

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAP AMERICA, INC.,  
Petitioner,

v.

LAKSHMI ARUNACHALAM,  
Patent Owner.

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Case CBM2013-00013  
Patent 8,037,158 B2

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Before, KARL D. EASTHOM, WILLIAM V. SAINDON, and  
BRIAN J. McNAMARA, *Administrative Patent Judges*.

McNAMARA, *Administrative Patent Judge*.

FINAL WRITTEN DECISION

*35 U.S.C. § 318(a) and*  
*37C.F.R. § 42.73*

## BACKGROUND

On September 19, 2013, we entered a Decision to Institute (“Dec. to Inst.”) a trial in each of the following related proceedings: *SAP America, Inc. v. Pi-Net International, Inc.*, Case IPR2013-00195, which concerns U.S. Patent No. 8,108, 492 B2 (“the ’492 Patent”), *SAP America, Inc. v. Pi-Net International, Inc.*, Case IPR2013-00195, which concerns U.S. Patent No. 5,987,500 (“the ’500 Patent”), and *SAP America, Inc. v. Pi-Net International, Inc.*, Case CBM2013-00013, which concerns U.S. Patent No. 8,037,158 B2 (“the ’158 Patent”). The ’492, ’500, and ’158 Patents have since been assigned by Pi-Net International to the inventor Lakshmi Arunachalam (“Patent Owner”).<sup>1</sup> On September 10, 2014, Patent Owner filed a Mandatory Disclosure indicating that she is now acting *pro se*. Paper 62. The ’492, ’500, and ’158 Patents share substantially the same specification.

In this proceeding, we instituted trial on the following grounds asserted by Petitioner: Claims 1–3 and 11 as unpatentable under 35 U.S.C. § 101; claims 1–6 and 11 as unpatentable under 35 U.S.C. § 112(b);<sup>2</sup> claims 1–3 and 11 as unpatentable under 35 U.S.C. § 103 over the combination of Computerworld<sup>3</sup> and Lawlor;<sup>4</sup> claims 1–3 and 11 as unpatentable under 35 U.S.C. § 103 over the combination of EB<sup>5</sup> and SFCU.<sup>6</sup>

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<sup>1</sup> Assignment recorded at Reel/Frame 033684/0252 on September 9, 2014.

<sup>2</sup> 35 U.S.C. § 112(b) applies to any patent application filed on or after September 16, 2012. We treat Petitioner’s challenge as one under 35 U.S.C. § 112, second paragraph, which is substantially the same as 35 U.S.C. §112(b).

<sup>3</sup> The Cyberbanks, Computerworld, 80 (June 26, 1995) ProQuest Telecommunications, (“Computerworld”). Ex. 1007.

In this Final Written Decision, we conclude that claims 1–3 and 11 do not recite patentable subject matter under 35 U.S.C. § 101 and are unpatentable under 35 U.S.C. § 103. We further conclude that claims 1–6 and 11 are unpatentable under 35 U.S.C. § 112 ¶2.

#### THE '158 PATENT

The Specification of the '158 Patent is the same as the '492 Patent, which we address in IPR2013-00194. Column and line references in this section are to the '492 Patent.

The '492 Patent purports to provide “a method and apparatus for providing real-time, two-way transactional capabilities on the Web.” Ex. '492 Patent, Abstract. The '492 Patent Specification states that “[a] ‘transaction’ for purposes of the present invention includes any type of commercial or other type of interaction that a user may want to perform.” *Id.* at col. 5, ll. 32–35. The '492 Patent also states that Figure 4A illustrates conceptually the user value chain, depicting the types of transactions and the channels through which the transactions are performed “today,” i.e., at least as early as the priority date of the application that led to the '492 Patent. *Id.* at col. 5, ll. 29–35. Thus, Figure 4A represents a prior art value chain, rather than the invention.

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<sup>4</sup> Lawlor et al., U.S. Patent No. 5,220,501, issued Jun. 15, 1993 (“Lawlor”). Ex. 1006.

<sup>5</sup> Allen H. Lipis, et al., *Electronic Banking, The Stock Market*, 4th Edition, 1-220, (1985) John Wiley & Sons, New York (“EB”). Ex. 1004.

<sup>6</sup> [www.thefreelibrary.com/\\_/print/PrintArticle.aspx?id=17104850](http://www.thefreelibrary.com/_/print/PrintArticle.aspx?id=17104850), (last visited Mar. 15, 2013) Stanford Federal Credit Union Pioneers Online Financial Services, (“SFCU”). Ex. 1005.

Figure 4B illustrates an embodiment of the invention in which a Web merchant provides real-time transactional capabilities to users who access a merchant's services through switching sites on Web servers or on non-Web network computer sites and cellular provider sites. *Id.* at col. 5, l. 55–col. 6, l. 1. The '492 Patent Specification states that the embodiment shown in Figure 4B includes a service network running on top of a facilities network, namely the Internet, the Web, or e-mail networks. *Id.* at col. 5, ll. 59–60. The Specification further states that the following five components interact to provide the service network functionality: an exchange, an operator agent, a management agent, a management manager, and a graphical user interface. *Id.* at col. 6, ll. 1–5.

