UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BLACKBERRY LIMITED,
Petitioner

v.

MOBILE IRON, INC.,
Patent Owner

Case IPR2020-01604
U.S. Patent No. 8,359,016

DECLARATION OF DAVID GOLDSCHLAG, PH.D.

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a) "A method" 77

b) "(a) receiving, by a processor enabled software vendor and from a requestor, a request for content, the requestor being associated with an enterprise other than the processor enabled software vendor" 78

c) "(b) determining, by the processor enabled software vendor, an identity of the enterprise" 79

d) "(c) selecting, by a processor executable presentation module and based on the identified enterprise, first content to be forwarded to the requestor, the first content including a plurality of possible software, software upgrade, software feature, and/or software setting options for selection by the requestor" 79

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I, Dr. David Goldschlag, declare as follows:

I. INTRODUCTION

1. I have been retained on behalf of BlackBerry Limited ("BlackBerry") for the above-captioned *inter partes* review proceeding. I understand that this proceeding involves U.S. Patent No. 8,359,016 ("the '016 patent"), titled "Management of Mobile Applications."

2. I am over 18 years of age. I have personal knowledge of the facts stated in this Declaration and could testify competently to them if asked to do so.

3. I am being compensated by BlackBerry on an hourly basis for the time I spend in connection with this proceeding. My compensation is not dependent in any way on the substance of my opinions or on the outcome of this proceeding.

II. QUALIFICATIONS

4. My qualifications for forming the opinions set forth in this declaration are summarized here and explained in more detail in my *curriculum vitae*, which is attached as Exhibit 1014. Exhibit 1014 also includes a list of my publications and the cases in which I have testified at deposition, hearing, or trial during the past four years.

5. I have extensive education and work experience in the field of software distribution, computer and network security, network administration, and

mobile device management. I received a B.S. degree in Computer Science from Wayne State University in 1985, I then received a Ph.D. degree in Computer Science from the University of Texas at Austin in 1992. In my Ph.D. program, I studied formal methods and automated theorem proving. My Ph.D. thesis focused on methodologies for increasing the confidence one may have that computer systems behave as desired, including functionality, security, and safety.

6. I have conducted significant research and published numerous papers in the field of computer and network security, including mobile security. For example, I have published 34 papers in this field, including papers on verification of computer programs, verification of computer hardware, novel techniques for smartcard security for cable and satellite TV systems, techniques for privacy in electronic transactions, techniques for secure lotteries that do not depend on the trustworthiness of the lottery operator, and several papers on Onion Routing. Onion Routing, now called Tor, is a system for privacy and anonymity on the internet. My co-inventors for Onion Routing and I were awarded the Alan S. Berman Award at the Naval Research Laboratory in 1999.

7. My research and work has resulted in my being a joint inventor on 12 issued patents related to network security and administration, including patents related to security and compliance of devices accessing enterprise systems, and patents related to distribution of digital content.

8. Since 1987, I have continuously worked for government agencies and private companies within the general fields of computer and network security. For example, from 1993 to 1997 I worked for the Naval Research Laboratory, researching computer security and privacy solutions, developing security architectures, and developing technologies to increase computer security, including mobile device security, and privacy for e-commerce applications. It was at the Naval Research Laboratory that I co-invented Onion Routing.

9. From 1997 to 1999, I worked at Divx developing a cost-effective way to secure digital entertainment content for movie-rental distribution via protected DVDs.

10. These positions, along with my education, all of which were completed before the relevant timeframe for assessing the validity of the ’016 patent, more than qualify me as a person of ordinary skill in the art for the ’016 patent at the relevant time. In addition, I worked with people who possessed the same experience as a person of ordinary skill in the art. From my personal experience as well as through my interaction with others, I understand the types of problems and the knowledge that a person of ordinary skill in the art would have confronted and known at the relevant time.

