).

379. Furthermore, the **overdraft component 234** can be available “in conjunction with the basic card” and can also be available “*separate from the basic card.*” (Ex1008, [0052]). This language would further confirm to a POSITA at the time of the July 5, 2005 invention that **overdraft account** is a **separate account**.

380. Foss discloses other language suggesting associating the **debit account** with an **overdraft account**: Customers enrolling in the system of Foss may select “[t]he third account type,” which “is the **basic card with overdraft protection**” (Ex1008, [0038]). (See also Ex1008, Figs. 2 & 4).

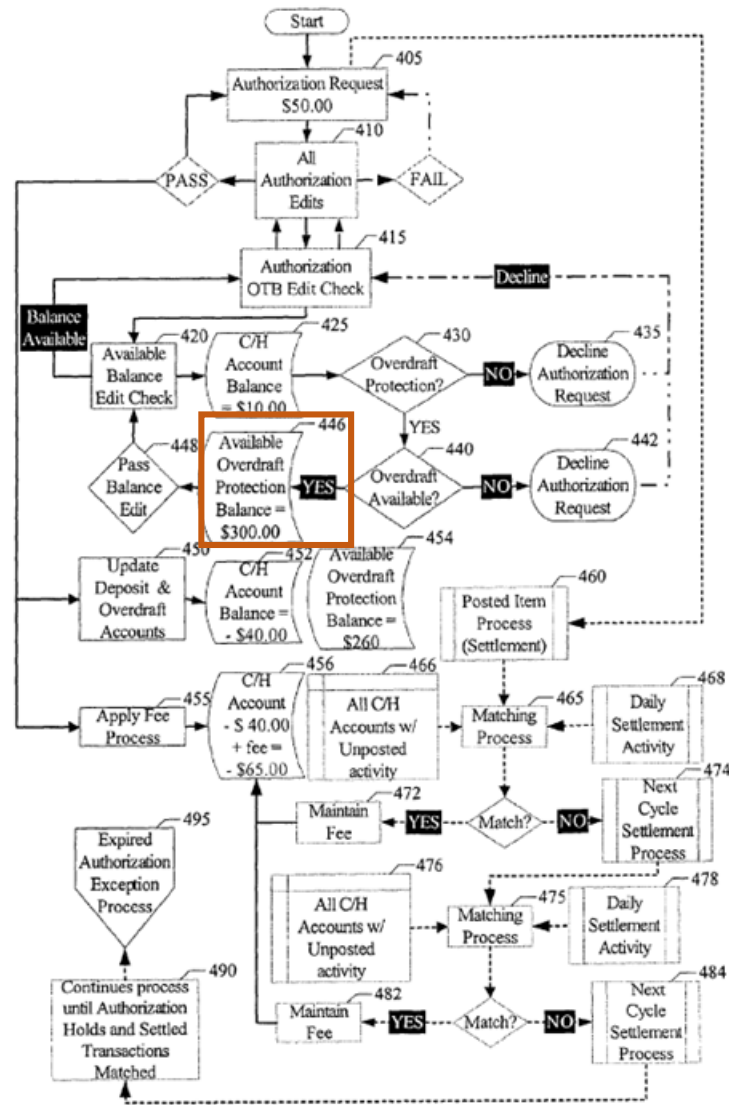
381. The **overdraft component 234** performs a standard overdraft function, “allow[ing] the customer to perform transactions that exceed the customer’s loaded or deposited funds in the funding account or stored value component 232 to the extent of the overdraft amount.” (Ex1008, [0053]).

382. Thus, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [’301-1A/7A] is disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- d. [’301-1B/7B] sending, using the computer-based authorization system, an **account information request** that includes **account information** of the **separate account**;

383. Foss discloses **as step 446** in Figure 4, sending, using the computer-based authorization system (see discussion in elements [’301-7PRE] and [’301-1A/7A], Pars. 361-371, 373) an **account information request** (e.g., “the **available overdraft protection balance** is **checked at step 446**” (Ex1008, [0066], Fig. 4)).

384. As step 446 of the transaction process 400 shown in FIG. 4, Foss discloses sending, using the computer-based authorization system an **account information request** (e.g., “If overdraft funds are available at step 440, the **available overdraft protection balance is checked at step 446**”). (Ex1008, [0066]). *See, e.g.*, Ex1008, Fig. 4:



(Ex1008, Fig. 4).

385. As shown in Figure 4 above, as a part of performing transaction authorization for transaction 400, Foss discloses that the process:

“checks to see if the account has overdraft protection at step 430. If the account has overdraft protection 430, the process checks if overdraft funds are available at step 440.... If overdraft funds are available at step

440, **the available balance is checked at step 446**". (Ex1008, [0066], Fig. 4).

386. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that in order to perform "**the available balance is checked at step 446**" (for the overdraft account), the **account information request** would necessarily include **account information** associated with the **overdraft account**.

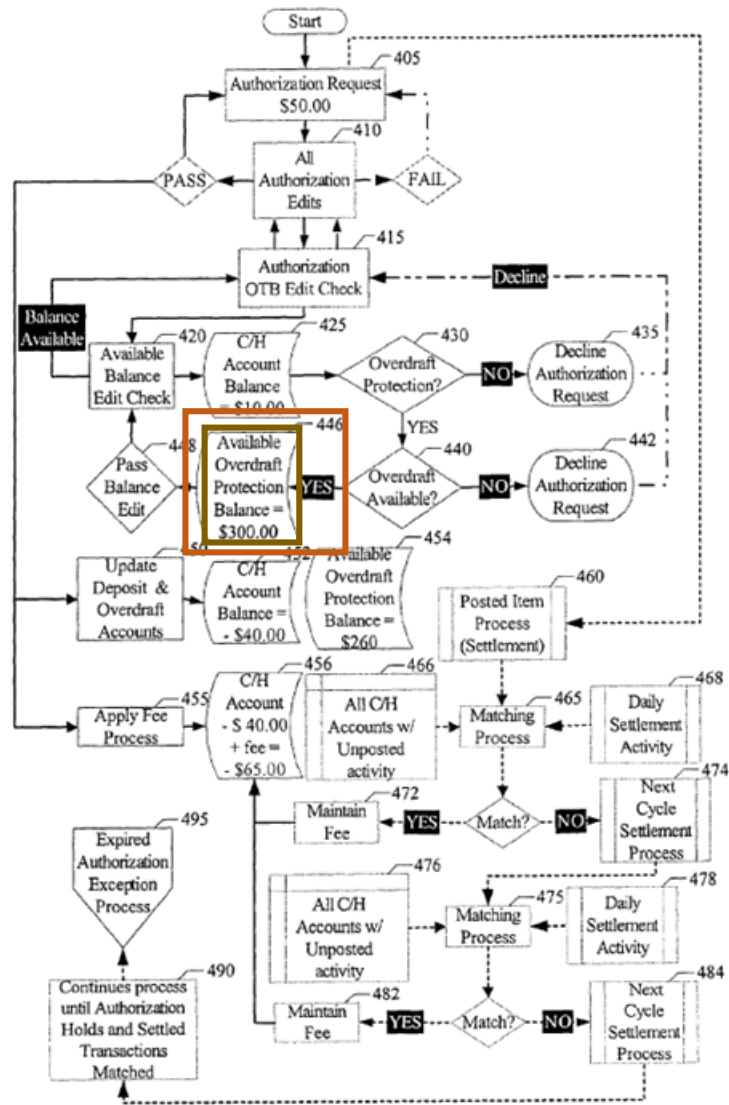
387. In particular, a POSITA at the time of the July 5, 2005 invention would understand that an account number or other form account identification using the "linkage between the **credit/overpayment component** and the **stored value component**" (Ex1008, [0017]) would be associated with the **overdraft account**, and used to check the available balance of the overdraft account in step 446 of Foss as a simple, easy method to identify what balance was being checked.

388. Therefore, a POSITA at the time of the July 5, 2005 invention would understand that sending "**account information requests**" would include information about the "**separate account**" (the **overdraft account**) as required by claim element [**301-1B/7B**].

389. Thus, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [**301-1B/7B**] is disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- e. **['301-1C/7C] receiving, at the computer-based authorization system, status information of the separate account in response to the account information request; and**

390. Foss (Ex1008) teaches receiving, at the computer-based authorization system (see discussion in elements **['301-7PRE]** and **['301-1A/7A]**, Pars. 361-371, 373) **status information** (e.g., “**available overdraft protection balance ... in this case \$300**” (Ex1008, [0066])) of the separate account. (Ex1008, [0066])). *See* Ex1008, Fig. 4:



(Ex1008, Fig. 4).

391. As discussed with respect to element [’301-1B/7B], the balance of the overdraft account is requested as part of the **account information request** in step 446: if “overdraft funds are available at step 440, the **available overdraft protection balance is checked at step 446**”. (Ex1008, [0066]).

392. In response to the account information request, at step 446, **status information** (e.g., **the available balance**) is received: “If overdraft funds are available at step 440, the available **overdraft protection balance** is checked at step 446.” (Ex1008, [0066]). Step 446 results in the **available balance** being returned and used for authorization (See Ex1008, Fig. 4):

After the **available overdraft protection balance at step 446 is checked** and the enough funds are available, in this example **\$300**, a pass balance edit 448 is returned to the available balance edit check at step 420. At this point, a **balance available** is returned to the authorization OTB edit check 415. The authorization OTB edit check 415 step then returns either a fail (from step 435 or step 442) or a pass (from step 420) back to the all authorization edits 410 step.” (Ex1008, [0066]).

393. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that the response of the **account information request** includes **status information** (in the form of the account balance, e.g., “**\$300**” in the example) of the separate account, and that the **status information** is received at the computer-based authorization system, to be used for authorization.

394. Thus, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of elements [’**301-1C/7C**] is disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- f. **[’301-1D/7D] authorizing**, using the computer-based authorization system, the transaction request based on the **status information**.

395. Foss teaches **authorizing** (“**authorization OTB edit check 415**” Ex1008, Fig. 4 & [0066])) using the computer-based authorization system (see discussion in elements **[’301-7PRE]** and **[’301-1A/7A]**, Pars. 361-371, 373), the transaction request (e.g., “authorization request 405” (Ex1008, [0065])).

396. **Authorizing** the transaction request is based on the **status information** (e.g., the “**available overdraft protection balance**” (Ex1008, [0066])). Based on that **balance**, “[t]he **authorization OTB edit check 415** step returns either a fail (from step 435 or step 442) or a **pass (from step 420) back to the all authorization edits 410 step.**” (Ex1008, [0066]; *see* Ex1008, Fig. 4).

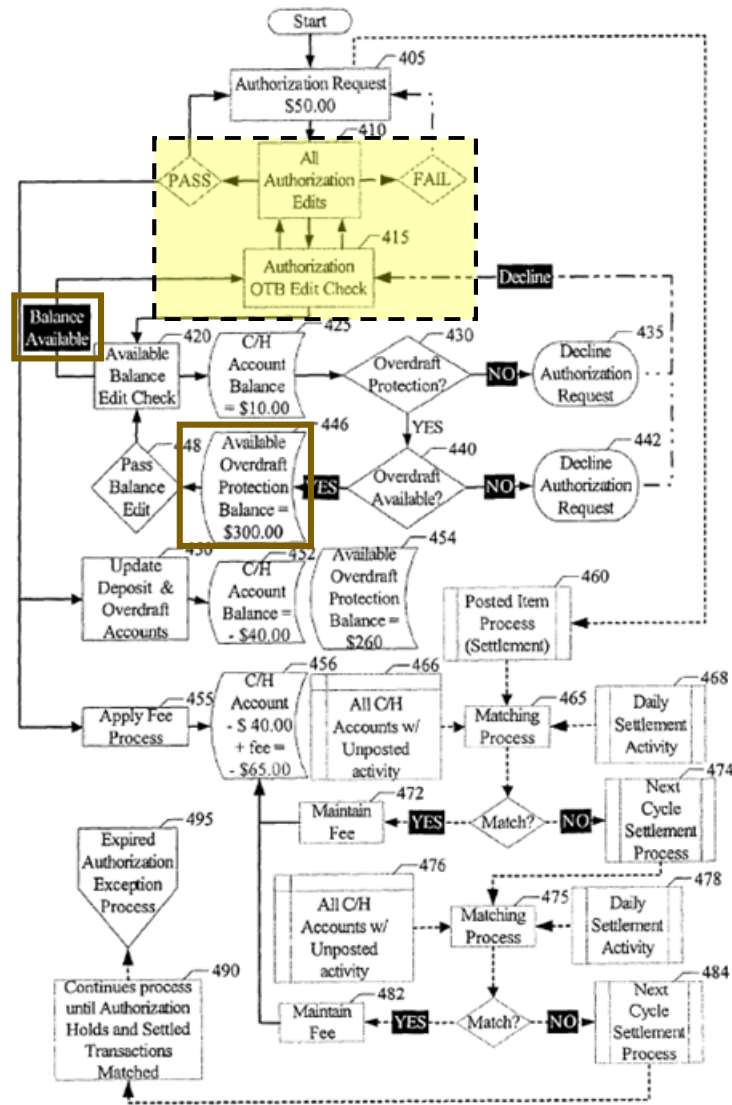


Fig. 4

(Ex1008, Fig. 4).

397. As discussed with respect to claim elements [’301-1B/7B] and [’301-1C/7C], following transaction authorization request 405, an account information request is sent, and **status information** (e.g., **the balance of the overdraft account**) is received, at step 446. When the **status information** is received at step 446, it

passes from step 446 back to step 420, and from to step 420 “**authorization OTB edit check 415**” (Ex1008, [0066]):

“[A]fter the **available overdraft protection balance** at step 446 is checked and the enough funds are available, in this example **\$300**, a pass balance edit 448 is returned to the available balance edit check at step 420... At this point, a **balance available** is returned to the authorization OTB edit check 415.” (Ex1008, [0066]).

398. When the “**balance available** is returned to the authorization OTB edit check 415,” authorization occurs:

“[t]he **authorization OTB edit check 415 step then returns** either a **fail** (from step 435 or step 442) or a **pass** (from step 420) **back to the all authorization edits 410 step**. Again, if the all authorization edits 410 step fails, the process returns to the **authorization request 405 step** and waits for another **authorization request** and **if the all authorization edits 410 step passes**, the process proceeds to update the deposit and overdraft accounts, step 450, and applies any applicable fees, step 455.” (Ex1008, [0066]).

399. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that Foss teaches **authorizing** the transaction request (e.g., “authorization request 405” (Ex1008, [0065])) in the **authorization OTB edit check** based on the **status information** using the computer-based authorization system.

400. Thus, in my opinion, a POSITA would understand that each and every feature of elements [**'301-1D/7D**] is disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

2. **Dependent Claims 4-5, 8-13, and 15 of the '301 Patent Are Also Anticipated by Foss (Ex1008) (Ground 1, Petition 2)**

401. Claims 4-5, 10-13, and 15 of the '301 Patent depend from Claim 1 and Claims 8-9 depend from Claim 7. For the same reasons as discussed above, as **Ground 1 of Petition 2**, Claims 1 and 7 are anticipated by Foss. *See* Pars. 358-400. The remaining limitations of these claims are further set forth in Foss as discussed herein. Dependent Claim 14 is discussed in Subsection VI.C.3 below, dependent Claim 3 is discussed in Section VI.D, and dependent Claims 2 and 6 are discussed in Section VI.E.

- a. [**'301-4**] 4. The method of claim 1, wherein the **separate account** is a demand deposit account or an **overdraft account**, and wherein the demand deposit account and the overdraft account are associated with the debit account.

402. Claim 4 of the '301 Patent limits the method of Claim 1 by further requiring that “the **separate account** is a demand deposit account **or** an overdraft account, and wherein the demand deposit account and the overdraft account **are associated with the debit account**.” (Ex1002, 15-18).

403. Because this claim is written using the disjunctive, the claim is met when the **separate account** is an **overdraft account** that is associated with a **debit account**. To the extent Claim 4 is interpreted as requiring a demand deposit account in addition, which I do not believe it does, it would in any event be a trivial distinction which was well known in the art, as I discuss in Pars. 116-119 and 186-191 above and Pars. 562-568 below.

404. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1 of the '301 Patent.

405. As **Ground 1** of **Petition 2**, discussed with respect to element ['301-1A] of Claim 1 of the '301 Patent, Foss discloses that the **separate account** is associated with the **debit account**. See Pars. 378-381.

406. For example, Foss discloses that the **separate account** (e.g., **overdraft component 234**) can be available "in conjunction with" the **debit account** ("the **basic card**") (Ex1008, [0052]). Further, Foss' proposed modification is to create a linkage "between a **credit/overpayment component** and the **stored value component**" (Ex1008, [0017]).

407. Furthermore, Foss discloses that the **separate account** is an **overdraft account** (e.g., an "**overdraft account**[]" (Ex1008, [0053]) or an "**overdraft component 234**" (Ex1008, [0054])).

408. In particular, Foss discloses that the **overdraft component** performs overdraft functions. Ordinarily, the “card value” of the basic card “is based upon the initial deposit 216,” although “the card may be reloaded by the account management system 240.” (Ex1008, [0051]).

409. The “loaded or deposited funds from the funding account” operate “in conjunction with the **stored value component 232**,” and, if there is no overdraft component, the “amount of any transaction may not exceed the amount of the **stored value component 232**” (Ex1008, [0050]).

410. However, where **the basic card** is associated with an **overdraft component**, “**overdraft component 234**” allows “the customer to perform transactions that exceed the customer’s loaded or deposited funds in the funding account or **stored value component 232** to the extent of the overdraft amount.” (Ex1008, [0053]).

411. Thus, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Foss teaches that the **separate account** is an overdraft account **associated with the debit account**.

412. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 4 of the '301 Patent, including those of Claim 1 from which it depends, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

b. [’301-5] 5. The method of claim 1, further comprising providing a periodic output of the **status information.**

413. Claim 5 of the ’301 Patent limits the method of Claim 1 by further requiring the method to comprise “providing a periodic output of the **status information**.” (Ex1002, 19-20).

414. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1 of the ’301 Patent.

415. As I explain above in Pars. 392-393 with respect to element [1C] of Claim 1 of the ’301 Patent, Foss discloses receiving **status information** of the separate account, which is “**the available overdraft protection balance**” (Ex1008, [0066])).

416. Also, as discussed with respect to element [1D] of Claim 1 of the ’301 Patent, Foss discloses authorizing (e.g., via “**authorization OTB edit check 415**” (Ex1008, Fig. 4 & [0066])) the transaction request based on the same **status information**. See Pars. 395-399.

417. As is pertinent with respect to Claim 5 of the ’301 Patent, Foss discloses providing a **periodic output** (e.g., “**at some period of time, such as during the night**” (Ex1008, [0020])) of the **status information**. For example, Foss includes a “account manager component,” of the computer-based authorization system which “receives **a dump of all accounts and account activity at some period of time,**

such as during the night.” (Ex1008, [0020]). Foss discloses that “[t]he **data obtained in the dump** is examined to identify trends in behaviors. The trends may result in certain actions taking place.” (Ex1008, [0020])). In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the dump of “**all accounts and account activity**” would include **account balance**, which would be status information.

418. Furthermore, Foss also discloses that customers are provided **periodic account information** in the form of **statements** containing their **account balance**:

“In the Card Maintenance 140 step, the customer can maintain the account, **view current balance**, see transactional history or pay the account statement. Typically the Card Maintenance 140 step is performed via mail in the form of **paying a statement at a monthly interval** or by interacting with the issuer from an automated or live telephone services or a website.” (Ex1008, [0032]).

419. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand a **monthly statement** containing a **current balance** to be a “**periodic output**” of the “**status information**”.

420. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 5 of the '301 Patent, including those of Claim 1 from which it depends, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

c. **[’301-10] 10. The method of claim 1, wherein the status information comprises fund availability data.**

421. Claim 10 of the ’301 Patent limits the method of Claim 1 by further requiring that “**status information** comprises fund availability data.” (Ex1002, 14:1-2).

422. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1 of the ’301 Patent.

423. As I explain above in Pars. 392-393 with respect to element **[1C]** of Claim 1 of the ’301 Patent, Foss discloses receiving **status information** of the separate account, which is “**the available overdraft protection balance**” (Ex1008, [0066]).

424. Also, as discussed with respect to element **[’301-1D]**, Foss discloses authorizing (e.g., via “**authorization OTB edit check 415**” (Ex1008, Fig. 4 & [0066])) the transaction request based on the same **status information**. See Pars. 395-399.

425. Foss thus discloses that the **status information** comprises fund availability data (e.g., whether “**available overdraft protection balance**” (Ex1008, [0066])).

426. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Foss thus discloses that the **status information** comprises **fund availability data**.

427. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 10 of the '301 Patent, including those of Claim 1 from which it depends, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- d. ['301-8/11] ... wherein **authorizing** the **transaction request** is performed in response to determining that a transaction amount associated with the **transaction request** is *smaller than* a fund amount associated with the **status information**.

428. Claim 11 of the '301 Patent limits the method of Claim 1, and Claim 8 of the '301 Patent limits the article of manufacture of Claim 7, by further requiring that “**authorizing** the **transaction request** is performed in response to determining that a transaction amount associated with the **transaction request** is *smaller than* a fund amount associated with the **status information**.” (Ex1002, 14:3-7).

429. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1, and the article of manufacture of Claim 7, of the '301 Patent.

430. Also, as discussed with respect to elements ['301-1D/7D] of the '301 Patent, Foss discloses **authorizing** (“**authorization OTB edit check 415**” Ex1008,

Fig. 4 & [0066])) **the transaction request** (e.g., “**authorization request 405**” (Ex1008, [0065])) based on the **status information**. See Pars. 395-399.

431. Foss discloses that **authorizing** the **transaction request** is performed in response to determining that a **transaction amount** (e.g., “**\$50**”) associated with the **transaction request** is *smaller than* a **fund amount** (e.g., “**\$300**”) associated with the **status information** (e.g., authorizing the transaction after checking “**the available overdraft protection balance**” only if “*enough funds are available*”).

432. As discussed with respect to elements [’**301-1D/7D**] of the ’301 Patent, in the illustrative example disclosed by Foss, a customer account has “a current balance of \$10 and an overdraft option with a limit of \$300.” (Ex1008, [0065]). After the customer requests a withdrawal for the transaction amount, (e.g., “**a \$50 withdrawal**” (Ex1008, [0065])), the process determines if “*enough funds are available,*” and subsequently **authorizes** the **transaction**, by comparing the **transaction** with a **fund amount** associated with the **status information** (e.g., “**the available overdraft protection balance**” of “**\$300**”, Ex1008, [0066]). If funds are sufficient, the “**authorization OTB edit check 415 step**” then “returns a pass (from step 420) back to the all authorization edits 410 step”, but if funds are insufficient, the “**authorization OTB edit check 415 step** ... returns ... a fail (from step 435 or step 442)” (Ex1008, [0066]).

433. In the example provided by Foss, because the **transaction amount** (\$50) is *smaller than* the **fund amount** (\$300), the **transaction** is sent to “all authorization edits 410 step and is **authorized**. (Ex1008, [0065] and [0066]).

434. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that Foss discloses that **authorizing** the **transaction request** is performed in response to determining that a **transaction amount** associated with the **transaction request** is *smaller than* a **fund amount** associated with the **status information**.

435. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claims 11 and 8 of the '301 Patent, including those of Claims 1 and 7 from which they depend, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- e. **['301-9/12] ... further comprising initiating, using the computer-based authorization system, an *update* of the **status information** in response to authorizing the transaction request;**

436. Claim 9 of the '301 Patent limits Claim 7 by requiring that “the instructions, in response to execution by the computer-based authorization system, cause the computer-based authorization system to further perform operations comprising **initiating**, using the computer-based authorization system, an **update** of the **status information** in response to authorizing the transaction request.” (Ex1002,

13:48-54). Claim 12 of the '301 Patent limits Claim 1 by further requiring the method of Claim 1 to comprise “**initiating**, using the computer-based authorization system, an **update** of the **status information** in response to authorizing the transaction request.” (Ex1002, 14:8-11).

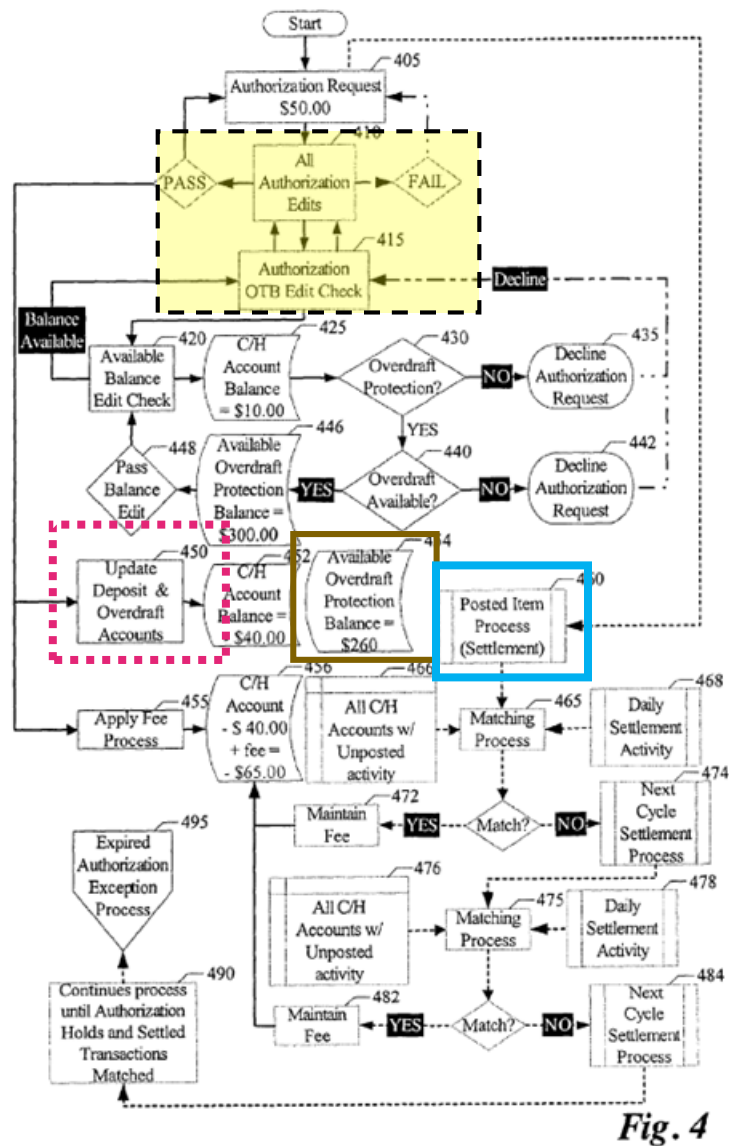
437. In sum, after receiving the status information (e.g., **available balance** of the overdraft account as taught in Foss), Claims 9 and 12 of the '301 Patent require the **balance** be **updated** (as shown in step 450 of Foss).

438. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1, and the article of manufacture of Claim 7, of the '301 Patent.

439. Also, as discussed with respect to element **[1D]** of Claim 1 of the '301 Patent, Foss discloses **authorizing** (“**authorization OTB edit check 415**” Ex1008, Fig. 4 & [0066])) **the transaction request** (e.g., “**authorization request 405**” (Ex1008, [0065])) based on the **status information**. See Pars. 395-399.

440. Furthermore, Foss discloses initiating an **update** of the **status information** (e.g., the “**available overdraft protection balance.**” (Ex1008, [0066])) in response to authorizing the transaction request. A POSITA would understand that the system disclosed by Foss would initiate the **update** (See *generally*, discussion in elements **[’301-7PRE]** and **[’301-1A/7A]** regarding **Ground 1**, Pars. 361-371, 373).

441. As shown in Figure 4, marked up below, Foss discloses that “if the all authorization edits 410 step passes, the process proceeds to **update** the deposit and overdraft accounts, **step 450**, and applies any applicable fees, step 455.” (Ex1008, [0066]; Ex1008, Fig. 4 (Step 450: “Update Deposit & Overdraft Accounts”, highlighted by a **magenta** colored dashed square below)):



(Ex1008, Fig. 4).

442. Additionally, after “the process **updates** the deposit and overdraft accounts at step 450, the account balance is checked at step 452,” and “[t]he available **overdraft protection balance** is also checked at step 454.” (Ex1008, [0067]). In my opinion, A POSITA would understand that this check is to ensure that the update is successful.

443. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that Foss discloses that the method includes initiating an **update** of the **status information** in response to authorizing the transaction request using the computer-based authorization system.

444. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claims 9 and 12 of the '301 Patent, including those of Claims 7 and 1 from which the Claims respectively depend, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

**f. ['301-13] 13. The method of claim 12, wherein
initiating the update of the status information
comprises sending a **fund transfer request****

445. Claim 13 of the '301 Patent further limits Claim 12 by further requiring that “initiating the **update** of the status information comprises sending a **fund transfer request**.” (Ex1002, 14:12-14). In other words, Claim 13 of the '301 Patent requires the **update** disclosed by Claim 12 to be in the form of **sending a fund transfer request** (also as shown in step 450 of Foss).

446. As discussed in Pars. 436-444 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 12 of the '301 Patent.

447. Further, with respect to sending a **fund transfer request** for Claims 12 and 13, Foss teaches to **update** “the deposit and overdraft accounts at step 450” after passing all funding authorization edits 410. (Ex1008, [0067]). In my opinion, a POSITA at the time of the July 5, 2005 invention would understand the **update** to include a “**fund transfer request**.”

448. Foss further teaches that at step 468 (following **step 460**) there is a “Daily Settlement Activity”, which in any event would result in the overdraft accounts at the source institution being updated by a **fund transfer request**:

“Next, a posted item process (settlement), step 460, posts the item for settlement and continues to the matching process at step 465. The matching process at step 465 attempts to match all accounts with un-posted activity 466 with the daily settlement activity 468.” (Ex1008, [0068]).

449. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the **fund transfer request** is an industry practice that occurs as part of the daily settlement process. In this process all posted transactions are sent as settlement requests to the debit cards’ issuing bank to transfer the funds. In this process the associated debit card accounts and/or overdraft accounts are **updated** to reflect the funds that are transferred from those accounts.

450. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 13 of the '301 Patent including those of Claim 12 from it depends, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**).

- g. **['301-15] 15. The method of claim 1, further comprising determining, using the computer-based authorization system, sending a request for standing information associated with whether the separate account is in good standing.**

451. Claim 15 of the '301 Patent limits the method of Claim 1 by requiring the method to further comprise “determining, using the computer-based authorization system, sending a request for standing information associated with whether the separate account is in good standing.” (Ex1002, 14:17-20).

452. As discussed in Pars. 358-399 above, Foss (Ex1008) (**Ground 1, Petition 2**) discloses the method of Claim 1 of the '301 Patent.

453. Foss discloses using a computer-based authorization system, including the “transactional processing component 250” and the “account management component 240” (see discussion in elements [**'301-7PRE**] and [**'301-1A/7A**] regarding **Grounds 1**, Pars. 361-371, 373).

454. As **Ground 1** of **Petition 2**, Foss discloses checking the standing of the separate account (e.g., “the process checks if overdraft funds are available at step 440” (Ex1008, [0066])).

455. Foss discloses that:

“If the account has overdraft protection 430, the process checks **if overdraft funds are available** at **step 440**. If the account does not have overdraft protection at step 430, the authorization request is declined at step 435 and the process returns to the authorization OTB edit check 415 step. If overdraft funds are available at step 440, the available overdraft protection balance is checked at step 446, in this example \$300. If overdraft funds are not available at step 440, the authorization request is declined at step 442 and the process returns to the authorization OTB edit check 415 step.”

(Ex1008, [0066])

456. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that part of determining **whether overdraft protection is available at step 440** is sending a **request for standing information** of the **overdraft account**. Additionally, a POSITA would understand that the system disclosed by Foss would check to see whether “certain functions and privileges of the account”, such as overdraft protection, had been “disable[d]” (Ex1008, [0055]).

See Ex1008, Fig. 4:

**Obvious over Foss (Ex1008) in view of Admitted Prior Art
(Ground 2, Petition 2)**

- a. [’301-14] 14. The method of claim 1, wherein the **account information request** is sent to a third party vendor.

458. Claim 14 of the ’301 Patent limits the method of Claim 1 by further requiring that “the **account information request** is sent to a third party vendor.” (Ex1002, 14:15-16).

459. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1 of the ’301 Patent.

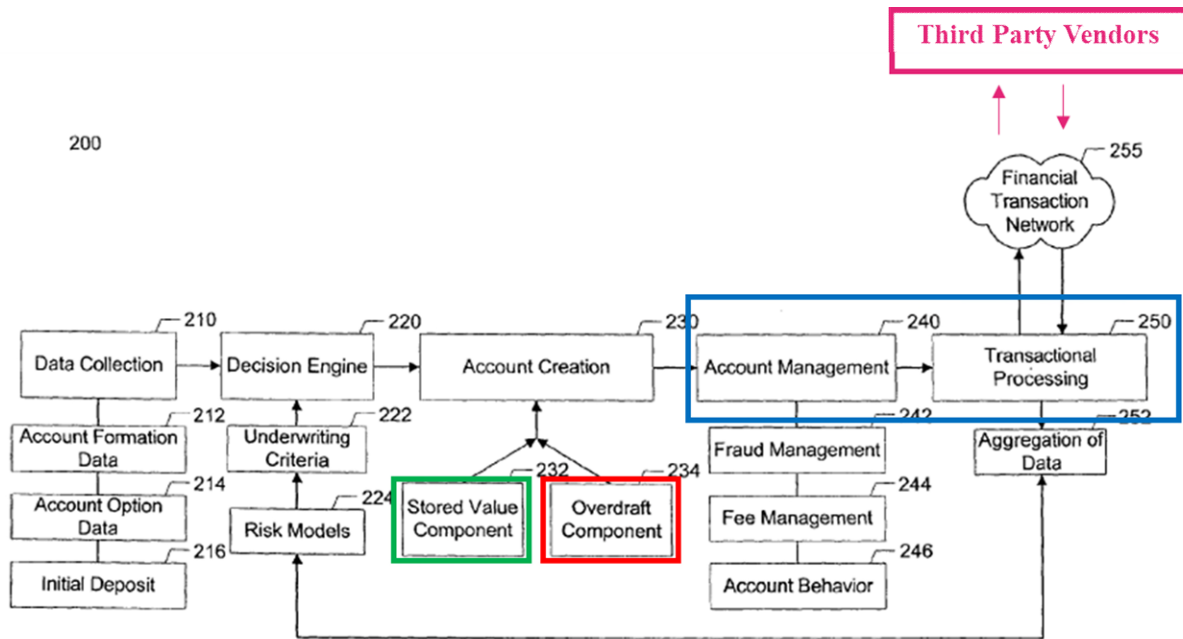
460. Also, as discussed with respect to element [’301-1B], Foss discloses sending a **request for account information** (e.g., “If overdraft funds are available at step 440, **the available overdraft protection balance is checked at step 446**” (Ex1008, [0066])). *See* Pars. 383-389; *see also* Ex1008, Fig. 4.

461. As **Ground 1** of **Petition 2**, Foss further discloses that the “invention” was “based on the Stored Value Systems that [were contemporaneously] deployed by several credit card processing companies” (Ex1008, [0016]) and is “implemented in cooperation or in partnership with a financial institution”, which provides “a funding account that typically hold 100% of the funds. The funding account operates” “to **provide notice [to]** and receive status [from]” “a bank or financial institution,” “in real time.” (Ex1008, [0018]).

462. Furthermore, as I previously discussed in Pars. 138-140, it was standard industry practice of existing Stored Value Systems operated by the third party vendors to “provide the settlement and authorization functionalities” (Ex1008, [0017]) of **debit account transactions** on behalf of card issuing banks.

463. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that, in order to send and receive information to and from the bank managing a funding account, where the credit card issuing system does not communicate directly with the bank managing the funding account, a third-party vendor would have been used. **Requests for account information** would be sent to the third-party vendors instead of the bank managing the funding account.

464. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Foss discloses that the method includes the **account information request** being sent to a third-party vendor through, for example, the **Financial Transaction Network 255**, as depicted in the marked-up figure below, instead of the bank managing the funding account.

**Fig. 2**

(Ex1008, Fig. 2; elements added for illustration)

465. In any event, in my opinion, as **Ground 2** of **Petition 2**, it would have been obvious in view of the admitted prior art, as implicitly recognized in the '301 Patent, that third party vendors, such as “eFunds or First Data Corporation of Greenwood Village, Colo.” (Ex1002, 8:4-14), would be recipients of **account information requests**. As both the '301 Patent and Foss recognize, these were participants of financial transaction networks and were frequently used to receive account information.

466. In my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to include this feature to reduce communication with many individual banks, thereby reducing overhead costs, as Foss indicates was an objective of the system disclosed:

“There is also a need in the art for a checkless checking card account that **eliminates** the **overhead** associated with processing cancelled checks, issuing new checks, etc.”

(Ex1008, [0008]).

467. Using third party vendors would also have been trivial to implement in light of the existing financial structures at the time.

468. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 14 of the '301 Patent, including those of Claim 1 from which it depends, are disclosed in Foss (Ex1008) (**Ground 1, Petition 2**) and/or at least rendered obvious over Foss (Ex1008) in view of the admitted prior art (**Ground 2, Petition 2**).

4. **Independent Claim 16 of the '301 Patent is Anticipated by Foss (Ex1008) (Ground 1, Petition 2)**

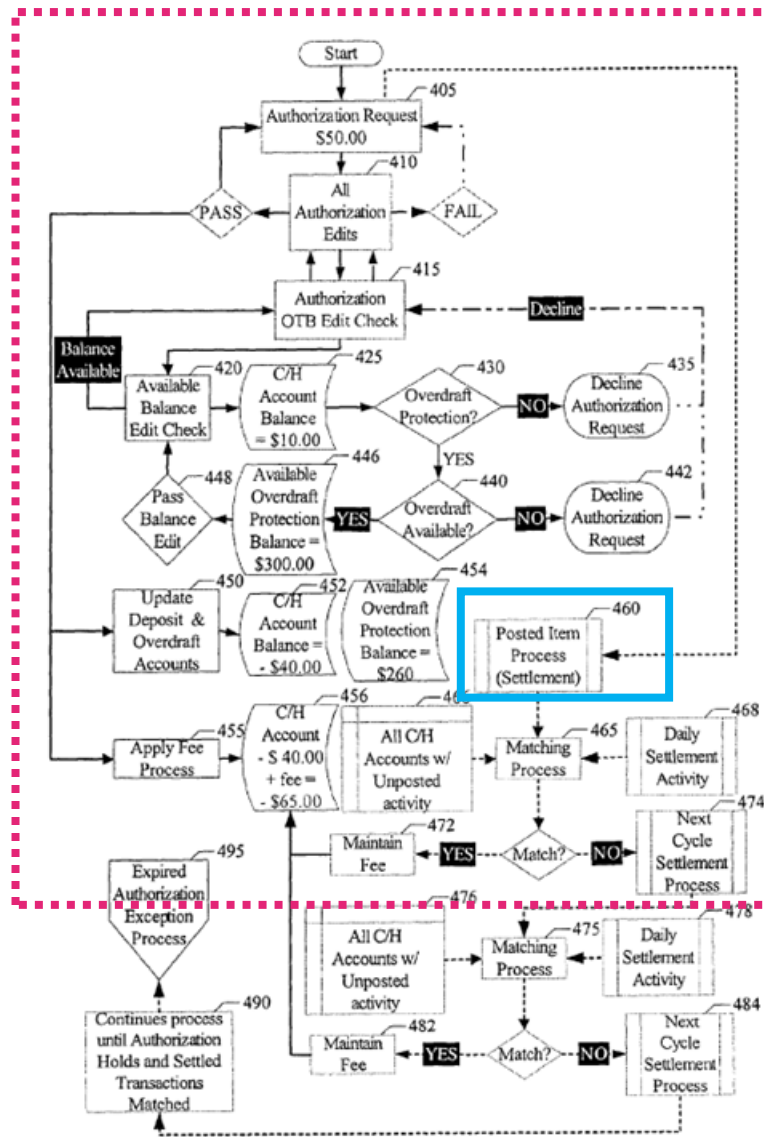
469. Independent Claim 16 of the '301 Patent claims a “method.” Independent Claim 16 corresponds to Claims 1 and 7 of the '301 Patent, in that the preamble [**'301-16PRE**] is the same as [**'301-1PRE**], element [**'301-16A**] is the same as [**'301-1A/7A**], and element [**'301-16B**] is the same as [**'301-1D/7D**], except

that it also requires that the “**status information** is associated with a **separate account**” (as discussed with respect to [’301-1B/7B], [’301-1C/7C] and [’301-1D/7D]). Independent Claim 16 of the ’301 Patent then continues with a new element [’301-16C] which provides for “a **fund transfer request** to a **financial institution** associated with the **separate account**” after authorization. (Ex1002, 14:29-33).

470. As I discuss herein, as **Ground 1** of **Petition 2**, in my opinion, a POSITA, as of July 5, 2005, would understand that each and every element of the method of Claim 16 of the ’301 Patent is expressly or inherently taught by the disclosure of Foss (Ex1008).

a. [’301-16PRE] 16. A method comprising:

471. For the same reasons as discussed in connection with element [’301-1PRE] at Pars. 359-360, in my opinion, Foss discloses a method, e.g., the steps involving authentication. (Ex1008, Fig. 4, [0065] (“FIG. 4 is a flow diagram that illustrates the operation of performing a transaction 400 according to an exemplary embodiment of the present invention.”)). This method also includes a “**settlement**” after authorization (Ex1008, Fig. 4, 460):



(Ex1008, Fig. 4).

- b. [’301-16A] receiving, at a **computer-based authorization system**, a **transaction request** associated with a **debit account**, wherein the **debit account** is associated with a **separate account**;

472. Claim element [’301-16A] is identical to claim elements [’301-1A/7A].

Thus, for the same reasons discussed with respect to [’301-1A/7A], in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the

features of element [**'301-16A**] are disclosed in Foss (**Ground 1, Petition 2**). *See* Pars. 372-382.

- c. [**'301-16B**] **authorizing**, using the computer-based authorization system, the transaction request based on the **status information** associated with the **separate account**; and

473. Claim element [**'301-16B**] is identical to claim elements [**'301-1D/7D**], except that [**'301-16B**] further requires that “the **status information**” is “associated with the **separate account**” (Ex1002, 14:27-28). The same analysis applies here. *See* Pars. 395-400.

474. As discussed with respect to claim elements [**'301-1D/7D**], the **status information** is the “**available overdraft protection balance**”, which a POSITA at the time of the July 5, 2005 invention would understand to correspond to the **separate account** (e.g., the “**overdraft component 234**” (Ex1008, [0055], [0066])). Thus, the **status information** is **associated with** the **separate account**.

475. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of element [**'301-16B**] are disclosed in Foss (**Ground 1, Petition 2**).

- d. [**'301-16C**] after authorizing the transaction request, sending, using the computer-based authorization system, a **fund transfer request** to a financial institution associated with the separate account,

wherein the fund transfer request corresponds to the transaction request.

476. Element [’301-16C] is not included in Claims 1-15 of the ’301 Patent, but nonetheless is disclosed in Foss. Specifically, Foss discloses, after authorizing the transaction request, sending, using the computer-based authorization system (see discussion in elements [’301-7PRE] and [’301-1A/7A], Pars. 361-371, 373), **a fund transfer request** to a **financial institution** associated **with** the separate account wherein the **fund transfer request** corresponds to the transaction request (e.g., sending a “**settlement**” request).

477. Foss discloses that that settlement takes place *after* authorization. Specifically, Foss discloses sending a **fund transfer request** (by requesting settlement) after the “all authorization edits 410 step authorizes the transaction” (Ex1008, [0066]):

“a posted item process (settlement), step 460, **posts the item for settlement** and continues to the matching process at step 465. The matching process at step 465 attempts to match all accounts with un-posted activity 466 with the daily settlement activity 468.”
(Ex1008, [0068]).

478. The matching process “continues until authorization holds and settled transactions are matched at step 490.” (Ex1008, [0068]). See Ex1008, Fig. 4:

(and/or overdraft account) to the merchant where the purchase transaction occurred.

Foss further discloses that:

“[t]he present invention is most likely implemented in cooperation or in partnership with a **bank or financial institution**. The bank provides a funding account that typically holds 100% of the funds. The funding account operates in conjunction with the **Stored Value System** to **provide notice and receive status in real time**. Once a customer is accepted as a customer, the funds are deposited into the funding account. The **Stored Value System** maintains a master file of all accounts that have been issued, the current balance for each account, what has been posted, what is being held for authorization, etc. When a transaction hits the system, a temporary hold is placed on the account. If settlement does not come through, the hold is released and the funds are available again after a period of time.”

(Ex1008, [0018]).

480. In my opinion, in the case of the processing system being “implemented in cooperation or in partnership with a **bank or financial institution**” (Ex1008, [0018], with the bank or financial institution maintain the separate account, a POSITA at the time of the July 5, 2005 invention would understand that as part of the settlement process in Foss, a **fund transfer request** would need to be sent to the **bank or financial institution** associated with the separate account.

481. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that Foss teaches, after authorizing the transaction request,

sending, using the computer-based authorization system, a **funding request** to a financial institution associated with the separate account, wherein the **fund transfer request** corresponds to the transaction request.

482. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that each and every feature of element [16C] of the '301 Patent is disclosed in Foss (**Ground 1, Petition 2**).

D. Claim 3 of the '301 Patent Is Anticipated by Foss (Ex1008) Under 35 U.S.C. §§102(a) & 102(e) over Foss (Ground 1, Petition 2) and/or Rendered Obvious Under 35 U.S.C. §103(a) over Foss (Ex1008) in view of Gopinathan (Ex1010) (Ground 3, Petition 2)

483. Claim 3 of the '301 Patent further limits Claim 1 by requiring that [3A] “authorizing the transaction request includes performing a **fraud assessment** based on the **status information**,” [’301-3B] “wherein the **fraud assessment** includes communication with **data sources** via a **network**.” (Ex1002, 13:11-14).

484. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1 of Petition 2**) discloses the method of Claim 1 of the '301 Patent.

485. As I will discuss, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand, as **Ground 1 of Petition 2**, that Claim 3 of the '301 Patent is anticipated by Foss, alternatively, as **Ground 3 of Petition 2**, that Claim 3 of the '301 Patent is rendered obvious over Foss in view of Gopinathan.

1. **Claim 3 of the '301 Patent is Anticipated by Foss (Ground 1, Petition 2) Under 35 U.S.C. §§102(a) & 102(e)**

a. **The Disclosure of Foss (Ex1008)**

486. Foss is prior art to the '301 Patent under pre-AIA 35 U.S.C. §§ 102(a) & 102(e) and, as discussed, discloses the elements of Claim 1 of the '301 Patent. See Pars. 358-399. While I provide a more fulsome description of Foss in my overview of the prior art above, see Pars. 131-157, I will briefly highlight certain significant aspects with respect to Claim 3 of the '301 Patent.

487. As is pertinent here, Foss is directed to directed towards “a system and method for providing a **checkless checking account** that provides transactional functionality of a branded card wherein the account is funded from the account owner’s personal funds” and “may be combined with a **credit component.**” (Ex1008, Abstract). Foss discloses in the context of Figure 4 all of the steps of Claim 1, which are performed by its **computer-based authorization system** in Fig. 2 (see discussion in elements [**'301-7PRE**] and [**'301-1A/7A**], Pars. 361-371, 373)

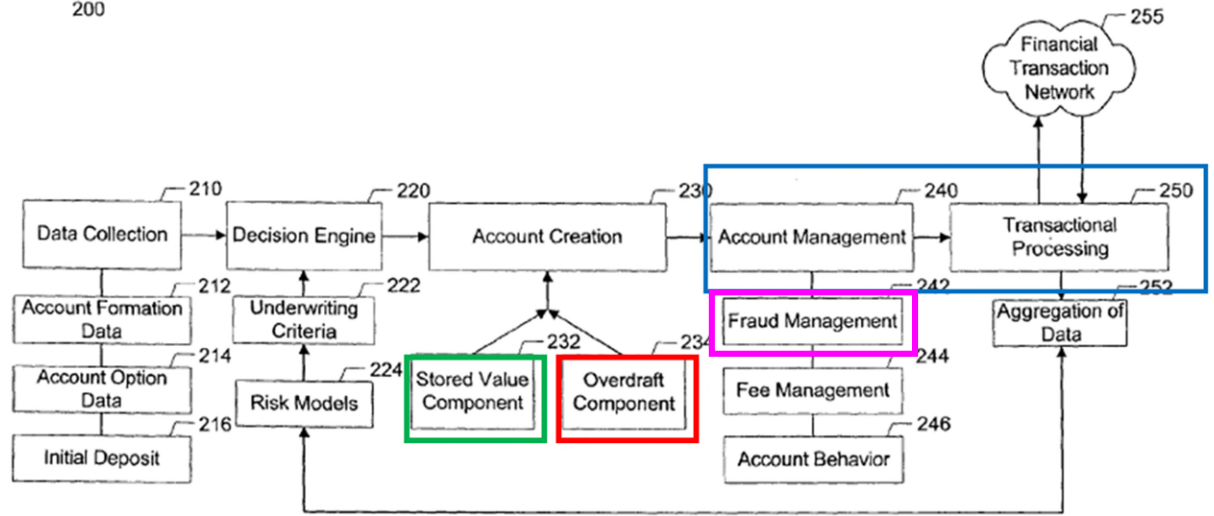


Fig. 2

(Ex1008, Fig. 2).

488. Foss includes as part of its **computer-based authorization system** in Fig. 2, an “account management component 240” which includes the “**fraud management model 242**” component (Ex1008, [0055]). This component “determines if any fraudulent activities are associated with the account” and notifies the account management component if “fraudulent activities are detected.” (Ex1008, [0055]).

489. Corresponding to claim element [’301-3A] of the ’301 Patent, the account management component detects fraud by using “**real-time data**” in the

process of “**soliciting or calculating a fraud possibility** based on such **data**” (Ex1008, [0019]). The component:

“performs the day-to-day transactional activity for the present invention. Among other things, these day-to-day activities include the **provision of fraud management**. **Fraud management** is provided through prevention, **detection** and control. Prevention includes creating certain criteria aimed at preventing fraud from occurring. One example of a form of fraud is card stealing. **Detection** involves taking **real-time data** and **soliciting or calculating a fraud possibility** based on such **data**. Control involves recover of losses after the fact, for example charge-backs.” (Ex1008, [0019]).

490. Foss also discloses the use of aggregation data, containing information of all accounts, to “identify trends in behaviors”. (Ex1008, [0020]).

491. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that both the “**real-time data**”, used to “**calculate a fraud possibility**” in order to “detect fraud”, as well as the “account aggregation data” which includes information relating to all accounts, would include **status information** of the account, such as an **account balance**, in addition to other information, such as data associated with a transaction. This information is used in performing fraud assessments.

492. Corresponding to claim element [’**301-3B**] of the ’301 Patent, data used to **calculate the fraud possibility** is retrieved, through “**Financial Transaction**

Network 255", from **transactional data sources**, such as a "website", and **account data sources**, such as a partnering "bank or financial institution" which holds the accounts (Ex1008, [0065], [0018], [0057]).

493. Foss discloses that **data concerning the transaction** (concerning the "authorization request 405") may come from "a variety of different sources including but not limited to, ATM, automated telephone services, in-person customer service representative, phone customer service representatives or a website." (Ex1008, [0065]).

494. Additionally, **data regarding the account** is communicated either as "a dump of **all accounts and account activity** at some period of time, such as during the night" (Ex1008, [0020]), or "in real time" (as is the case with account "status") from a "partnering bank or financial institution" (Ex1008, [0018]).

495. A POSITA would have understood that the "financial transaction network 255" disclosed by Foss and depicted in Figure 2, facilitates the communication of data from these sources to the account management component (Ex1008, [0057]).

b. [’301-3A] wherein authorizing the transaction request includes performing a **fraud assessment** based on the **status information**,

496. Element [’301-3A] limits the method of Claim 1 by requiring that “authorizing the transaction request includes performing a **fraud assessment** based on the **status information**” (Ex1002, 13:11-12).

497. As discussed with respect to element [’301-1D/7D], see Pars. 395-400, Foss discloses authorizing the transaction request (e.g., “authorization request 405” (Ex1008, [0065])) based on the **status information** (e.g., “**Available Overdraft Protection Balance**” (Ex1008, Fig. 4)).

498. As **Ground 1**, Foss teaches that authorizing the transaction request includes performing a **fraud assessment** (e.g., performing “**Fraud detection**” involving “**soliciting or calculating a fraud possibility**” (Ex1008, [0019]) based on **status information** (e.g., “**real-time data**”).

499. Foss discloses that an “aspect of the present invention is the account management” that “performs the day-to-day transactional activity,” including “the provision of fraud management” “through prevention, **detection** and control,” where “[d]etection involves taking **real-time data** and **soliciting or calculating a fraud possibility** based on such **data**.” (Ex1008, [0019]). The fraud analysis can also rely on the “**account activity**” of the accounts associated with the debit card, which may be examined by the fraud module disclosed in Foss (Ex1008, [0056]).

500. In my opinion, a POSITA as of the time of the July 5, 2005 invention would thus understand that “**real-time data**” includes items such as current account balance, which would be used to help identify fraudulent activity, Foss thus teaches that the fraud assessment is performed based on **status information**.

501. In my opinion, a POSITA at the time of the July 5, 2005 invention would also understand that at the same time **fraud “detection”** is a step of authorization, which is reinforced by Foss’s disclosure that “The details of the operation of the transaction **400** may vary among various embodiments of the present invention.” A POSITA would thus understand that at the same time as a subsidiary or preliminary step of a transaction, fraud assessment would be performed.

502. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of element [**’301-3A**] of Claim 3, including those of Claim 1 from which it depends, are disclosed in Foss (**Ground 1**).

c. [’301-3B**] wherein the **fraud assessment** includes communication with data sources via a network.**

503. Element [**’301-3B**] limits the method of Claim 1 by further requiring that “the **fraud assessment** includes communication with **data sources** via a **network**.” (Ex1002, 13:11-12).

504. As **Ground 1**, Foss teaches that the **fraud assessment** (e.g., performing “**Fraud detection**” involving “**soliciting or calculating a fraud possibility**” (Ex1008, [0019]) includes communication with **data sources** with a network in real time (e.g., with a “**website**” and a “**financial institution**” via “**Financial Transaction Network 255**” (Ex1008, [0018], [0020], [0057], [0065])).

505. Foss teaches that this **fraud assessment** includes **communication** with **a plurality of data sources**.

506. Foss teaches that the use of a **transactional data source**. Foss discloses that “authorization request 405”, which a POSITA at the time of the July 5, 2005 invention would understand as containing information concerning the transaction, “may be made through a **variety of different sources** including but not limited to ... a **website**” (Ex1008, [0065]).

507. Foss likewise teaches the use of an **account data source**. Foss discloses that the “account manager component,” “receives a dump of all accounts and account activity at some period of time, such as during the night” (Ex1008, [0020]), and that “[t]he data obtained in the dump is examined to identify trends in behaviors”, which a POSITA at the time of the July 5, 2005 invention would understand as including examining the data for patterns indicative of fraudulent activity. (Ex1008, [0020])). Foss also discloses that account “status” information is received from partnering “**bank[s] or financial institution[s]**” (Ex1008, [0018]).

508. Foss further discloses a “Data Collection component (210)” which performs the collection of “direct deposit account (DDA) information and account number, Savings account information and account number, credit history, debt to credit ratio, assets” during account setup.

509. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that **a network**, such as the “financial transaction network 255” (Ex1008, [0057]), would facilitate the communication of this information. Moreover, a POSITA at that time would have understood, given the existing financial transaction networks depicted in the prior art, as depicted in Figure 9 of the ’301 Patent, that the fraud assessment disclosed would include communication with data sources via a network. (Ex1002, Fig. 9).

510. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of element [**’301-3B**] of Claim 3, including those of Claim 1 from which it depends, are disclosed in Foss (**Ground 1**).

2. **Claim 3 Is Rendered Obvious Under 35 U.S.C. §103(a) over Foss in view of Gopinathan (Ex1010) (Ground 3)**

511. To the extent Foss is not considered to sufficiently disclose the fraud detection features of elements [**’301-3A**] and [**’301-3B**], it would be obvious to

modify the system of Foss (Ex1008) to include the fraud detection processes as outlined in Gopinathan (Ex1010).