The difference between the prior art subject matter of Figure 4A and embodiment of the invention in Figure 4B is shown in the “Service Channels.” In addition to the service channels in Figure 4A, Figure 4B illustrates a TransWeb<sup>7</sup> Exchange that includes a Web page and point-of-service (POSvc) applications. The '492 Patent states that “[a] POSvc application is an application that can execute the type of transaction that the user may be interested in performing.” *Id.* at col. 6, ll. 41–43. The type of services offered by a POSvc application is determined by each Web merchant. *Id.* at col. 7, ll. 10–11, 24–25.

The Exchange can reside on a web server or on a separate computer system on the Internet with an Internet address. *Id.* at col. 6, ll. 25–28, ll. 58–64. The Exchange conceptually includes a switching component and an

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<sup>7</sup> The '492 Patent refers to a TransWeb Exchange in Figure 4 and at column 7, lines 63–65, describes the TransWeb<sup>TM</sup> Exchange as a proprietary protocol. Elsewhere the '492 Patent uses the term Exchange.

object routing component, *id.* at col. 6, ll. 20–21, and may also include an operator agent that interacts with a management manager, *id.* at col. 6, ll. 28–30. As previously noted, the switching site need not be a Web server but may include non-Web network computer sites and cellular provider sites. *Id.* at col. 5, l. 64–col. 6, l. 1.

When the Exchange receives a consumer's request for a transactional application, a graphical user interface displays on a Web page, a list of POSvc applications from which the user may select. *Id.* at col. 6, ll. 39–55. The '492 Patent discloses that the embodiment of the invention supports hypertext markup language (HTML), Virtual Reality Markup Language, Java™, and other graphical user interface standards. *Id.* at col. 6, ll. 45–50.

By selecting a POSvc to activate, the user can access services and perform transactions offered by that POSvc application, which can access back-office data repositories. *Id.* at col. 6, l. 65–col. 7, l. 4, ll. 10–50.

The '492 Patent states that the connection between the user and the services is managed by the Exchange, through an operator agent on a Web server that ensures the availability of distributed functions and capabilities. *Id.* at col. 7, ll. 4–9. However, as noted above, the '492 Patent emphasizes that the Exchange may reside on a Web server or on a separate computer system with an Internet address. *Id.* at col. 6, ll. 25–28, 58–64. The '492 Patent also states that a management manager, which may be on the Exchange or on a separate computer system on the Internet, interacts with the operator agent on the Exchange. *Id.* at col. 7, ll. 56–61.

The Exchange and a management agent may act in various roles, including client-server, peer-to-peer, or master-slave roles and constitute a value-added network (VAN) switch. *Id.* at col. 7, ll. 52–56. The VAN

switch provides multiprotocol object routing, depending on the VAN services chosen, using a proprietary protocol, the TransWeb™ Protocol (TMP). *Id.* at col. 7, ll. 62–65. However, the '492 Patent does not describe TMP, except to state that it incorporates the same security features as the traditional Simple Network Management Protocol (SNMP). *Id.* at col. 7, ll. 62–66. In addition, according to the '492 Patent, TMP can incorporate s-HTTP, Java™, the WinSock API, or ORB with distributed on-line service information bases (DOLSIBs) to perform object routing. *Id.* at col. 8, ll. 4–7. Thus, object routing in the '492 Patent is not limited to a specific implementation. The '492 Patent, however, does not provide a description of the proprietary TMP or how TMP incorporates these alternative technologies.

In describing the DOLSIB, the '492 Patent states that networked object identities, each of which is assigned an Internet address based on the IP address of the node at which the networked object resides, identify information entries and attributes in the DOLSIB. *Id.* at col. 8, ll. 8–15. The Internet address assigned to a networked object identity branches in a hierarchical tree structure from a node, such as a Web server, and establishes the object as IP reachable. *Id.* at col. 8, ll. 16–23. The proprietary TMP utilizes this Internet address to uniquely identify and access the object from the DOLSB, although the mechanism TMP uses to accomplish this task is not described. *Id.* at col. 8, ll. 25–27. Each object has a name, a syntax that defines the abstract data structure corresponding to that object and encoding that defines how the object is represented by the object type syntax while being transmitted over the network. *Id.* at col. 8, ll. 27–39. The '492 Patent does not describe the syntax or encoding of objects.

The '492 Patent also discusses a conceptually layered architecture of the VAN switch in the context of “services.” *Id.* at col. 8, ll. 41–43. It is not clear if the “services” in this conceptually layered architecture constitute the “service network” previously discussed. However, the '492 Patent provides no physical description of such a network.

A “boundary service” interfaces the VAN switch, the Internet and the Web and end user media devices, e.g., PCs, television, telephones, as well as interfacing to an on-line service provider. *Id.* at col. 8, ll. 43–48. As an OSI application layer switch, the “switching service” represents the core of the VAN switch and facilitates connectivity with the Internet (a public switched network) and private networks, including back office networks. *Id.* at col. 8, ll. 52–60. The switching service routes user connections to remote VAN switches, multiplexes, and prioritizes requests and provides flow control. *Id.* at col. 8, ll. 54–59. Users use “management services” to manage network resources and perform administrative and maintenance functions. *Id.* at col. 8, l. 64–col. 9, l. 8.