11. I have continued my work in computer and network security and device management, specifically with respect to mobile devices and applications,

including after the relevant timeframe for assessing the validity of the '016 patent, from 1999 to the present. I have held several top-level executive positions with companies focused on computer security, including KeySec software, Trusted Edge, Inc., Trust Digital, Inc., McAfee, Inc., MobileSpaces (Cellsec, Inc.), Pulse Secure, LLC, and New Edge Labs, Inc.

12. At Trust Digital, I was CTO and then President during the years 2006-2010, until it was acquired by McAfee. Trust Digital was an early company in the mobile device management (MDM) market, or as it became known, Enterprise Mobility Management (EMM). Trust Digital focused on software solutions for enabling secure employee use of mobile devices, whether those devices were personally or corporate owned. Trust Digital focused on giving enterprises the tools to manage the mobile devices their employees used, to manage the applications on those devices, and to secure the device and applications and data.

13. In 2012, I co-founded MobileSpaces, which enabled secure enterprise use of personally owned devices, by giving the enterprise control over its applications and data, while leaving personal applications and data under the private control of the employee.

14. In view of my education and experience both before and after the relevant time, I am an expert in software distribution, computer and network security, network administration, and mobile device management, with knowledge

and skill of the art of the ’016 patent that is well beyond the level of knowledge and skill of a person of ordinary skill in the art at the time of the filing of the ’016 patent.

III. MATERIALS CONSIDERED

15. In formulating my opinions, I have relied upon my training, knowledge, and experience relevant to the ’016 patent. Furthermore, I have considered specifically the following documents listed below in addition to any other documents cited in this declaration. To the best of my knowledge, these documents and materials are true and accurate copies of what they purport to be. An expert in the field would reasonably rely on them to formulate opinions such as those set forth in this declaration.

Exhibit #	***Description***
1001	U.S. Patent No. 8,359,016 (“’016 patent”)
1003	Prosecution History of U.S. Patent No. 8,359,016 (“Prosecution History”)
1004	U.S. Patent No. 7,409,208 to Clare *et al.* (“Clare”)
1005	U.S. Patent No. 8,578,366 to Ricci (“Ricci”)
1006	U.S. Patent Pub. No. 2005/0257209 to Adams *et al.* (“Adams”)
1007	U.S. Patent Pub. No. 2008/0052138 to Marsh *et al.* (“Marsh”)
1010	U.S. Patent Pub. No. 2009/0254753 to De Atley *et al.* (“De Atley”)
1012	U.S. Provisional Appl. No. 61/323,696 to Ricci (“Ricci provisional”)

Exhibit #	*Description*
1013	Microsoft Computer Dictionary, Fifth Edition (2002).
1017	Press Release, iPhone App Store Downloads Top 10 Million in First Weekend (2008) available at: https://www.apple.com/newsroom/2008/07/14iPhone-App-Store-Downloads-Top-10-Million-in-First-Weeked/
1018	First Look: BlackBerry App World Open for Business, PCWorld (2009), available at: https://www.pcworld.com/article/162349/rim_blackberry_app_world_first_look.html
1019	Kristof Kimbler, App Store Strategies for Service Providers, K2K Interactive Ltd. (2010)
1020	Rachel Metz, Review: BlackBerry App World simple, light on apps, Associated Press (2009), available at: https://phys.org/news/2009-04-blackberry-app-world-simple-apps.html
1021	U.S. Patent Pub. No. 2010/0157989 to Krzyzanowski *et al.* ("Krzyzanowski")
1022	U.S. Patent Pub. No. 2010/0088367 to Brown *et al.* ("Brown")
1023	U.S. Patent Pub. No. 2008/0201225 to Maharajh ("Maharajh")
1024	U.S. Patent Pub. No. 2011/0010759 to Adler ("Adler")
1025	U.S. Patent Pub. No. 2007/0111726 to Lambert ("Lambert")
1026	U.S. Patent No. 5,703,942 to Pinard *et al.* ("Pinard")
1027	BREW: Bring wireless services to life, Qualcomm Incorporated (2008)