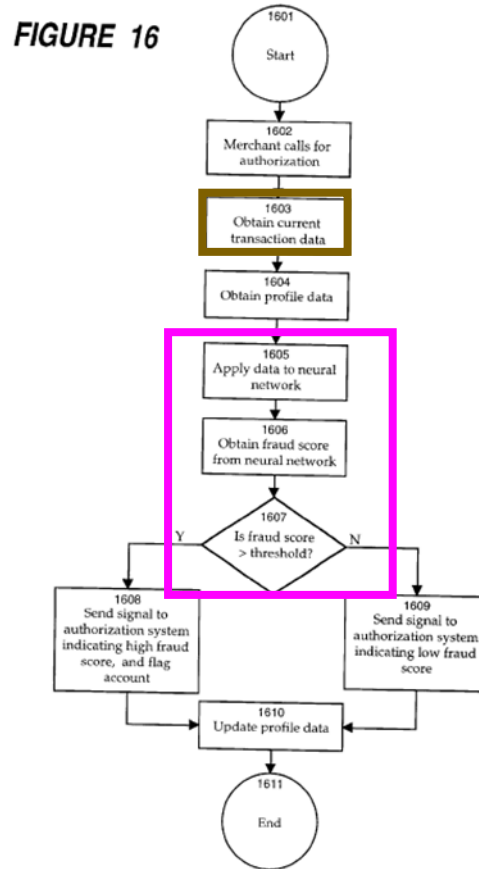
a. The Disclosure of Gopinathan (Ex1010)

512. As previously discussed, Gopinathan is prior art to the '301 Patent under pre-AIA 35 U.S.C. 102(a) & 102(e). While I provide a more fulsome description of Gopinathan in my overview of the prior art above, see Pars. 98-113, I briefly highlight herein certain significant aspects regarding Claim 3 of the '301 Patent.

513. Gopinathan is directed towards an “automated system and method” which “**detects fraudulent transactions** using a predictive model such as a neural network to evaluate individual customer accounts and identify potentially fraudulent transactions” (Ex1010, Abstract; 2:41-43). Gopinathan implements its method by using “**information** regarding cardholders, merchants and transactions to **screen transactions** and isolate those which are likely to be fraudulent”. (Ex1010; 2:29-31). The system disclosed by Gopinathan “runs within the context of a conventional authorization or posting system for customer transactions.” (Ex1010, 24:34-37).

514. Corresponding to element [**'301-3A**], like Foss, Gopinathan discloses using **transaction data** (which includes “**available credit (or balance)**” to produce a **fraud score** via a neural network “representing the **likelihood of fraud** for the

transaction”, which is “compared to a threshold value 1607”) to determine whether the transaction is fraudulent (Ex1010, 24:47, 25:44-59). *See, e.g.*, Fig. 16.



(Ex1010, Fig. 16, 25:44-45).

515. As depicted in Figure 8, and pertinent to element [’301-3B], which requires communication with data sources via a network, Gopinathan discloses that System 100 performs the fraud assessment using “**data from various sources 805, 806**” and “can compare the likelihood of fraud with a predetermined threshold value, and flag transactions for which the threshold is exceeded.” (Ex1010, 4:59-62; 5:4-10; 24:37-55).

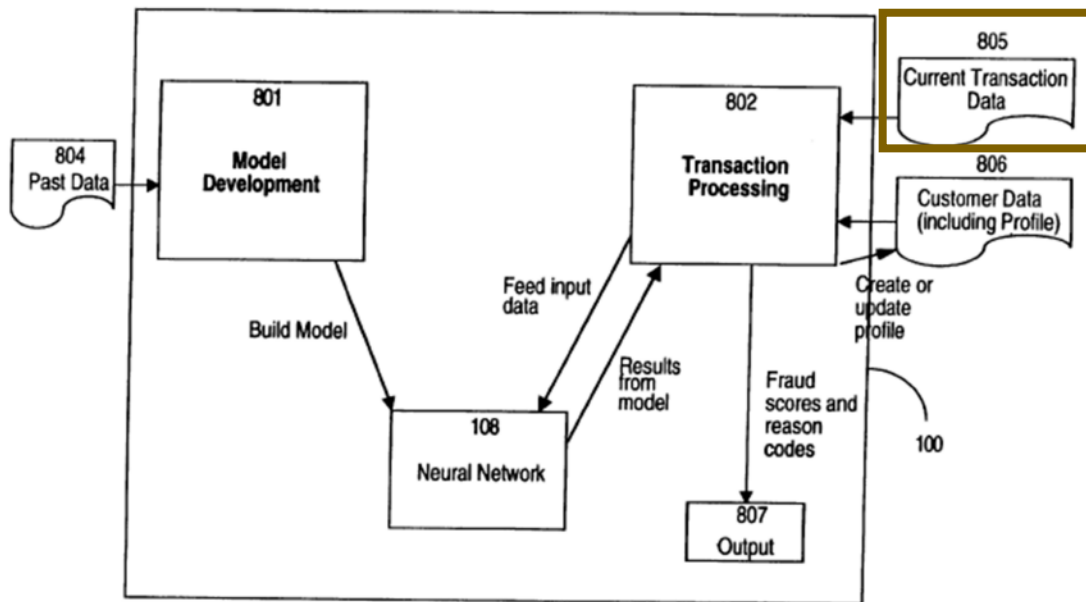


FIGURE 8

(Ex1010, Fig. 8).

516. Gopinathan further discloses that, with respect to **source 805**:

“the current transaction data from **database 805** typically includes information such as: **transaction dollar amount**; date; time (and time zone if necessary); approve/decline code; cash/merchandise code; **available credit (or balance)**; credit line; merchant category code; merchant ZIP code; and PIN verification (if applicable).” (Ex1010, 24:44-49).

517. Furthermore, corresponding to element [’**301-3B**], as depicted in Figure 1, “**transaction information** is applied to system 100 **via data network 105**” from “a **conventional data facility 106** collecting transaction information from
220

conventional sources such as human-operated credit-card authorization terminals and automated teller machines (not shown).” (Ex1010, 3:51-67, 4:2-13).

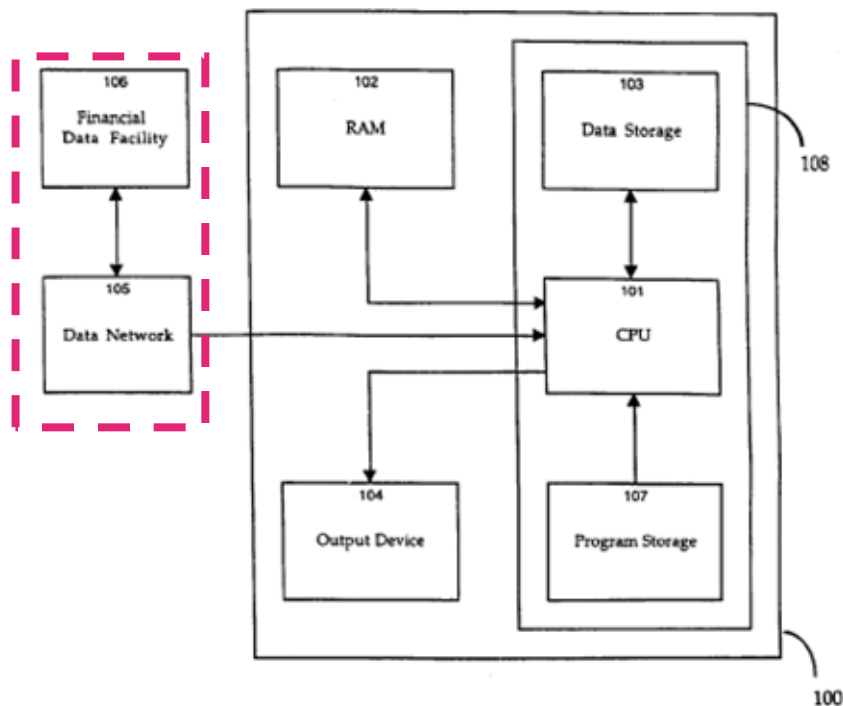


FIGURE 1

(Ex1010, Fig. 1).

518. Foss further discloses that “output device **104** is a conventional means for ... sending a signal dependent on the results to **an authorization system** (not shown) for further processing.” (Ex1010, 4:7-13).

b. Foss and Gopinathan are analogous art

519. As a preliminary matter, I note that Gopinathan and Foss are analogous art and in the same field of endeavor (e.g., debit card and financial transaction

instrument systems). Foss describes a “**Stored Value System**” that provides “settlement and authorization functionalities” which includes “**fraud management**” (Ex1008, [0028], [0019]) and Gopinathan provides a **fraud detection** component which runs in the “context of a **conventional authorization or posting system**” (Ex1010, 24:34-36). In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that Gopinathan provides a piece (e.g., detecting transaction fraud by a fraud detection component) of a larger whole (e.g., authorizing transactions using an authorization system) disclosed by Foss, and that the two are therefore in the same field of endeavor.

520. Thus, in my opinion, as of July 5, 2005, a POSITA would have appreciated that Foss and Gopinathan were in the same field of endeavor, and therefore, those references are analogous art.

521. Given these similarities, in my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify Foss to include certain features of Gopinathan. As will be discussed below, doing so would reduce the occurrence of fraud. I discuss this in greater detail below.

- c. **[’301-3A] wherein authorizing the transaction request includes performing a fraud assessment based on the status information,**

522. Element **[’301-3A]** limits the method of Claim 1 by requiring that “authorizing the transaction request includes performing a **fraud assessment** based on the **status information**” (Ex1002, 13:11-12).

523. As discussed with respect to element **[’301-1D/7D]**, see Pars. 395-400, Foss discloses authorizing the transaction request (e.g., “authorization request 405” (Ex1008, [0065])) based on the **status information** (e.g., “**Available Overdraft Protection Balance**” (Ex1008, Fig. 4)).

524. In my opinion, it would have been obvious to a POSITA at the time of the July 5, 2005 invention to modify Foss to further include the **fraud detection** systems and methods as taught by Gopinathan. Gopinathan provides greater detail with respect to the method (*compare* Ex1010, 25:44-59, *with* Ex1008, [0019]) and systems of **fraud detection** disclosed by Foss (*compare* Ex1010, Fig. 1, *with* Fig. 8; Ex1008, Fig. 2).

525. Moreover, a POSITA at the time of the July 5, 2005 invention would have been motivated to combine the two references in order to reduce fraudulent activity and issuer loss, a motivation shared by both Foss and Gopinathan (Ex1008, [0008]; Ex1010, 2:29-34).

526. Accordingly, corresponding to **Ground 3**, to the extent that Foss does not expressly disclose that authorizing the transaction request includes performing a **fraud assessment** based on the **status information**, it would have been obvious to modify Foss in view of Gopinathan to perform **fraud assessment** based on the **status information**.

527. Like Foss, Gopinathan teaches that authorizing the transaction request includes performing a **fraud assessment** (e.g., prior to authorization, making “a **fraud likelihood** determination” (Ex1010, 25:28-29)) based on the **status information** (e.g., “**available credit (or balance)**” (Ex1010, 24:47)).

528. Gopinathan, like Foss, discloses a “real-time” fraud assessment method which includes making a “**fraud likelihood determination** before a transaction is authorized.” (Ex1010, 25:28-29). The method creates a fraud score using, *inter alia*, “**data for the current transaction**” which includes “**available credit (or balance)**” (Ex1010, 25:28-62; 24:44-49). **Fraud likelihood scoring** takes places “before a transaction is authorized,” preventing fraudulent transactions (Ex1010, 25:53-56).

529. Moreover, as discussed above, in my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to combine the two references in order to reduce fraudulent activity and issuer loss, a motivation shared by both Foss and Gopinathan (Ex1008, [0008]; Ex1010, 2:29-34).

530. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the features of element [**'301-3A**] are rendered obvious over Foss in view of Gopinathan, as **Ground 3** of **Petition 2**.

d. ['301-3B**] wherein the fraud assessment includes communication with data sources via a network.**

531. Furthermore, in the alternative to **Ground 1** of **Petition 2**, corresponding to **Ground 3** of **Petition 2**, to the extent that Foss does not expressly disclose that the **fraud assessment** includes communication with **data sources via a network**, it would have been obvious to a POSITA at the time of the July 5, 2005 invention to modify Foss (Ex1008) in view of Gopinathan (Ex1010) to include this limitation.

532. Like Foss, Gopinathan teaches that the **fraud assessment** (e.g., making a “**fraud likelihood** determination” (Ex1010, 25:28-29)) includes communication with **data sources** (“**various sources 805, 806**”) (Ex1010, 5:6)) **via a network** (e.g., “**data network 105**”).

533. Gopinathan discloses that the transactional processing component 802 “**determines the likelihood of fraud** for each transaction by feeding **data** from **various sources 805, 806** into neural network 108, obtaining results, and outputting them.” (Ex1010, 5:5-8). As shown in Figure 1, “**Transaction information**” is obtained via “**data network 105**, which is connected to a conventional **financial**

data facility 106 collecting transaction information from **conventional sources**”

(Ex1010, 3:51-53):

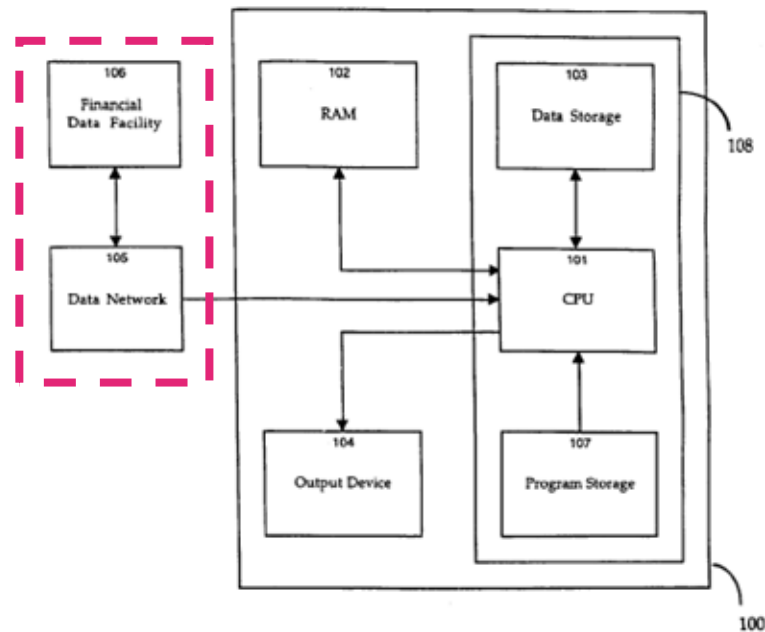


FIGURE 1

(Ex1010, Fig. 1). Moreover, as discussed above, in my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to combine the two references in order to reduce fraudulent activity and issuer loss, a motivation shared by both Foss and Gopinathan (Ex1008, [0008]; Ex1010, 2:29-34).

534. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of claim element [’301-3B], and all of the elements of Claim 3, are disclosed in Foss (Ex1008), as **Ground 1** of **Petition 2**, and/or rendered obvious over Foss in view of Gopinathan (Ex1010), as **Ground 3** of **Petition 2**.

E. Claims 2, 6, and 17-20 of the '301 Patent Are Rendered Obvious Under 35 U.S.C. §103(a) over Foss (Ex1008) in view of Hirka (Ex1009) (Ground 4)

535. Claims 2 and 6 depend from Claim 1 and Claims 17-20 depend from Claim 16. For the same reasons as discussed above, as **Ground 1**, Claims 1 and 16 are anticipated by Foss. The remaining limitations of Claims 2 and 6, as well as 17-20 are further set forth in Hirka.

536. As discussed below, as **Ground 4**, it is my opinion that Foss (Ex1008) in view of Hirka (Ex1008) renders obvious each and every element of Claims 2, 6, and 17-20 of the '301 Patent.

1. The Disclosure of Foss (Ex1008)

537. I provide a more fulsome description of Foss in my discussion above, *see* Pars. 131-157. Foss is prior art to the '301 Patent under pre-AIA 35 U.S.C. §§ 102(a) & 102(e) and, as discussed, discloses the elements of Claim 16. I refer to it here to highlight significant aspects with respect to Claims 18-20 of the '301 Patent.

538. Foss is directed towards “a system and method for providing a **checkless checking account** that provides transactional functionality of a branded card wherein the account is funded from the account owner’s personal funds” and “may be combined with a **credit component**.” (Ex1008, Abstract).

539. Foss also discloses a **settlement process** relating to **transactions** conducted using a card associated with the **credit component**: “a posted item

process (settlement), step 460, posts **the item for settlement and continues to the matching process** at step 465. The matching process at step 465 attempts to match all accounts with un-posted activity 466 with the daily settlement activity 468.” (Ex1008, [0068]).

540. The matching process “continues until authorization holds and settled transactions are matched at step 490.” (Ex1008, [0068]). *See* Ex1008, Fig. 4:

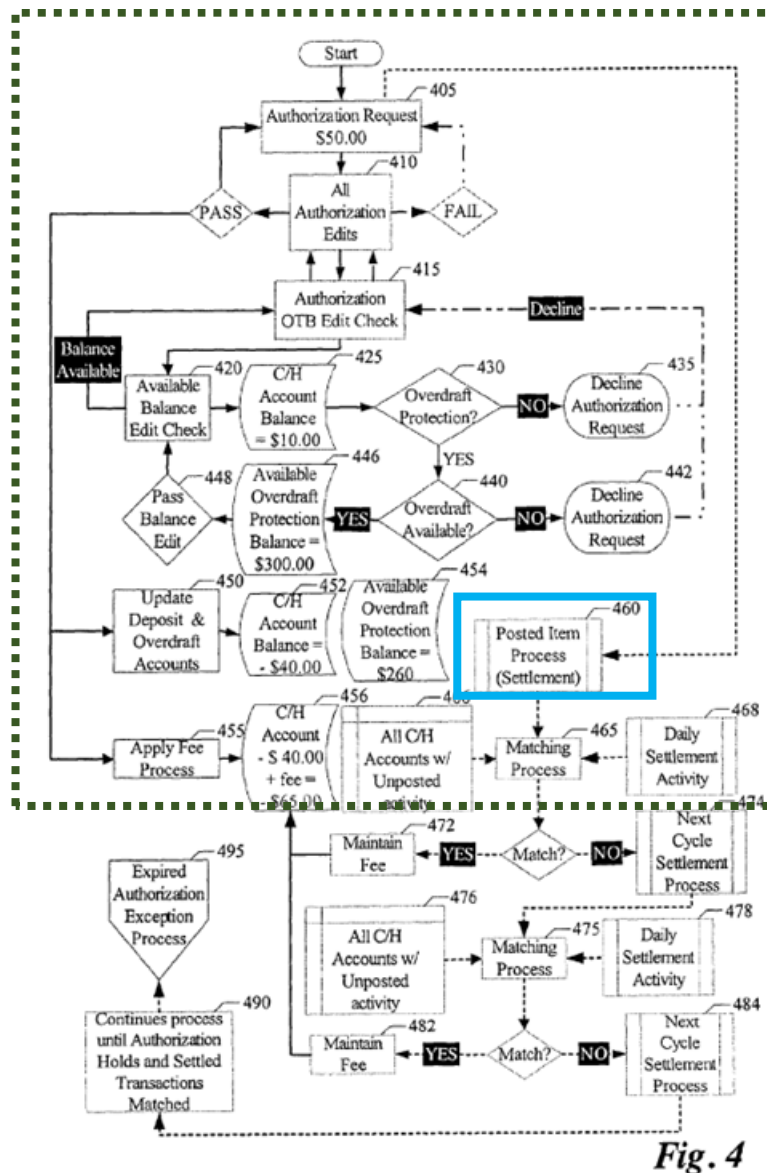


Fig. 4

(Ex1008, Fig. 4).

2. The Disclosure of Hirka (Ex1009)

541. I provide a more fulsome description of Hirka in my discussion above, see Pars. 114-130. As previously discussed, Hirka is prior art to the '301 Patent under pre-AIA 35 U.S.C. §§102(a) & 102(e). I briefly highlight significant aspects of Hirka here with respect to Claims 18-20 of the '301 Patent.

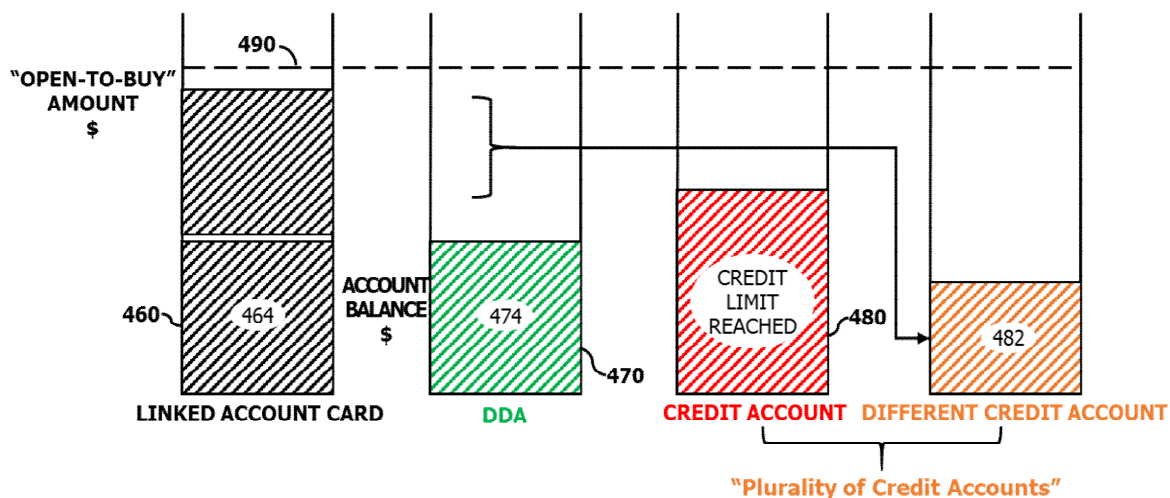
542. As I noted earlier, while the Office used Hirka '404, related prior art to Hirka, the Office has not previously rejected the idea that Hirka and Hirka '404 teaches aspects of the '301 Patent unrelated to Fraud assessment. (Ex1006; *see also* Pars. 83-93, 116-118).

543. Hirka, like Foss (discussed below), relates to a “linked account card” which is “linked to a **cash account**, such as a **demand deposit account (DDA)**” and a “linked **credit account**” used in **transactions** (Ex1009, 2:29-30, 3:15-20). As is relevant to Claim 2 of the '301 Patent, in embodiments, the **credit account** is a credit card account. (Ex1009, 7:10-15). Additionally, as is relevant to Claims 19 and 20, the “**credit account**”, an **overdraft account**, may comprise “**a plurality of credit accounts.**” (Ex1009, Claim 5).

544. Hirka discloses a **settlement process** which sweeps the cardholder's accounts to determine where “whether **adequate funds exist to cover all of the day's charges accumulated** through use of the linked account card,” which are “**individual automated clearing house debits**” associated with “**each transaction initiated** with the **linked account card**,” (Ex1009, 9:3-14, Fig. 2).

545. As previously discussed, and as is pertinent to Claims 19 and 20 of the '301 Patent, Hirka also discloses an embodiment wherein the “**credit account**” includes “a **plurality of credit accounts.**” (Ex1009, 15:20-21). In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that in this

circumstance the **settlement processes** would result in funds being drawn against an **additional credit account**, as depicted in the below modification of Figure 4(c) created for the Petition challenging the '301 Patent:



546. In my opinion, A POSITA would have understood at the time of the July 5, 2005 invention, as depicted in the above image, that if, for some reason, **one of the credit accounts** of the **plurality of credit accounts** could not be charged for excess funds 482 (such as in the circumstance that the credit limit had been reached), a **different account** of the plurality of credit accounts would be charged. While Figure 4(c) does not explicitly show that a **different account** may be used, in line with Hirka's admonition that the "specification should be considered exemplary only" (Ex1009, 14:19-23), a POSITA would understand that Hirka discloses that all or a portion of the funds can instead be charged to a **different credit account** (See Ex1009, 15:20-21).

3. Foss and Hirka are analogous art

547. As a preliminary matter, it is my opinion that Foss and Hirka are analogous art. In this regard, Foss (Ex1008) and Hirka (Ex1009) are in the same field of endeavor (e.g., debit card and financial transaction instrument systems).

548. As Foss explains, it is directed towards “a system and method for providing a **checkless checking account** that provides **transactional functionality of a branded card** wherein the account is funded from the account owner’s personal funds” and wherein the “**checkless checking account may be combined with a credit component**” (Ex1008, Abstract).

549. Similarly, Hirka is directed towards a “**linked account instrument**” (e.g., a “**plastic card similar to a credit card or ATM card**”) which “is used to access funds in an existing **demand deposit account**,” and in embodiments is connected to an “an **overdraft account** protecting the **cash account**.” (Ex1009, Abstract, 5:18-19, 6:10-11). Both also relate to **settling transactions** associated with the accounts (Ex1008, [0068]; Ex1009, 9:3-14, 11)).

550. Thus, in my opinion, as of July 5, 2005, a POSITA would have appreciated that Foss and Hirka were in the same field of endeavor, and therefore, those references are analogous art.

551. Given these similarities, in my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify Foss to include certain

features of Hirka. As will be discussed below, doing so would reduce expenses, be easily implemented, and be consistent with traditional banking processes. I discuss this in greater detail with respect to Claims 2, 6, and 18-20 below.

4. Dependent Claims 2 and 6 Are Rendered Obvious over Foss (Ex1010) in view of Hirka (Ex1009) (Ground 4, Petition 2)

552. Dependent claims 2 and 6 depend from Claim 1 of the '301 Patent, which, as **Ground 1** of **Petition 2**, is anticipated by Foss. As I discuss below, as **Ground 4** of **Petition 2**, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that these two further limitations of Foss are obvious over Foss in view of Hirka (Ex1009).

a. ['301-2] 2. The method of claim 1, wherein **the separate account is a transaction account or a bank account.**

553. Claim 2 of the '301 Patent limits the method of Claim 1 by further requiring that “**the separate account** is a **transaction account** or a bank account” (Ex1002, 13:10-11). Because this claim is written in the disjunctive, in my opinion, it may be met if the **separate account** is a **transaction account**.

554. According to the '301 Patent, a “**transaction account**” includes a traditional credit card account, which may be an “account associated with an open account ... system” (like “American Express®, **Visa**®, **MasterCard**®, and Discover® cards”) or a “closed account system” (e.g., like a branded “The Gap®

store” card, usable only at The Gap). (Ex1002, 4:38-47, 4:62-5:4). Thus, the limitation of Claim 2 may be met if the **overdraft account** is another **credit card like account**.

555. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1 of the '301 Patent.

556. As further discussed with respect to element [**'301-1A**] of Claim 1 of the '301 Patent, Foss discloses two accounts; a debit account (e.g., a “basic card account” also referred to as a “deposit account” (Ex1008, [0053], [0066])) and a separate account (e.g., an “**overdraft account**” or “**overdraft component**” (Ex1008, [0053], [0054], [0066])) account. See Pars. 378-381.

557. In my opinion, it would have been obvious to modify the **overdraft account** of Foss (Ex1008) in view of the teaching of Hirka (Ex1009) that the overdraft account in embodiments is a “**credit card**” account.

558. Hirka teaches that, in at least some embodiments, the associated **overdraft account** for a debit card includes a “**credit card**” account:

A second item that a potential cardholder may be required to provide in step 250 is a **designated credit or other account to handle overdrafts**. This may be **an existing credit card** or other account. If the linked account cardholder does not already have an existing credit account, one may be established through the institution that is issuing the linked account card. (Ex1009, 7:10-15).

559. In my opinion, a POSITA at the time of the July 5, 2005 invention would be motivated to use an existing line of credit like a credit card as an overdraft facility because it would give the customer some protection against overdrafts within the existing credit parameters established by the issuing institution. Further, as Hirka teaches, such a modification would be easy to implement, especially in light of the similarities in the systems of Hirka and Foss. *See* Par. 548-549.

560. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 2 of the '100 Patent, including those of Claim 1 from which it depends, are rendered obvious over Foss (Ex1010) in view of Hirka (Ex1009) (**Ground 4, Petition 1**).

b. ['301-6] 6. The method of claim 1, wherein the **debit account is managed by a different financial institution than **the separate account**.**

561. Claim 6 of the '301 Patent limits the method of Claim 1 by further requiring that “the **debit account** is managed by a different financial institution than **the separate account**.” (Ex1002, 21-23).

562. As discussed in Pars. 358-399 above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 1 of the '301 Patent.

563. As I explain above in Pars. 378-381, with respect to element [1A] of Claim 1 of the '301 Patent, Foss discloses a **separate account** from the **debit account**.

564. In my opinion, it would be obvious to a POSITA at the time of the July 5, 2005 invention further modify Foss (Ex1010) in view of Hirka (Ex1009), to have **debit account** and **separate account** at different institutions. For example, the **debit account** could be a **demand deposit account** “held at a bank” while the overdraft account could be an existing credit card account through “**the institution that is issuing the linked account card**”. (Ex1009, 7:4-7, 10-14).