The “application service” contains application programs that deliver customer services, such as POSvc applications. *Id.* at col. 9, ll. 9–12. We note that the terms “application service” and “VAN service” are referenced in the '492 Patent using reference designator 704. As mentioned above, the '492 Patent describes “services” of the layered architecture of a VAN switch. The description of the “VAN service” as providing functions including communication services for both management and end users of the network (*id.* at col. 9, ll. 20–23), indicates that the functions carried out by the VAN switch may be carried out in a POSvc application. However, the type of customer services offered by a POSvc application is determined by

each Web merchant. *Id.* at col. 7, ll. 10–11, 24–25. Thus, as opposed to the VAN service, we understand the “application service” is the service being provided by the application, e.g., desired banking functions, rather than a switching or communications functions.

**ILLUSTRATIVE CLAIM**      Claim 1 of the ’158 Patent, reproduced below, is illustrative.

1. A method for performing a real time Web transaction from a Web application over a digital network atop the Web, the method comprising:
  - providing a Web page for display on a computer system coupled to an input device;
  - providing a point-of-service application as a selection within the Web page, wherein the point-of-service application provides access to both a checking and savings account, the point-of-service application operating in a service network atop the World Wide Web;
  - accepting a first signal from the Web user input device to select the point-of-service application;
  - accepting subsequent signals from the Web user input device; and
  - transferring funds from the checking account to the savings account in real-time utilizing a routed transactional data structure that is both complete and non-deferred, in addition to being specific to the point-of-service application, the routing occurring in response to the subsequent signals.

#### CLAIM CONSTRUCTION

We address claim constructions that are material to this Final Written Decision as follows:



Web application

We addressed the construction of this term in our Final Written Decision in IPR2013–00194. *See SAP Am., Inc. v. Arunachalam*, Case IPR2013-00194, slip op. at 11-14 (PTAB Sep. 18, 2014) (Paper 67). We apply the same construction in this proceeding. For the reasons discussed in IPR2013-00194, we construe “Web application” to mean *a computer program to perform a certain type of work using the Web*.

Point-of-service (POSvc) application

We addressed the construction of this term in our Final Written Decision in IPR2013–00194. *See SAP Am., Inc. v. Arunachalam*, Case IPR2013-00194, slip op. at 14-16 (PTAB Sep. 18, 2014) (Paper 67). We apply the same construction in this proceeding. Thus, we construe POSvc application to mean *a software program that facilitates execution of transactions requested by a user*.

Service network atop the Web

We addressed the construction of “service network (running on top of a facilities network)” in our Final Written Decision in IPR2013-00194. *See SAP Am., Inc. v. Arunachalam*, Case IPR2014-00194, slip op. at 16-18 (PTAB Sep. 18, 2014) (Paper 67). In that proceeding we construed that “service network” to mean a network on which services, other than underlying network communication services, are provided. We apply a similar construction to this similar term in this proceeding. We construe “service network running atop the World Wide Web” to mean *a network on which services other than underlying network communications services are provided over the Web*.

Utilizing a routed transactional data structure that is both complete and non-deferred

In our Decision to Institute, we construed this term to mean *using a data structure that facilitates switching a user who selects a transactional application to a service provider program that provides immediate processing*. Dec. to Institute 15–16. We apply this broadest reasonable construction for purposes of our analysis under 35 U.S.C. § 101 and 35 U.S.C. §103. However, as discussed further herein, we conclude that the term is indefinite under 35 U.S.C. § 112, second paragraph.

Patent Owner proposes to construe this term to mean “Using a type of transactional object that is routed and which contains the information necessary for a complete, real-time transaction.” Paper 33 (“PO Resp.”) 28. Patent Owner’s attempt to parse this term into individual elements is flawed by its contention that the term “data structure” means a type of object. PO Resp. 32–33. The Specification states that that the syntax of an object defines the abstract data structure corresponding to that object type. Ex. 1001, col. 8, ll. 27-29. Thus, while an object has a data structure and that object’s data structure depends upon the object’s type, the Specification does not state that a data structure is an object. Instead, the Specification states that different types of objects may have different data structures. Patent Owner further argues that the terms “routed” and “transactional” do not require further construction. PO Resp. 33-34. However, the Specification does not explain what it means for a structure to be “routed” or “transactional,” e.g., as opposed to non-routed or non-transactional. Therefore, we decline to adopt Patent Owner’s proposed construction.

Patent Owner argues that “routed” does not mean switching a user, but instead means routing an object and its corresponding data structure. *Id.*

at 30. However, the claim does not recite routing an object, it recites a routed transactional data structure. Thus, we are not persuaded by Patent Owner's arguments that "routing" means "the selective flow of data in the application layer of the OSI model." *Id.* at 33-34. Patent Owner argues that a "complete" data structure is one that has all the information necessary for the transaction. PO Resp. 35. There is no support in the Specification for Patent Owner's assertion. As discussed above, the syntax of an object type defines the abstract data structure corresponding to that object type. Ex. 1001, col. 8, ll. 27-29. Thus, a data structure that is "complete" has the elements corresponding to the syntax of an object type. In this way, a data structure, which may vary among object types, facilitates the processing of information. The Specification does not require that any particular object or object type have all the information for a transaction. The example in the Specification of an object type, i.e., a car, and an instantiation of that object, a particular model car, does not contain all the information necessary for a transaction, e.g., pricing, options, buyer, seller. *Id.* at col. 8, ll. 20-27.