Exhibit #	*Description*
1028	What is a Mobile Identification Number?,Techopedia, available at: https://www.techopedia.com/definition/8378/mobile-identification-number-min
1029	Indexing in Databases, GeeksforGeeks (2019) available at: https://www.geeksforgeeks.org/indexing-in-databases-set-1/
1030	U.S. Patent No. 6,347,312 to Byrne *et al.* ("Byrne")
1031	Amrita Shukla et al., Role of LDAP in Enterprise, Innovations in E-Learning, Instruction Technology, Assessment, and Engineering Education (2007)
1032	List of Android Smartphones – Wikipedia, available at: https://en.wikipedia.org/wiki/List_of_Android_smartphones
1033	U.S. Patent No. 5,551,073 to Sammarco ("Sammarco")
1034	Definition of runtime environment, PCMag Encyclopedia, available at: https://www.pcmag.com/encyclopedia/term/runtime-environment
1035	John C. Rigdon, Dictionary of Computer and Internet Related Terms, First Edition, Eastern Digital Resources, (2016)
1036	Apple iPhone App Store, available July 19, 2008, available at: https://web.archive.org/web/20080719044956/http://www.apple.com/iphone/appstore

IV. RELEVANT LEGAL STANDARDS

A. My Understanding of Claim Construction

16. I have been informed by BlackBerry's counsel that before the Patent Trial and Appeal Board, claims are to be given their ordinary and customary meaning in light of the specification as would have been read by a person having ordinary skill in the relevant art (also referred to herein as "POSA"). This includes interpreting the claims through the lens of a POSA in view of the entire patent. Accordingly, in formulating my opinions, I have reviewed the claims of the '016 patent as I perceive a POSA would have understood them at the time of the earliest priority date (November 19, 2010) of the '016 patent, after reading the entire '016 patent specification.

17. Finally, I have been informed that claim construction is ultimately a question of law. Accordingly, I understand that a tribunal may choose to construe certain terms to provide clarity to the proceeding should any dispute arise between the parties over how a term should be construed. If the tribunal chooses to construe any term, then I reserve my right to review and potentially modify any opinions below in view of such constructions.

B. My Understanding of Obviousness

18. I understand that a patent claim is invalid if the claimed invention would have been obvious to a person of ordinary skill in the field at the time the application was filed. This means that even if all of the requirements of the claim

cannot be found in a single prior art reference that would anticipate the claim, the claim can still be invalid.

19. To obtain a patent, a claimed invention must have, as of the priority date, been nonobvious in view of the prior art in the field. I understand that an invention is obvious when the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

20. I understand that to prove that prior art or a combination of prior art renders a patent obvious, it is necessary to: (1) identify the particular references that, singly or in combination, make the patent obvious; (2) specifically identify which elements of the patent claim appear in each of the asserted references; and (3) explain how the prior art references could have been combined in order to create the inventions claimed in the asserted claims.

21. I understand that certain objective indicia can be important evidence regarding whether a patent is obvious or nonobvious. Such indicia include: (1) commercial success of products covered by the patent claims; (2) a long-felt need for the invention; (3) failed attempts by others to make the invention; (4) copying of the invention by others in the field; (5) unexpected results achieved by the invention as compared to the closest prior art; (6) praise of the invention by

the infringer or others in the field; (7) the taking of licenses under the patent by others; (8) expressions of surprise by experts and those skilled in the art at the making of the invention; and (9) the patentee proceeded contrary to the accepted wisdom of the prior art.

22. I also understand that obviousness is a legal conclusion based on the underlying factual issues of the scope and content of the prior art, the differences between the claimed invention and the prior art, the level of ordinary skill in the prior art, and any objective indicia of non-obviousness. For that reason, I am not rendering a legal opinion on the ultimate legal question of obviousness. Rather, my testimony addresses the underlying facts and factual analysis that would support a legal conclusion of obviousness or non-obviousness, and when I use the term obvious, I am referring to the perspective of one of ordinary skill in the art at the time of invention.