565. Hirka teaches embodiments where the **main** and **overdraft** accounts are held at unrelated, or different, financial institutions. In one embodiment, the **main account** is “**held at a bank**” and the **overdraft account** is an “existing credit card account” which would be operated by a “**card issuer**”:

“[0041] First, as illustrated in step 250, a potential cardholder may be asked to designate a **demand deposit account (DDA)** or **other backing account** that will provide the cash funds for purchases made with the linked account card. The designated cash account may be a checking account, a savings account or other account **held at a bank or other institution** ...

[0042] A second item that a potential cardholder may be required to provide in step 250 is a designated credit or other **account to handle overdrafts**. This may be an **existing credit card** or other account. If the linked account cardholder does not already have an existing credit account, one may be established **through the institution that is issuing the linked account card.**” (Ex1010, [0041] and [0042], *see also* Ex1009, 7:4-7, 10-14).

566. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the **overdraft account** and the **demand deposit account** in at least some embodiments are held by different financial institutions which are not related to one another. The analysis of the Examiner matches this understanding:

“Hirka also discloses the method of linking debit card, demand deposit account and an overdraft credit line regardless of the institution holding the accounts (par. 0019, 0022, 0041)” (Ex1005, at 100, 141)

567. A POSITA would have been motivated to modify Foss to include accounts managed by different financial institutions in order to allow customers with a single account at multiple banks to utilize the overdraft coverage offered by Foss. A POSITA would have also been motivated to make this modification as doing so would expand the base of customers who would be able to use the card. Additionally, as shown by Hirka (Ex1009), doing so would have been easy to implement.

568. Additionally, this conclusion is bolstered by the contemporary settlement process showcased in Figure 9 of the '301 Patent, as I describe in Par. 47-48 above, to use multiple accounts (e.g., the **debit account** and **separate account**) managed by **different financial institutions**. A POSITA would have been motivated to modify Foss to be compatible with the contemporary settlement processes.

569. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 6 of the '301 Patent, including those of Claim 1 from which it depends, are rendered obvious over Foss (Ex1008) in view of Hirka (**Ground 4, Petition 2**).

5. **Dependent Claims 17-20 Are Also Rendered Obvious over Foss (Ex1010) in view of Hirka (Ex1009) (Ground 4, Petition 2)**

570. Dependent claims 17-20 depend from Claim 16 of the '301 Patent, which, as I discussed in **Ground 1 of Petition 2**, is anticipated by Foss. As I discuss below, as **Ground 4 of Petition 2**, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that the further limitations of these claims are obvious over Foss in view of Hirka (Ex1009).

- a. **['301-17] 17. The method of claim 16, wherein the computer-based authorization system is associated with a different financial institution than the financial institution associated with the separate account.**

571. Claim 17 of the '301 Patent limits the method of Claim 16 by requiring that “**computer-based authorization system** is associated with a different financial institution than the financial institution associated with the **separate account.**” (Ex1002, 14:34-37).

572. As discussed in Pars. 471-482, above, Foss (Ex1008) (as **Ground 1, Petition 2**) discloses the method of Claim 16 of the '301 Patent.

573. Foss teaches that the **computer-based authorization system** (see discussion in elements **[7PRE]** and **[1A/7A]**; Pars. 361-371, 373) (also referred to as a “**Stored Value System**” (Ex1008, [0016])) is associated with “**credit card processing companies**” (Ex1008, [0016])).

574. Foss discloses that it represents a modification of the “Stored Value Systems” used by Credit card processing companies: “[a]spects of the present invention are based on the **Stored Value Systems** that are currently deployed by **several credit card processing companies**” (Ex1008, [0016]). This is reinforced by the similarity in structure between the functionalities disclosed throughout Foss and those provided by the “typical **stored value system**”, which “operates to create accounts for the issuance of a card, and provide the settlement and authorization functionalities.” (Ex1008, [0017]). A POSITA as of the time of the July 5, 2005 invention would therefore understand that **computer-based authorization system** is associated with a “**credit card processing company**” (Ex1008, [0016] and [0017]).

575. Foss also discloses that, in embodiments, it is “implemented **in cooperation or in partnership with a bank or financial institution**. The bank provides a funding account that typically holds 100% of the funds. The funding account operates in conjunction with the **Stored Value System** to provide notice and receive status in real time.” (Ex1008, [0018]).

576. In my opinion, as **Ground 4** of **Petition 2**, it would have been obvious, in view of Hirka, to modify Foss so that the **computer-based authorization system** is **associated with a different financial institution** (e.g., a “credit card processing company” (Ex1008, [0016] and [0017])) than the **financial institution associated with the separate account** (e.g., a “bank” (Ex1009, 7:4-9)).

577. Hirka teaches that the **separate account** disclosed in embodiments is a **bank account** (e.g., “**more than one cash account**” which may be “**held at a bank**” (Ex1009, 7:4-9)). In my opinion, it would be obvious to a POSITA at the time of the July 5, 2005 invention to further modify Foss to include a **bank account** as **the separate account**.

578. Hirka discloses that:

“[0041] First, as illustrated in **step 250**, a potential cardholder may be asked to designate a demand deposit account (DDA) or other backing account that will provide the cash funds for purchases made with the linked account card. The **designated cash account** may be a **checking account**, a savings account or other account **held at a bank** or other institution. In an alternative embodiment discussed below, **more than one cash account may be selected to provide the cash or cash equivalent** for transaction processing.”

(Ex1007, [0041]; *see also* Ex1009, 7:4-9).

579. Like the **overdraft component** of Foss, the “more than one cash account” operates to provide overdraft protection, providing funds should the designated cash account not have “sufficient funds”:

“In another alternative embodiment of the invention, the linked account card may be linked to **multiple cash accounts** designated by the cardholder in order to **allow each to be swept in search of sufficient funds before the credit account 140 is needed.**”

(Ex1009, 12:18-20).

580. Like the primary “**designated cash account**”, a POSITA at the time of the July 5, 2005 invention would understand the “multiple cash accounts” used to provide overdraft protection would be “**held at a bank**” (Ex1009, 7:7).

581. Additionally, Hirka explains that the “**overdraft account**” in at least some embodiments is an “**other account used to handle overdrafts**”:

[0042] A second item that a potential cardholder may be required to provide in **step 250** is a designated credit **or other account to handle overdrafts**. This may be an existing credit card or **other account**. If the linked account cardholder does not already have an existing credit account, one may be established through the institution that is issuing the linked account card. Once these accounts have been identified, they may be verified before the linked account card account is established in step 260.”

(Ex1007, [0042]; *see also* Ex1009, 7:10-15).

582. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that an “other account” would include any other type of suitable account, which would include, for example, “a checking account, a savings account or other account **held at a bank** or other institution” (Ex1009, 7:6-7).

583. This is consistent with the Examiner’s understanding. As the Examiner explained, and as was not contradicted by Applicant, Hirka ’404 discloses the “use of another **bank account** as an **overdraft protection account**” (Ex1005, p. 100, p. 142):

“Regarding claims 3, 6, see the discussions in par. 0041 wherein Hirka [’404] discusses that more than one cash account can be designated for conducting transactions. Further, in paragraph 0042 that account other than credit account can be designated for overdraft protection. Thus, the use of another bank account as an overdraft protection account is considered as the inherent application of Hirka [’404’s] teachings” (Ex1005, p. 100, p.142).

584. In my opinion, a POSITA at the time of the July 5, 2005 invention would thus understand that a “**bank**” **held separate account**, in at least some embodiments, as taught by Hirka, would be associated with a **different financial institution** than the **computer-based authorization system** operated by “**credit card processing companies**” disclosed by Foss. A POSITA would have been motivated to modify Foss to include this feature to reduce costs associated with

maintaining accounts and take advantage of the functionality and customer base provided by banks or financial institutions.

585. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 17 of the '301 Patent, including those of Claim 16 from which it depends, are rendered obvious over Foss (Ex1008) in view of Hirka (**Ground 4, Petition 2**).

- b. **[’301-18] 18. The method of claim 16, wherein the fund transfer request corresponds to one or more other transaction requests, wherein the transaction request and each transaction request of the one or more other transaction requests includes a corresponding billing amount, and wherein a total charge of the fund transfer request is equal to a sum of the billing amounts of the transaction request and the one or more other transaction requests.**

586. Claim 18 limits the method of Claim 16 by requiring that “**the fund transfer request** corresponds to one or more other transaction requests, wherein the **transaction request** and each transaction request of the one or more other transaction requests includes a corresponding billing amount, and wherein a total charge of the **fund transfer request** is equal to a sum of the billing amounts of the **transaction request** and the one or more other transaction requests.” (Ex1002, 14:38-45). In other words, Claim 18 requires the **fund transfer request** to correspond to a **total charge** corresponding to the sum of two or more transactions received during a period of time.

587. As discussed in Pars. 469-482 above, Foss (Ex1008) (as **Ground 1**) discloses the method of Claim 16.

588. Also, as discussed above 477-482, Foss discloses a **fund transfer request**. See Ex1008, Fig. 4. In response to receiving a **transaction request**, Foss discloses that at the end of a period of time, there is a settlement process that includes generating the **fund transfer request** as part of the settlement process with the bank or financial institution as discussed with respect to element [16C] of Claim 16 (e.g., “**post[ing] the item for settlement** and continues to the matching process” (Ex1008, [0067])).

589. However, Foss does not explicitly discuss how the system responds when it receives **multiple transaction requests** during a period of time from the same customer.

590. In my opinion, it would have been obvious to a POSTIA as of the July 5, 2005 date of invention, to modify Foss with Hirka (Ex1009), which teaches that a fund transfer request can correspond to multiple transaction requests and includes a **total charge** corresponding to the request (e.g., an “**entire charge**” (Ex1009, 10:16)).

591. Hirka discloses a deposit sweep system where a **plurality of “individual debits”** are received during a period of time, leading to a total accumulated charge (Ex1009, 9:3-14). Hirka discloses that “[f]or **each transaction**

initiated with the linked account card, individual automated clearing house debits may be generated.” (Ex1009, 9:3-7).

592. Following the plurality of transactions, “[a]t a predetermined time...the cardholder’s **designated cash account** may **be swept via an automated clearing house** to determine **whether adequate funds exist** to cover all of the day’s charges accumulated through use of the **linked account card**. (Ex1009, 9:8-14). Next, “an inquiry may be made to determine whether the designated cash account has sufficient funds to cover **all of the individual debits** that were generated by the authorization server 130 in response to the charges accumulated using the linked account card.” (Ex1009, 9:8-14). If there are not sufficient funds in the “**designated cash account**”, in one embodiment, the system is configured “to have the **entire charge** be covered by the **credit account 140**” (Ex1009, 10:15-16).

593. In my opinion, a POSITA at the time of the July 5, 2005 invention would understand that, in such a case, the system of Hirka receives a **plurality of “transaction requests”** (represented by all of the “**individual debits**” (Ex1009, 9:8-14)), each of which include a transaction amount, and sums the transaction amounts (creating an “**entire charge**” (Ex1009, 10:15-16)) to post the total of such transactions amounts as a **fund transfer request**.

594. As an aside, the description of the ’301 Patent discloses only sending “**an itemized list of transactions with purchase amounts**” but does not explicitly

disclose sending a “fund transfer request equal to the sum of the purchase amounts”, suggesting Applicant implicitly understood that a group of transactions would contain a “total charge” summing the individual “purchase amounts”.

595. Thus, Hirka discloses a transfer-based overdraft protection method in which **the fund transfer request** (e.g., “**Step 412**,” which includes “[sweeping] via an automated clearing house” (Ex1009, Fig. 4a., 9:9-11)) corresponds to one or more other transaction requests (e.g., “**each transaction initiated**” (Ex1009, 9:4)), wherein the **transaction request** and each transaction request of the one or more other transaction requests includes a corresponding billing amount (e.g., “individual automated clearing house debits” (Ex1009, 9:5)), and wherein a total charge of the **fund transfer request** is equal to a sum of the billing amounts (e.g., an “entire charge” (Ex1009, 1:15-16)) of the **transaction request** and the one or more other transaction requests.

596. A POSITA would have been motivated to modify the method of Foss to correspond the **fund transfer request** to the one or more other transaction requests as disclosed by Hirka because doing so would reduce the costs associated with multiple transfers. Such a method would have been less expensive, easily implemented, and consistent with traditional banking processes.

597. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 18, including those of

Claim 16 from which it depends, are rendered obvious over Foss (Ex1008) in Hirka (Ex1009) (**Ground 4, Petition 1**).

- a. **[’301-19] 19. The method of claim 16, further comprising, in response to the fund transfer request being rejected due to insufficient funds, transferring one or more charges associated with the fund transfer request to a **different account** associated with the debit account.**

598. Claim 19 limits the method of Claim 16 by requiring that “in response to the fund transfer request being rejected due to insufficient funds, transferring one or more charges associated with the fund transfer request to a **different account associated with** the **debit account**.” (Ex1002, 14:46-50).

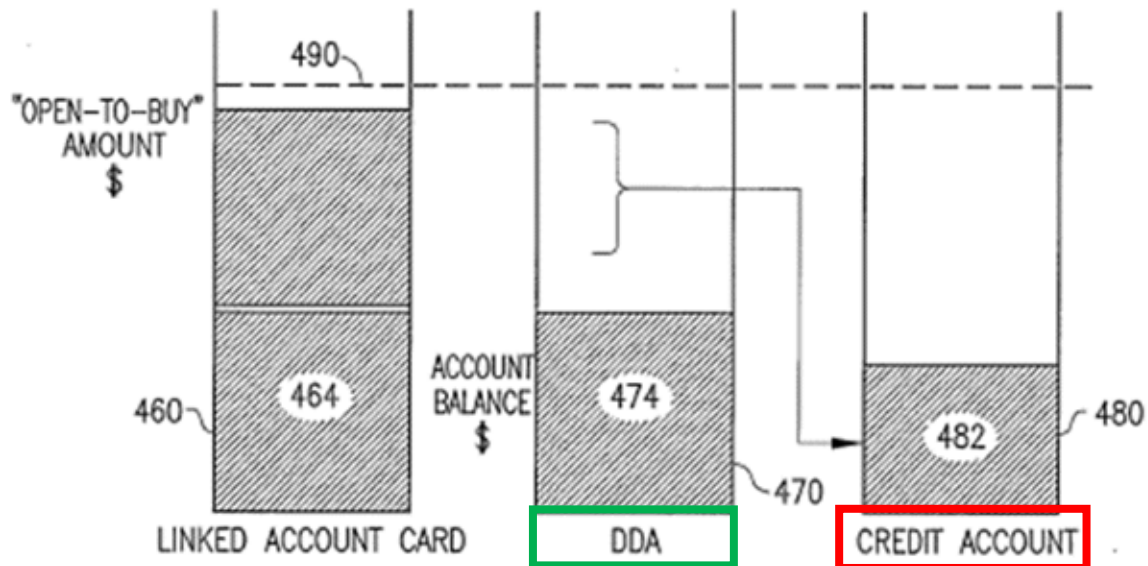
599. As discussed in Pars. 469-482 above, Foss (Ex1008) (as Ground 1) discloses the method of Claim 16.