As discussed further in this decision, based on Patent Owner's contentions and the language of the Specification, we conclude that the term "routed transactional data structure" fails to inform a person of ordinary skill in the art of the scope of the claim with reasonable certainty and is therefore indefinite under 35 U.S.C. § 112 , second paragraph. *See, Nautilus, Inc. v. Biosig, Insts., Inc.*, 134 S. Ct. 2120, 2129–30 (2014) . However, to the extent that the claim can be construed in order to analyze its relationship to the prior art in this proceeding and whether the claim recites patent eligible subject matter under 35 U.S.C. § 101, we have reconsidered our use of the expression "switching a user" in the construction we applied in our Decision

to Institute. Dec. to Inst. 15-16. Claim 1 recites that the “routed transactional data structure” is specific to a POSvc application, which is a software program that facilitates execution of transactions requested by a user. Upon reconsideration, we conclude that “utilizing a routed transaction data structure” encompasses *using a data structure that facilitates switching the processing of information associated with a user selected transactional application that provides immediate processing.*

Object routing

We construed “object routing” in claim 4 to mean *the use of individual network objects to route a user from a selected transactional application to the processing provided by the service provider.* Dec. to Inst. 17. Patent Owner contends that we should further limit the construction of this term to routing of individual networked objects from a selected transactional application on a Web page. PO Resp. 38. Object routing is recited in claim 4. Independent claim 1, from which claim 4 depends, already recites providing POSvc applications for selection on a Web page. Patent Owner further contends that the claim is drawn to routing of objects, not users, and that “routing” requires no construction. *Id.* at 3839. However, claim 4 recites that “object routing” is used to complete the transfer of funds in a Web application. The claim does not recite that “objects” are routed. In addition, as we noted in our discussion of the term “utilizing a routed transaction data structure that is both complete and non-deferred,” networked objects are associated with IP addresses. The Specification appears to disclose processing that transfers and retrieves information from various IP addresses, but it is not clear that objects themselves are routed from one IP address to another. In addition, the

Specification discloses multi-protocol object routing that can incorporate several technologies, Ex. 1001, col. 7, ll.55–63, and that the Exchange that forms part of the VAN switch may be on the same or a different computer as that of the Web merchants, *id. at* col. 6, ll. 49–55. Thus, we decline to adopt Patent Owner’s construction and apply the above construction we adopted in our Decision to Institute.

### TECHNICAL INVENTION

A covered business method patent is “a patent that claims a method or corresponding apparatus for performing data processing” or other operations used in the practice, administration, or management of a financial product or service. 37 C.F.R. § 42.301(a). A covered business method patent “does not include patents for technological inventions.” *Id.* A technological invention is determined by considering whether the subject matter of a particular claim as a whole recites a technical feature that is novel and unobvious over the prior art, and solves a technical problem using a technical solution. 37 C.F.R. § 42.301(b).

Patent Owner contends that claim limitations such as a Web application, a point-of-service (“POSvc”) application operating in a service network atop the World WideWeb, and a routed transactional data structure, indicate that the claim is directed to a technological invention. Patent Owner’s contentions are based on claim constructions that we have declined to adopt.

Claim 1 is directed to performing a real-time Web transaction. The fact that the claim recites the transaction is performed from a Web application or over a particular network does not mean that the claim is drawn to a technological invention. Claim 1 is not drawn to the Web

application or the network. It is drawn to a method of performing the transaction. We do not find that the recited limitations include technical features that result in claim 1 being drawn to a technological invention.

The steps of the method recited in claim 1 include providing a webpage for display, providing at least one application the user can select to access checking and savings accounts, accepting signals from an input device, and transferring funds. There is no technological invention in these steps. Patent Owner argues, however, that certain elements of these steps transform the claim into a technological invention. For example, Patent Owner contends that, because claim 1 recites a “Web application” and a “POSvc application” operating over “a service network atop the web,” claim 1 recites a network that does not involve underlying network communication services and hence is a technological invention. PO Resp. 6. Patent Owner further argues that claim 1 solves a technological problem because the ’158 Patent describes limitations in the prior art as lacking a mechanism for performing a robust, real-time transaction with a bank. *Id.* Patent Owner’s citations to the Specification, however, describe purported shortcomings, e.g., disadvantages of CGI scripts, in performing transactions. The discussion of such shortcomings in the prior art does not change the nature of claim 1 as being drawn to a method of performing a transaction by carrying out certain non-technical steps. As we have construed the claim, the recited POSvc application is a software program that facilitates execution of transactions requested by a user and the recited service network is a network on which services other than underlying network communications services are provided over the Web. Utilizing a routed transactional data structure that is both complete and non-deferred means

using a data structure that facilitates switching the processing of information associated with a user selected transactional application that provides immediate processing. A user's selection of a transactional application transfers processing to a service provider program which, in turn, provides immediate processing. None of these features changes the non-technological nature of claim 1. Thus, the subject matter of claim 1 is directed to a non-technical invention, i.e., simply transferring funds.

#### CHALLENGES UNDER 35 U.S.C. § 101

Patent Owner disputes Petitioner's asserted ground that claims 1–3 and 11 recite subject matter that cannot be patented under 35 U.S.C. § 101.