C. My Understanding of Level of Ordinary Skill

23. I understand that a person of ordinary skill in the relevant art is presumed to be aware of all pertinent art, thinks along conventional wisdom in the art, and is a person of ordinary creativity.

24. I have been asked to consider the level of ordinary skill in the field that someone would have had at the time the claimed invention was made. In deciding the level of ordinary skill, I considered the following:

- the levels of education and experience of persons working in the field;
- the types of problems encountered in the field; and
- the sophistication of the technology.

25. My opinion below explains how a person of ordinary skill in the art would have understood the technology described in the references I have identified herein around the November 2010 timeframe.

26. Based on the disclosure of the ’016 patent, a POSA would have had a B.S. degree in Computer Science, Computer Engineering, or an equivalent field, and at least 2 years of academic or industry experience in mobile device management and/or network administration.

27. By equivalent field, I mean that the required levels of educational and industry experience are on a sliding scale relative to each other. For example, a POSA could have a more advanced educational degree with less industry experience.

28. Regardless of whether I use “I” or “POSA” during my technical analysis below, all of my statements and opinions are always to be understood to be based on how a POSA would have understood or read a document.

V. OVERVIEW OF THE ’016 PATENT

A. The ’016 patent discloses well-known techniques for filtering and displaying a list of applications.

29. The ’016 patent states that it is related to “mobile devices and management systems and, more particularly, to managing applications for mobile devices.” EX1001, 1:5-7. But the independent claims are simply directed to filtering a list of applications based on an unspecified variety of factors. This process was well known in the art before the ’016 patent, as I explain in the sections below.

30. The ’016 patent alleges that “[d]eployment, management and configuration of mobile and handheld devices in enterprise environments … present certain challenges.” *Id.*, 1:25-27. For example, “the number and variety of applications that can be installed on mobile devices, as well as the nature of the mobile devices themselves, challenges network administrators relative to network security, deployment and overall management.” *Id.*, 1:30-34. The ’016 patent attempted to address these challenges by providing “a mobile device management system [that] allows network administrators to control the distribution and publication of applications to mobile device users in an enterprise network.” *Id.*, 2:1-4. An example management system is depicted in Figure 1.

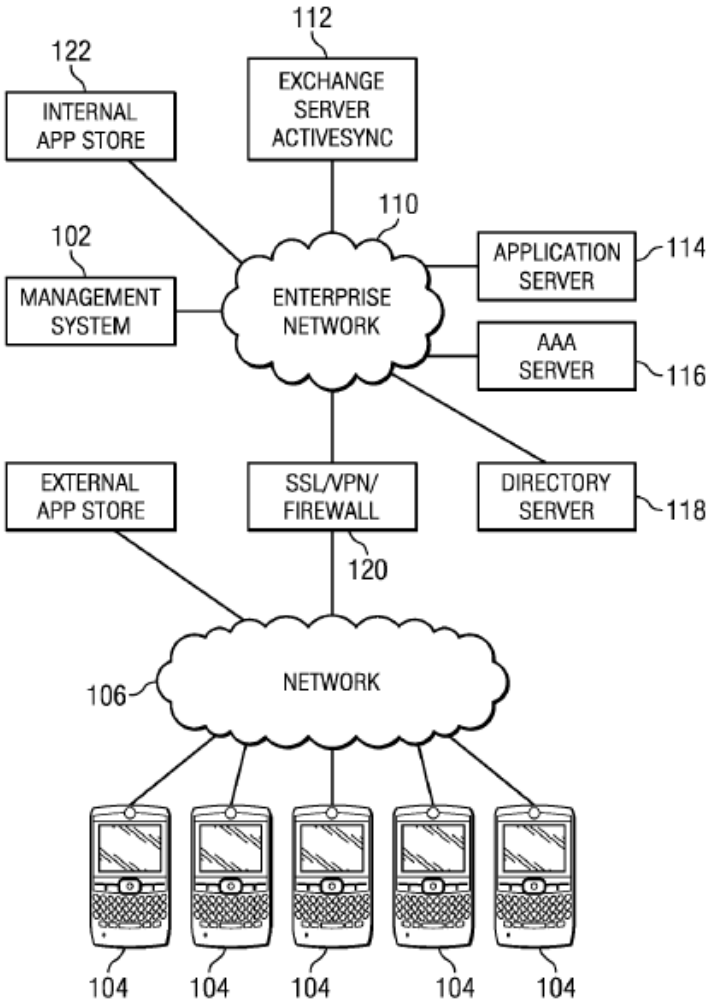


FIG. 1

EX1001, FIG. 1.