600. Also, as discussed above 477-482, Foss discloses a **fund transfer request**. See Ex1008, Fig. 4. In response to receiving a **transaction request**, Foss discloses that at the end of a period of time, there is a settlement process that includes generating the **fund transfer request** as part of the settlement process with the bank or financial institution as discussed with respect to element **[16C]** of Claim 16 (e.g., “**post[ing] the item for settlement** and continues to the matching process” (Ex1008, [0067])). Foss also discloses that the fund transfer request (e.g., “post[ing] the item for settlement” (Ex1008, [0068]))) corresponds to an **overdraft account** tied to a

basic account (Ex1008, [0066], [0067] and [0068]). Foss does not expressly disclose, however, that a plurality of accounts can be used for overdraft protection, as required by Claim 19.

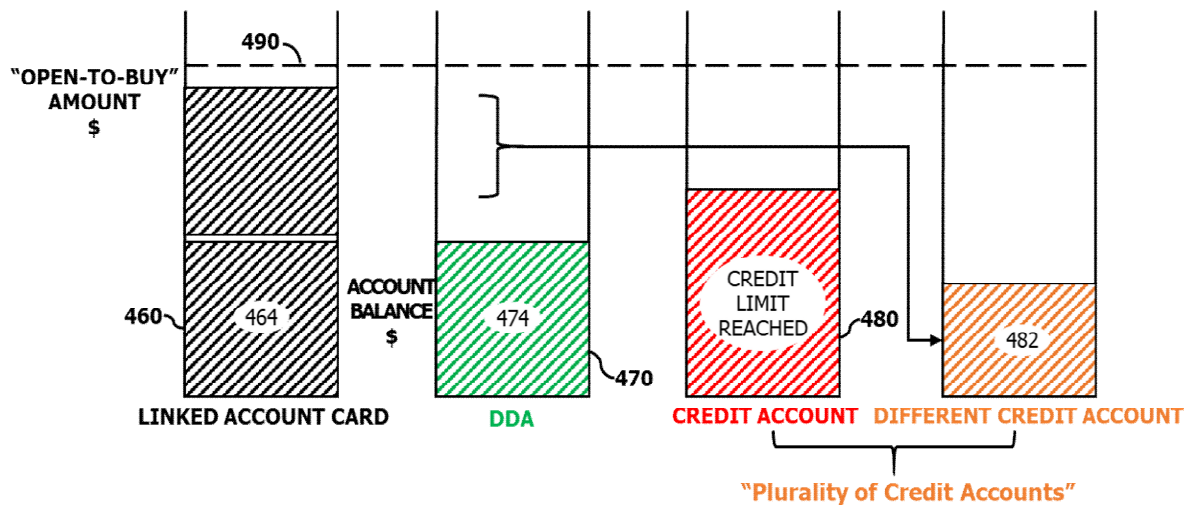
601. In this regard, it would have been obvious to a POSITA at the time of the July 5, 2005 invention to modify Foss to include the processes taught by Hirka, which teaches transferring one or more charges associated with the fund transfer request to a **different account** associated with the **debit account**.

602. Hirka teaches using multiple accounts (e.g., a “**plurality of credit accounts**” (Ex1009, 15:20-21)) for overdraft protection, all of which are linked to Hirka’s “linked account.” Hirka discloses that “funds 482” are withdrawn from an **overdraft account** (e.g., a “**credit account**”) when there are insufficient funds in a **debit account** (e.g., a “**designated cash account**”), as depicted in Figure 4(c) (Ex1009, 11:30-12:6):



(Ex1009, Fig. 4(c)).

603. Hirka further discloses that, in embodiments, the “**credit account** comprises a **plurality of credit accounts**” (Ex1009, 15:20-21). Accordingly, while Figure 4(c) does not explicitly show that a different account is used, a POSITA at the time of the July 5, 2005 invention would understand all or a portion of the “**funds 482**” can be charged to a **different credit account** of the **plurality of credit accounts** instead of the **credit account 480** (Ex1009, 14:19-23), as depicted in the below modification of Figure 4(c) created for the Petition challenging the ’301 Patent:



604. In my opinion, it would have been obvious to a POSITA at the time of the July 5, 2005 invention to modify Foss to include a plurality of overdraft protection accounts as taught by Hirka.

605. In my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify the method of Foss to transfer charges associated with a fund transfer request to a **different account** associated with the **debit account**, as disclosed in Hirka, because doing so would allow customers the flexibility of linking more than one account to a debit account to cover overdraft charges in the event of a rejected fund transfer request. Doing so would also provide a competitive advantage to the administrator of a system over systems wherein consumers could only link one such account. Furthermore, such a modification would have been easy to implement by simply using the method of Foss with additional accounts other than the debit account and the separate account.

606. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 19, including those of Claim 16 from which it depends, are rendered obvious over Foss (Ex1010) in view Hirka (Ex1009) (**Ground 4, Petition 2**).

b. [’301-20] 20. The method of claim 19, wherein the different account is a charge account or a credit account.

607. Claim 20 limits the method of Claim 19 by further requiring that “the different account is a charge account or a credit account.” (Ex1002, 14:51-52). It is my understanding that this limitation may be met if the prior art discloses that different account is a charge account or if the prior art discloses that the different account is a credit account.

608. As discussed, see Pars. 598-606, Claim 19 is rendered obvious over Foss in view of Hirka.

609. Claim 20’s requirement that the different account is a charge account or credit account is met by Hirka’s teaching that the different account is a credit account (e.g., it is one of a “plurality of credit accounts”).

610. Accordingly, in my opinion, it would have been obvious to a POSITA at the time of the July 5, 2005 invention to modify Foss further to allow for the multiple overdraft accounts to include a credit account as taught by Hirka.

611. In my opinion, a POSITA at the time of the July 5, 2005 invention would have been motivated to modify the method of Foss to use a credit account as a different account as taught in Hirka. These would have been the typical and well known accounts that a POSITA at the time of the July 5, 2005 invention would have looked to use as the “different account” when implementing the method disclosed in Foss, and it would have been advantageous to use an account which many consumers would already have had. Furthermore, such a modification would have been easy to implement because it would have been a simple substitution to apply the method to a charge or credit accounts, which were the common types of accounts used with such overdraft protection programs.

612. Accordingly, in my opinion, a POSITA at the time of the July 5, 2005 invention would understand that all of the elements of Claim 20, including those of Claim 19 from which it depends, are rendered obvious over Foss (Ex1010) in view of Hirka (Ex1009) (**Ground 4, Petition 2**).

VII. **Conclusion**

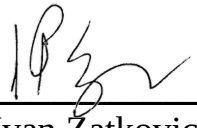
613. For the foregoing reasons, it is my opinion that Claims 1-17 of the '100 Patent and Claims 1-20 of the '301 Patent are invalid as anticipated and/or obvious.

614. At this time, I am not aware of any arguments and evidence of “secondary considerations” that would render Claims 1-17 of the '100 Patent and

Claims 1-20 of the '301 Patent non-obvious. Should the Patent Owner present such evidence, I reserve the right to respond to such evidence and arguments.

I hereby declare that all statements made herein are of my own knowledge and 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 Section 1001 of Title 18 of the United States Code.

Dated: December 29, 2022

By: _____
Ivan Zatkovich

APPENDIX A

LISTING OF CLAIMS 1-17 OF THE '100 PATENT

1. A method comprising:

authenticating, by a processing device, a transaction requested by a debit card against at least one of a demand deposit account associated with the debit card or an overdraft account associated with the debit card, wherein the authentication includes fraud assessment, and wherein the fraud assessment includes communication with data sources via a network; and

updating, by the processing device, information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

2. The method of claim 1, wherein the overdraft account is a transaction account.

3. The method of claim 1, wherein the overdraft account is a bank account.

4. The method of claim 1, further comprising, before the authenticating, enrolling in a debit card program during which the associating of the demand deposit account and the overdraft account are performed.

5. The method of claim 1, further comprising:

providing a periodic output of the account information for the demand deposit account and the overdraft account.

6. A system, comprising:

an authentication system configured to:

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receive information regarding a requested transaction of a debit card,

receive information regarding a main account that has been associated with the debit card and an overdraft account that has been associated with the debit card, and

accept or reject the requested transaction based on an authorization including a fraud assessment, wherein the fraud assessment includes communication with data sources via a network.

7. The system of claim 6, wherein the main account and the overdraft account are held at unrelated financial institutions.

8. The system of claim 6, further comprising:

an enrolling system that is configured to verify an enrollee, to perform the associating of the main and overdraft accounts of the enrollee with the debit card, and to issue the debit card.

9. The system of claim 8, wherein the enrolling system is configured to use a transaction account as the overdraft account.

10. The system of claim 8, wherein the enrolling system is configured to use a banking account as the overdraft account.

11. The system of claim 6, further comprising: a settlement system configured to generate a periodic report of at least one of the transactions, the main account, and the overdraft account.

12. A computer program product for performing a debit card authentication the computer program product

comprising a tangible computer usable medium having control logic stored therein, said control logic comprising:

first computer readable program code means for authenticating, through authorizing including fraud assessment, a transaction requested by the debit card against at least one of an account that has been associated with the debit card or an overdraft account that has been associated with the debit card, wherein the fraud assessment includes communication with information sources via a network; and

second computer readable program code means for updating information regarding at least one of the account or the overdraft account based on the transaction.

13. The computer program product of claim 12, further comprising:

third computer readable program code means for enrolling into a debit card program;

fourth computer readable program code means for associating the account to the debit card; and

fifth computer readable program code means for associating the overdraft account to the debit card.

14. The computer program product of claim 12, further comprising:

third computer readable program code means for providing a periodic output of the account information for the account and the overdraft account.

15. A tangible computer-readable medium having stored thereon computer executable instructions that, if

executed by a computing device, cause the computing device to perform a method comprising:

authenticating, through authorizing including fraud assessment, a transaction requested by a debit card against at least one of a demand deposit account that has been associated with the debit card and an overdraft account that has been associated with the debit card, wherein the fraud assessment includes communication with information sources via a network; and

updating information regarding at least one of the demand deposit account and the overdraft account based on the transaction.

16. The method of claim 15, further comprising, before the authenticating, enrolling in a debit card program during which the associating of the demand deposit account and the overdraft account are performed.

17. The method of claim 15, further comprising:

providing a periodic output of the account information for the demand deposit account and the overdraft account.

APPENDIX B

LISTING OF CLAIMS 1-20 OF THE '301 PATENT

1. A method comprising:

receiving, at a computer-based authorization system, a transaction request associated with a debit account, wherein the debit account is associated with a separate account;

sending, using the computer-based authorization system, an account information request that includes account information of the separate account;

receiving, at the computer-based authorization system, status information of the separate account in response to the account information request; and

authorizing, using the computer-based authorization system, the transaction request based on the status information.

2. The method of claim 1, wherein the separate account is a transaction account or a bank account.

3. The method of claim 1, wherein authorizing the transaction request includes performing a fraud assessment based on the status information,

wherein the fraud assessment includes communication with data sources via a network.

4. The method of claim 1, wherein the separate account is a demand deposit account or an overdraft account, and

wherein the demand deposit account and the overdraft account are associated with the debit account.

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5. The method of claim 1, further comprising providing a periodic output of the status information.

6. The method of claim 1, wherein the debit account is managed by a different financial institution than the separate account.

7. An article of manufacture including a non-transitory, tangible computer readable medium having instructions stored thereon that, in response to execution by a computer-based authorization system, cause the computer-based authorization system to perform operations comprising:

receiving, at the computer-based authorization system, a transaction request associated with a debit account, wherein the debit account is associated with a separate account;

sending, using the computer-based authorization system, an account information request that includes account information of the separate account;

receiving, at the computer-based authorization system, status information of the separate account in response to the account information request; and

authorizing, using the computer-based authorization system, the transaction request based on the status information.

8. The article of manufacture of claim 7, wherein authorizing the transaction request is performed in response to determining that a transaction amount associated with the transaction request is smaller than a fund amount associated with the status information.

9. The article of manufacture of claim 7, wherein the instructions, in response to execution by the computer-based authorization system, cause the computer-based authorization system to further perform operations comprising initiating, using the computer-based authorization system, an update of the status information in response to authorizing the transaction request.

10. The method of claim 1, wherein the status information comprises fund availability data.

11. The method of claim 1, wherein authorizing the transaction request is performed in response to determining that a transaction amount associated with the transaction request is smaller than a fund amount associated with the status information.

12. The method of claim 1, further comprising initiating, using the computer-based authorization system, an update of the status information in response to authorizing the transaction request.

13. The method of claim 12, wherein initiating the update of the status information comprises sending a fund transfer request.

14. The method of claim 1, wherein the account information request is sent to a third party vendor.

15. The method of claim 1, further comprising determining, using the computer-based authorization system, sending a request for standing information associated with whether the separate account is in good standing.

16. A method comprising:

receiving, at a computer-based authorization system, a transaction request associated with a debit account, wherein the debit account is associated with a separate account;

authorizing, using the computer-based authorization system, the transaction request based on the status information associated with the separate account; and

after authorizing the transaction request, sending, using the computer-based authorization system, a fund transfer request to a financial institution associated with the separate account,

wherein the fund transfer request corresponds to the transaction request.

17. The method of claim 16, wherein the computer-based authorization system is associated with a different financial institution than the financial institution associated with the separate account.

18. The method of claim 16, wherein the fund transfer request corresponds to one or more other transaction requests,

wherein the transaction request and each transaction request of the one or more other transaction requests includes a corresponding billing amount, and

wherein a total charge of the fund transfer request is equal to a sum of the billing amounts of the transaction request and the one or more other transaction requests.

19. The method of claim 16, further comprising, in response to the fund transfer request being rejected due to insufficient funds, transferring one or more charges

associated with the fund transfer request to a different account associated with the debit account.

20. The method of claim 19, wherein the different account is a charge account or a credit account.