To determine whether a claim recites patent-ineligible subject matter, the first step is to determine whether the subject claim is drawn to a law of nature, a natural phenomenon, or an abstract idea. *Alice Corp. Pty, Ltd. v. CLS Bank Intern*, 134 S. Ct. 2347, 2356 (2014) (citing [\*Mayo Collaborative Services v. Prometheus Laboratories, Inc.\*, 132 S.Ct. 1289, 1296–97 \(2012\)](#)). If the claim is directed to patent-ineligible subject matter, the second step is to consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. *Id.* This second step of the analysis searches for an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.* (internal quotations omitted).

Applying the broadest reasonable construction, claim 1 recites a method of carrying out a transaction from a Web application (a computer program to perform a certain type of work on the Web) in which a user

selects a POSvc application (a software program that facilitates execution of transactions requested by a user). Thus, claim 1 recites an abstract method, i.e., performing a real-time Web transaction by displaying and providing at least one application a user selects to access checking and savings accounts, and transferring funds (i.e., debiting or crediting) in response to user signals from an input device. Noting our conclusion in the Decision to Institute that claims limited to “object routing” recite statutory subject matter, Patent Owner argues that claims 1–3 and 11 also recite statutory subject matter because they recite a “routed transactional data structure.” PO Resp. 13–14.

Patent Owner’s arguments are based on a claim construction of “routed transactional data structure” that we declined to adopt, and on a misapprehension of our reasons for concluding claims reciting object routing are not barred under 35 U.S.C. § 101. Patent Owner argues that the “data structure” of claim 1 is a physical software structure. PO Resp. 14. The only mention of “data structure” in the Specification is a statement that “[t]he syntax of an object type defines the *abstract data structure* corresponding to that object type.” Ex. 1001, col. 8, ll. 27–39 (emphasis added). Thus, the Specification states that, even if an object is considered to be physical, its data structure is abstract. In addition, although the syntax of an object type may impose a data structure on objects of a particular type, the Specification does not mention a transactional object type.

In our Decision to Institute, we noted that “object routing” requires the use of individual networked objects to route a user from a selected transactional application to the processing provided by the service provider. In contrast, the limitation “routed transactional data structure,” does not impose a meaningful limit on the scope of claims 1–3 and 11 because it does



not play a significant part in permitting the claimed method to be performed. *See SiRF Tech. Inc. v. Int'l Trade Comm.*, 601 F.3d 1319, 1333 (Fed. Cir. 2010). For example, as explained below in our 35 U.S.C. § 112 , second paragraph analysis, the Specification does not describe clearly how a data structure is transactional, as opposed to non-transactional, or routed, as opposed to non-routed. As discussed above, to the extent that “utilizing a routed transactional data structure that is both complete and non-deferred,” can be construed, we have interpreted it to mean using a data structure that facilitates switching the processing of information associated with a user–selected a transactional application that provides immediate processing. Switching the processing of information from one resource to another, such as from one program or data base to another, is a well-known abstract concept that is not limited to any particular technical approach, such as object routing, as recited in claim 4.

The remaining limitations in claim 1 do not contribute any patent–eligible subject matter. The service network atop the Web, which we have construed to mean a network on which services other than underlying network communications services are provided over the Web, is an abstract concept under which customers and service providers communicate over a network so that the service provider can service the customer, in this case to allow the user to transfer funds between checking and savings accounts. This does not impose a meaningful limitation on the scope of the claim. *See SiRF Tech*, 601 F.3d at 1333. Thus, we conclude that claim 1 does not recite patent–eligible subject matter.

Claims 2, 3, and 11 do not add limitations that contribute to patent eligibility. Thus, we conclude that Petitioner has demonstrated that claims 1–3 and 11 do not recite patentable subject matter under 35 U.S.C. § 101.

#### CHALLENGES UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

There is no dispute that the term “routed transactional data structure” is not used or discussed in the Specification. In our Decision to Institute, we instituted trial on the basis that the term “routed transactional data structure,” which is used in all the challenged claims, is indefinite under 35 U.S.C. § 112 because we were persuaded that a potential competitor could not determine whether or not he is infringing. Dec. to Institute 34 (citing *Morton Int’l. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993)). Patent Owner argues that the constituent parts of the term are individually easily construed, and as such, the phrase is easily construed as well PO Resp. 66 However, Patent Owner acknowledges that the construction of this term may be difficult and that reasonable minds may differ. *Id.* at 67-68.

Patent Owner argues that a claim is ambiguous only if it is “insolubly ambiguous.” PO Resp. 67. That standard, however, has been rejected by the Supreme Court. In *Nautilus*, the Court held that [§ 112](#), second paragraph requires that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty. *Nautilus*, 134 S. Ct. at 2129-30. The court noted that the definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable. *Id.*

The standard we adopt accords with opinions of this Court stating that “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-

matter.” *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270, 37 S.Ct. 82, 61 L.Ed. 286 (1916). See also *United Carbon*, 317 U.S., at 236, 63 S.Ct. 165 (“claims must be reasonably clear-cut”); *Markman*, 517 U.S., at 389, 116 S.Ct. 1384 (claim construction calls for “the necessarily sophisticated analysis of the whole document,” and may turn on evaluations of expert testimony”)