31. In this example depicted in Figure 1, device management system 102 may be connected with or included within enterprise network 110, which may connect various enterprise components. *Id.*, 2:62-3:8. Mobile devices 104 may access or utilize one or more of the enterprise components via network 106. The '016 patent describes that "[u]sers can access a web portal of device management system 102 and access information regarding one or more mobile devices." *Id.*,

10:46-48. This portal may be accessed via various computing devices, for example "through a mobile device," such as mobile device 104, or "using a personal computer." *Id.*, 11:32-37. When accessing the portal, a user may be identified by device management system 102 "during a login process, where the user provides a name and password." *Id.*, 11:37-39. Alternatively, "the user may be identified in connection with a digital certificate, a mobile device identifier, or any other suitable identifying information." *Id.*, 11:39-42. That is, the portal simply needs to identify the user in some manner, but the '016 patent is not generally concerned with how the user is identified.

32. Figure 5 of the '016 patent, reproduced below, illustrates "an example graphical user interface 500 that mobile device management system 102 may provide to a user after the user logs in." *Id.*, 11:30-32.

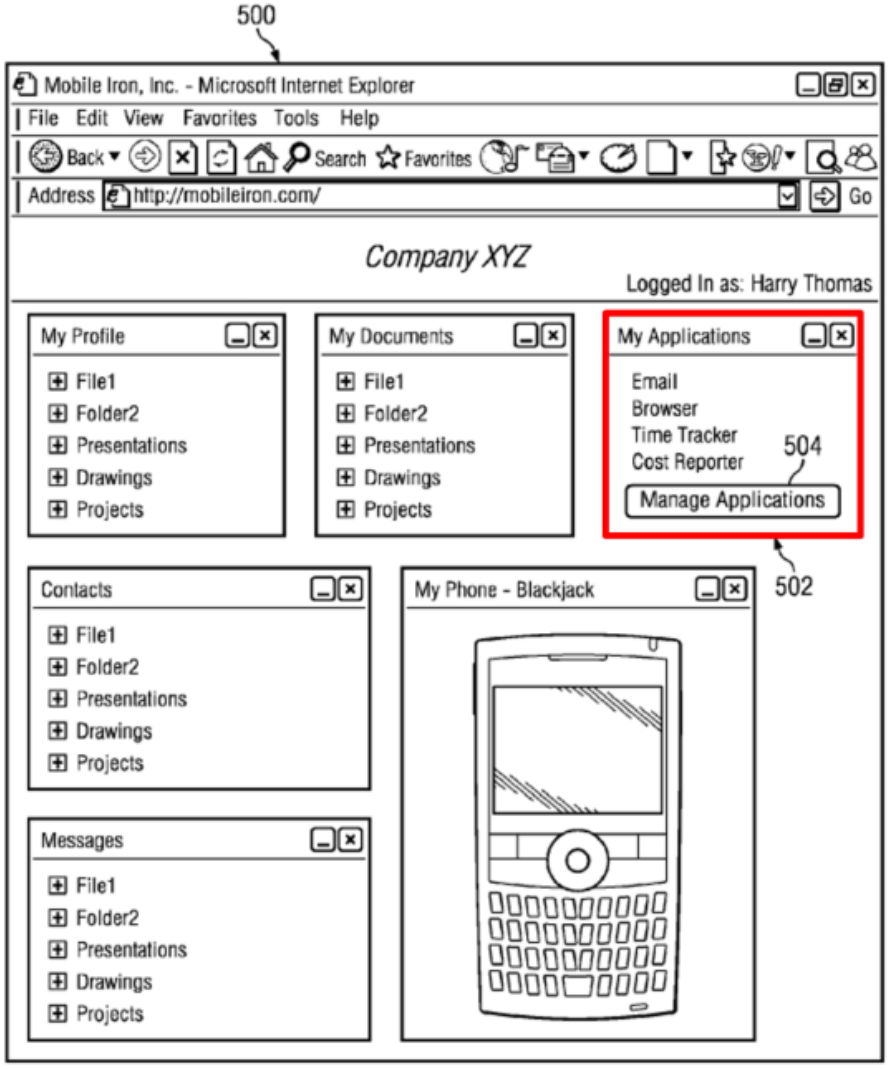


FIG. 5

EX1001, FIG. 5 (annotated).

33. Figure 5's interface may include:

[A]n applications section 502 that lists the applications currently installed on the mobile device 104 of the user. In addition, the applications section 502 may include a Manage Applications button that, which activated [*sic*], provides the user various interface controls to manage the applications installed on the use[r]'s mobile device 104.

Id., 11:55-61. As illustrated in Figure 6, these interface controls may include "an Enterprise App Store tab" in which "a list of available applications from an application catalog are presented to the user." *Id.*, 11:61-12:4.

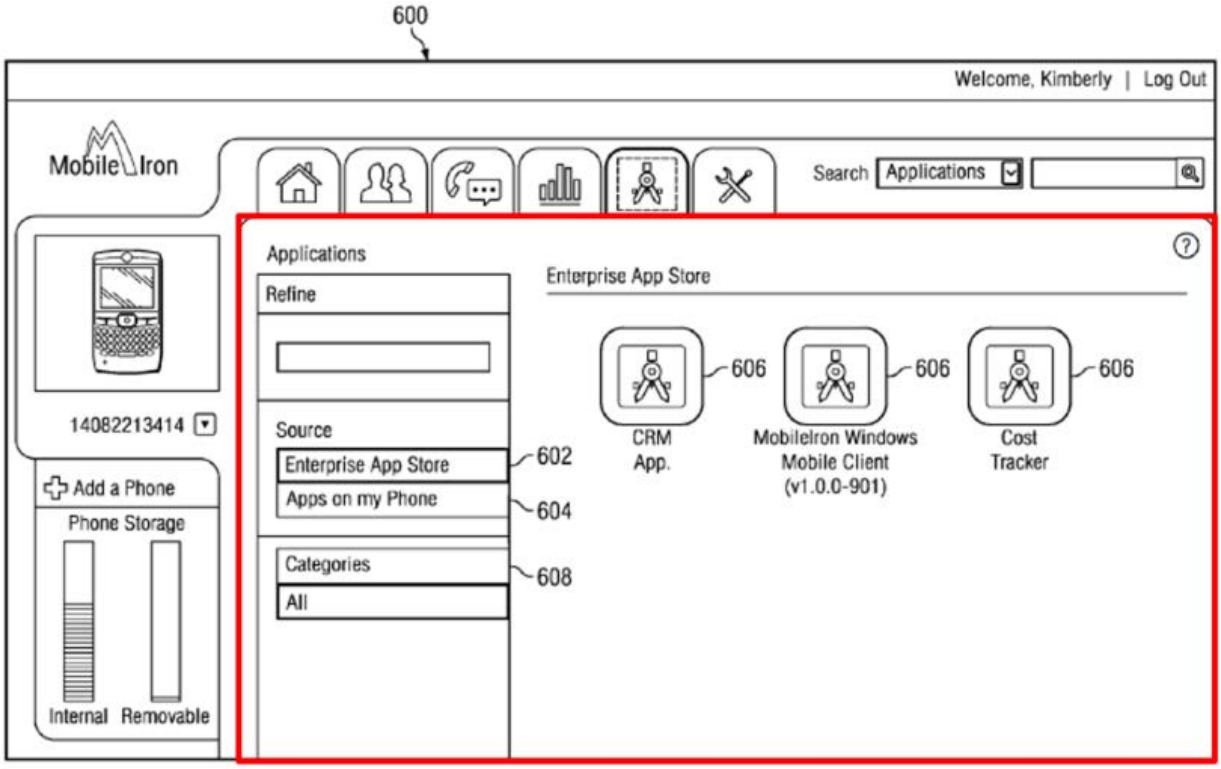


FIG. 6

EX1001, FIG. 6 (annotated).