*Id.*

Applying this standard, the claim term “a routed transactional data structure” is indefinite. In its claim construction arguments, Patent Owner contends that the Specification discloses two kinds of routing — user routing through management and administration, as discussed at column 8 lines, 32–67 of the Specification, and routing of a data structure as in object routing, described in the Specification at column 7, line 42–column 8, line 31. PO Resp. 30. However, the term used in the Specification is “object routing.” There is no definition of a “routed transactional data structure,” nor any discussion of any data structure being “routed.” The Specification expressly states that the syntax of an object “defines the abstract data structure corresponding to that object type.” Ex. 1001, col. 8, ll. 27–29. This is the sole use of the term “data structure” in the Specification. The Specification also states that the encoding of an object defines how the object is represented by the object type syntax while being transmitted over the network. *Id.* at col 8, ll. 27–31. There is no discussion of any particular object type, such as a transactional object. It is also not clear how an object is routed or transmitted over the network, as the Specification describes “networked objects” associated with an Internet address as being IP reachable (i.e., that they are at a fixed location). *Id.* at col. 8, ll. 1-18. In any case, even if objects are transmitted, there is no discussion in the

Specification of a “routed transactional data structure.” Although, for purposes of our analysis under 35 U.S.C. § 101 and 35 U.S.C. § 103, we have construed the term “utilizing a routed transactional data structure that is both complete and non–deferred,” its incorporation into claim 1 renders the claims indefinite because, for the reasons discussed above, one of ordinary skill in the art is not informed of the scope of the invention with reasonable certainty.

The Specification notes that object routing can be accomplished using an undisclosed, proprietary protocol, TransWeb™ Management Protocol (TMP) that can incorporate distributed on-line service information bases (DOLSIBs), s-HTTP, Java, the WinSock APR, or ORB with DOLSIBs to perform the object routing. *Id.* at col. 7, l. 54–65. The term “routed transactional data structure” is indefinite because it fails to inform a person skilled in the art of the scope of “data structure,” and also because the “rout[ing]” uses an undisclosed proprietary protocol.

## ANALYSIS OF PRIOR ART CHALLENGES

### Introduction

Petitioner challenges claims 1–3 and 11 under 35 U.S.C. § 103 as unpatentable over the combination of Electronic Banking and Stanford Federal Credit Union and as unpatentable over the combination of Lawlor and Computerworkd.

Electronic Banking (“EB”) generally discloses retail and wholesale banking services and discusses future directions of the financial services industry and electronic funds transfer at the time of its publication in 1985. Ex. 1004, 10-11. Pages 123–146 of EB disclose home banking developments from a telephone bill payment system to a video home

banking system. EB identifies four categories of service (information retrieval, transactions, electronic messaging and computation),*id.* at 124–5, four major processing functions, (customer information preparation, network control, session management and after-session transaction processing),*id.* at 128, and five major system elements (terminals, communications link, operating center, database and standards),*id.* at 124–25.

EB discloses that when a customer accesses the system, that customer is the network controller’s customer and can access many different services the network controller offers, including a bank’s services, by selecting from categories listed on an index menu. *Id.* at 129. When the customer selects banking, the network controller sets up a direct connection between the customer and the financial switch (“FS”) bank, at which point the FS bank takes over the session management function and prompts the customer through the transaction, thereby capturing the customer oriented transaction and providing the bank complete control over the customer’s transaction. *Id.* When the customer signs off, the customer is returned to the network controller’s main menu from which the customer may select another service, such as news or games. *Id.*

Stanford Federal Credit Union (“SFCU”) discloses that, following a 100 member trial in 1994, in 1995 Stanford Federal Credit Union became the first bank to offer customers services beyond access to information over the Internet, by providing its customers the ability to withdraw or transfer funds from one account to another, and conduct day-to-day business online, using its home page and World Wide Web server. Ex. 1005, 1–2.

Lawlor discloses a system for remote delivery of banking services. Ex. 1006, Abstract. In Lawlor, contact is established between portable

terminals and a central computer operated by a service provider over a telephone or packet data network. *Id.* Users are connected to their banks by linking the digital packet network, accessible through a dial-up gateway, to an ATM network. *Id.* at Abstract; col. 7, ll. 30–36, 40–48. The central computer acts as a Point of Sale (POS) or Automated Teller Machine (ATM). *Id.* at Abstract. The bank's data processing system communicates with other banks through specialized ATM networks and digital switches, so that a user of one bank's ATM can access an account in another bank. *Id.* at col. 4, ll. 12–23. Funds transfers can be accomplished in real time. *Id.* at col. 7, ll. 19–22.

Computerworld discloses that in June 1995 Security First Network Bank was approved to provide services including the ability to make money transfers over the Internet. Ex. 1007, 80.

#### Claim 1

Our Decision to Institute details the disclosures in the references that render claim 1 obvious over the combination of EB and SFCU Dec. to Institute 29–31, and Lawlor and Computerworld, *id.* at 24–26. Patent Owner contends that none of the asserted prior art references discloses a routed transactional data structure. PO Resp. 58. Patent Owner's entire argument is based on a construction that we have declined to adopt. *Id.* at 58–60. As discussed above, we have construed this term to mean using a data structure that facilitates switching the processing of information associated with a user selected transactional application that provides immediate processing.

EB discloses that when a user selects electronic banking, the network controller sets up a direct connection between the financial switch (FS) bank and the customer, at which point the bank takes over the session

management. Ex. 1004, 129. EB also discloses the need for a bank to possess software to extract home banking customer account information to set a cutoff time for updating accounts during (e.g., immediately) or after the session. *Id.* at 134. EB further discloses the Fed Wire network, which transfers credits and debits that immediately affect an institution's available funds. Thus, EB discloses a routed transactional data structure, as we have construed that term.

Patent Owner further contends that none of the prior art references discloses the use of a Web application or a service network atop the Web. Although we have revised our construction of "Web application," to mean a computer program to perform a certain type of work using the Web, we have declined to adopt Patent Owner's proposed construction. As discussed above, SFCU discloses using a home page and the Web to conduct everyday business, such as funds transfers, using a World Wide Web server. EB discloses a program that offers four categories of banking services (transactions the bank can perform). Ex. 1004, 124–25. Thus, the combination of SFCU and EB discloses a computer program to perform a certain type of work using the Web. In view of these disclosures, and as detailed in our Decision to Institute, we conclude that the preponderance of the evidence shows that claim 1 is unpatentable under 35 U.S.C. § 103 over the combination of EB and SFCU.

We reach the same conclusion with respect to the combination of Lawlor and Computerworld. Lawlor discloses that, following the user's selection of the particular type of transaction, sub-options are displayed and the software is responsive to further inputs from the user. Ex. 1006, col. 41, ll. 57–60. Funds transfers, such as payments, can be accomplished

immediately, in real time, and the transactions can be routed through the originating ATM network or another ATM network. *Id.* at col. 7, ll. 49–53, col. 22, ll. 28–52, col. 50, ll. 44–59. Lawlor further discloses a banking module 80H that conducts funds transfers between accounts (Ex. 1006, col. 20, ll. 59–63) and a routing module that permits efficient routing of transactions to the appropriate module for servicing (*id.* at col. 20, ll. 27–29). Thus, Lawlor discloses a routed transactional data structure, as we have construed that term. Computerworld’s discussion of accessing banking services over the Internet and using Netscape Navigator in such transactions, Ex. 1007, discloses a Web page displayed on a computer screen and a Web application, i.e., a software program that can be accessed by an Internet user.

Patent Owner argues that the combination of Lawlor and Computerworld is not appropriate under 35 U.S.C. § 103 because a goal of Lawlor is to avoid the need for banks to install new communication lines or software. PO Resp. 63-65 (“it would not have been obvious to make any changes to Lawlor’s system”). However, the question of whether a given inventor (here, Lawlor) would consider it obvious to modify his invention in view of the prior art is not the issue. This issue is whether a person of ordinary skill in the art would have considered it obvious to include accessing banking services over the Internet using a browser (as taught in Computerworld) in the system of Lawlor. Here, Lawlor discloses “a new central computer/communications system performing new functions” and an ATM network linking to a digital packet switched network, such as the Internet, of which the World Wide Web is a part. Ex. 1006, col. 7, ll. 40-50. Petitioner notes that the combination of Lawlor and Computerworld is nothing more than combining the remote banking services of Lawlor with



the World Wide Web banking Web sites described in Computerworld without any significant modification. Pet. 41. Petitioner points out that both references discuss home banking systems, i.e., the disclosed Computerworld systems operate on the World Wide Web, while Lawlor operates over standard phone networks. *Id.* Citing the Declaration of Dr. Sirbu Ex. 1003 (“Sirbu Decl.”), Petitioner persuasively argues that one of ordinary skill in the art would have found it obvious to adapt the Lawlor system to the World Wide Web, as Computerworld discusses banks that were performing money transfers over the World Wide Web.

In consideration of the above, we conclude Petitioner has shown by a preponderance of the evidence that, under 35 U.S.C. § 103, claim 1 is unpatentable over the combination of Lawlor and Computerworld.

Claims 2, 3, and 11

Claim 2 recites “an exchange over the Web” completes the transfer of funds, and claim 3 recites that “a management agent is used to complete” the exchange. EB in combination with SFCU discloses both of these features. EB discloses transaction instructions and processing to complete banking transactions, such as the exchange of funds (Ex. 1004, 125), and accessing the transactional capabilities through a network (*id.* at 129). Petitioner notes that SFCU discloses that the network used to access such transactions may be the Web. Pet. 69. EB also teaches that a computer performing session management functions manages the transactions. *Id.* at 120–131. Petitioner notes that the Stanford Federal Credit Union had installed a system for performing banking transactions in which a World Wide Web server provides the management agent. *Id.* at 69-70.

Claim 11 depends from claim 1 and recites that the “Web transaction is accessing an account across the Web from a Web application.” As discussed above, Petitioner has shown that SFCU discloses the added limitation of accessing accounts through the Internet using a Web browser.

Thus, we conclude that Petitioner has demonstrated that the preponderance of the evidence shows that claims 2, 3, and 11 are unpatentable under 35 U.S.C. § 103 over the combination of EB and SFCU.