34. "[T]he applications displayed to any given user are controlled by application of one or more policies that may consider a variety of factors." *Id.*, 12:24-26. For example, the '016 patent explains that these factors may include "the identity of the user, the role or job title of the user, the group/department (or sub-group) of the user, the mobile device type and operating system, and the like." *Id.*, 12:26-29. Importantly, the '016 patent does not limit these factors that may be

considered; rather, the ’016 patent merely provides example factors, none of which on their own impart any particular novelty to the alleged inventive techniques of the ’016 patent.

35. Figure 7, reproduced below, illustrates the ’016 patent’s process “for returning a list of applications from a catalog that are available to a particular user.” *Id.*, 12:29-31.

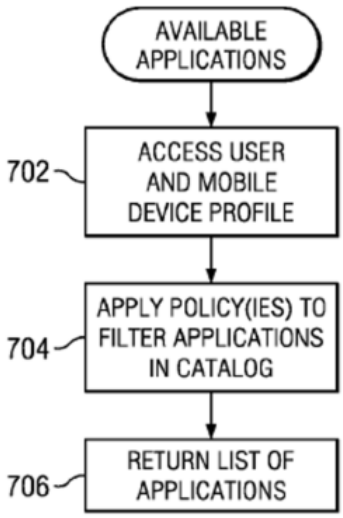


FIG. 7

EX1001, FIG. 7.

36. The ’016 patent explains that at step 702, “device management system 102 accesses user and mobile device profile information as relevant for one or more policies to be applied.” *Id.*, 12:31-35. In other words, step 702 essentially involves identifying the user and retrieving basic information about that user. At step 704, “[t]he process hosted on device management system 102 applies one or more policies to filter the list of available applications from the catalog.” *Id.*,

12:35-39. Finally, at step 706, the process returns "a list of available applications for display." *Id*. The independent claims of the '016 patent recite little more than this simple, well-known process. For example, claim 1 recites "request[ing] for a set of applications," "accessing a user profile and mobile device profile," "filtering a catalog of applications based on a set of policies," "returning the set of applications," and "display[ing] the set of applications to the user." Each of these steps was common in the art well before the filing date of the '016 patent, as explained in more detail below.

B. Prosecution History

37. I understand that during prosecution of the '016 patent, the Examiner allowed the '016 patent after only one rejection. EX1003, 41-47, 63-69. Following the rejection, the applicant amended the independent claims. *Id.*, 53-56. These amendments added little more than displaying a set of applications to the user for selection, as seen in the amendment to claim 1 below. *Id.*

1. (Currently Amended) A method, comprising:

responsive to a request for a set of applications available for installation on a mobile device, accessing a user profile and a mobile device profile against an identifier associated with a user;

filtering a catalog of applications based on a set of policies applied to the user profile and mobile device profile to select a set of applications; and

returning the set of applications in response to the request;

wherein the returned set of applications is provided to a mobile device application management interface configured to display the set of applications to the user via the application management interface and to provide the ability for the user to select, via the application management interface, one or more of the displayed applications for installation on the mobile device.

EX1003, 53 (annotated).

38. Attempting to distinguish the cited prior art, the applicant stated that:

> [U]sing a policy service running on a mobile device to enforce policy-based controls on the behavior of software **already installed** on the device, as taught by De Atley [(the cited prior art)], is not the same as applying one or more policies to provide for display … a filtered set of applications **available to be installed** on a particular mobile device.

EX1003, 57-58.[1] A notice of allowance followed the Applicant's amendment and arguments. *Id.*, 41-47.