Although Lawlor does not disclose an exchange over the Web being used to complete the transfer of funds in a Web application, as recited in claim 2, Lawlor discloses a customer using a public data network (“PDN”), such as a packet-switched digital telecommunication network, to interface with an ATM network, to transfer funds. Ex. 1006, col. 7, ll. 40-50. Computerworld discloses the use of the Web to perform such transactions. Thus, we are persuaded that Petitioner has demonstrated that the combination of Lawlor and Computerworld discloses the features recited in claim 2.

Lawlor further discloses that the manager 80A in CPU 80 schedules and coordinates the flow of transactions through various system modules by sending the transactions to the appropriate module, e.g., settlement module and the banking module, “for processing and control of interactions with the external environment.” *Id.* at col. 20, ll. 11-16; col. 20, l. 26 – col. 21, l. 10. Thus, the central computer serves as a management agent used to complete the transfer of funds as recited in claim 3.

Claim 11 depends from claim 1 and recites that “the Web transaction is accessing an account across the Web from a Web application.” As

discussed above, Computerworld discloses the added limitation of accessing accounts through the Internet using a Web browser.

In consideration of the above, we conclude that Petitioner has demonstrated that the preponderance of the evidence shows that, under 35 U.S.C. § 103, claims 3 and 11 are also unpatentable over the combination of Lawlor and Computerworld.

#### MOTION TO EXCLUDE

Petitioner moves to exclude certain documents as not authenticated or hearsay. Paper 47 (“Mot. to Exclude”). Specifically, Petitioner argues that we should exclude Exhibits 2014–2016, and 2018, (web pages purported to be from Webopedia and Wikipedia), and Exhibit 2019 (purported to be from webtrends.about.com), as unauthenticated and hearsay (*id.* at 1–4), and as irrelevant (*id.* at 5–6), because they post–date the relevant time period, i.e., November 13, 1995. Patent Owner opposes, citing case law where, based on the characteristics of the website, courts have held such documents to be sufficiently authenticated. Paper 50 (“Opp. to Mot. to Exclude”) 1–4. Patent Owner also argues that the exhibits are relevant because they are offered for purposes of claim construction and that post-dated references may be cited to show the state of the art at or around the time of the invention. *Id.* at 5–6.

Petitioner argues that the issue is whether these particular documents are authenticated and that Patent Owner’s sole attempt to authenticate, a statement by the inventor that each of the exhibits is a true, authentic, and correct copy of the original document, is insufficient for authentication. Paper 52 (“Pet. Reply”) 1–3.

Under Federal Rules of Evidence (“FRE”) 901(b)(1) a proponent may authenticate evidence through testimony that the evidence is what it is claimed to be. In *Lorraine v. Markel American Insurance Co.*, 241 F.R.D. 534, (D. Md. 2007), the court noted that a witness authenticating electronic evidence must “provide factual specificity about the process by which the electronically stored information is created, acquired, maintained, and preserved without alteration or change, or the process by which it is produced if the result of a system or process that does so.” *Id.* at 545. The inventor’s statements do not meet these criteria. However, under FRE 901(b)(4) a party may authenticate evidence using circumstantial evidence in conjunction with the appearance, contents, substance, internal patterns, or other distinctive characteristics of the evidence. Although Patent Owner has not provided evidence such as hash values or metadata (*see Lorraine* at 547), the contents and substance of the documents indicate that they are what they purport to be. Given their technical nature of the documents, this panel can assign them appropriate weight.

Patent Owner also argues that these exhibits are not hearsay, arguing that they are offered in the context of claim construction to establish what the Exhibits teach about how a person of ordinary skill would interpret the exhibits. Opp. to Mot. to Exclude 4. Patent Owner cites *Neev v. Abbott Med. Optics, Inc.*, CIV. 09-146 RBK, 2012 WL 1066797 at \*14 (D. Del. Mar. 26, 2012) (citing *Abbott Labs v. Diamedix Corp.*, 969 F. Supp. 1064, 1066 n.1 (N.D. Ill. 1997)) to support the proposition that evidence proffered to establish the effect on a person of ordinary skill in the art is not hearsay. Opp. To Mot. to Exclude 4. Petitioner responds that *Neev* concerned the admissibility of statements about the general state of the art at the time of the

invention, while in this case, Patent Owner cites the exhibits as factual support for its position and in order to establish what the exhibits actually teach. Paper 53 (“Pet. Reply to Opp. to Mot. to Exclude”) 4.

We addressed a similar issue in IPR2013-00194 and IPR2013-00195 concerning web page print-outs offered as exhibits. As in those cases, in this proceeding, we do not cite these exhibits in our Final Written Decision. Furthermore, in those cases, we determined that, notwithstanding the hearsay aspects of the exhibits, we could exercise our discretion to assign appropriate weight to the evidence. We reach the same conclusion here and deny Petitioner’s Motion to Exclude.

#### ORDER

In consideration of the above, it is

ORDERED that claims 1–3 and 11 do not recite patent–eligible subject matter and are unpatentable under 35 U.S.C. § 101;

FURTHER ORDERED that claims 1–3 and 11 are unpatentable under 35 U.S.C. §103;

FURTHER ORDERED that claims 1–6 and 11 are unpatentable under 35 U.S.C. § 112, second paragraph;

FURTHER ORDERED that Petitioner’s Motion to Exclude is DENIED; and

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

CBM2013-0013  
Patent 8,037,158 B2

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