39. However, none of Clare, Ricci, or Adams are affected by the arguments raised by the Applicant during prosecution. In particular, each of these

[1] All emphasis added in this declaration unless otherwise indicated.

references are concerned with applications available to be installed, rather than applications already installed. For example, Clare presents a list of applications to a user for selection, and downloads and installs the application upon receiving a selection. *See* EX1004, Clare, FIG. 4, 13:64-14:18. I further understand that none of these references were in front of the Examiner during prosecution of the '016 patent.

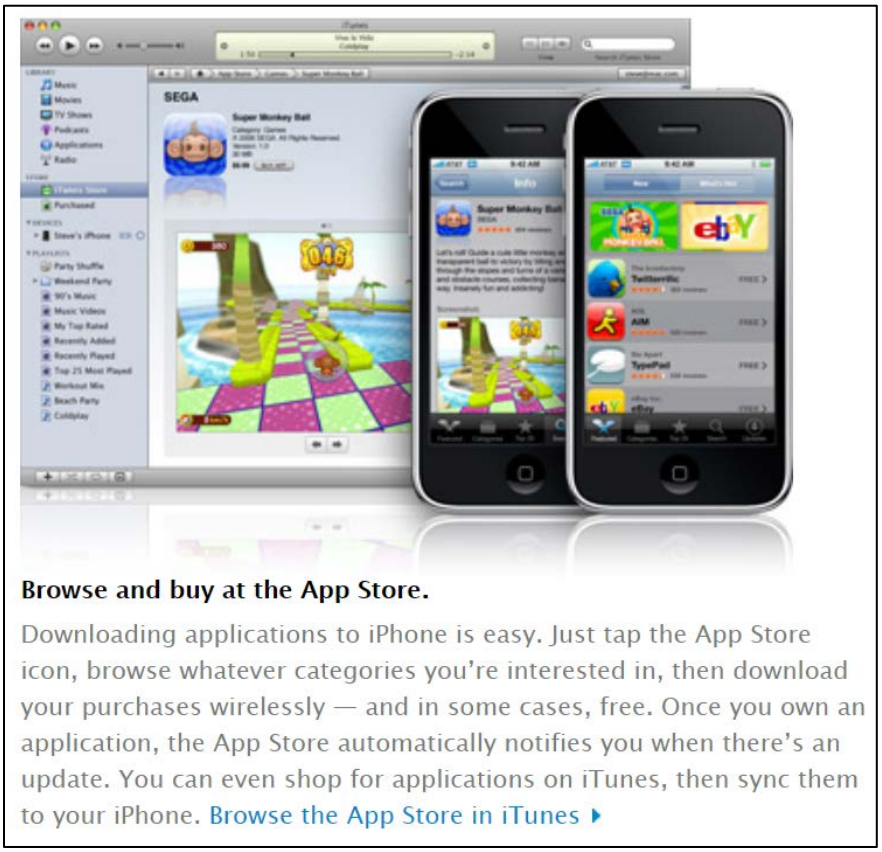
VI. BACKGROUND OF THE TECHNOLOGY

A. Application stores that displayed filtered lists of applications to users were well known prior to the filing date of the '016 patent.

40. The '016 patent presents a "User Portal and Application Store" that displays "a list of available applications from an application catalog." EX1001, 10:45-48, 12:3-4. The patent explains, "[t]o install an application on a mobile device, a user may click on an icon for the desired application and confirm the selection." *Id.*, 12:9-11. But application portals or stores that displayed filtered lists of applications for user selection and installation were not new at the time of filing the '016 patent. Indeed, numerous implementations of such stores already existed, including the Apple App Store, Google Android Market, BlackBerry App World, Nokia OVI Store, Palm App Catalog, Sony Ericsson PlayNow, Windows Marketplace for Mobile, and Samsung and LG app stores. *See* EX1019, 3.

41. The most well-known example may be the Apple App Store, introduced in 2008. Apple's App Store allowed a user to browse various lists of

applications, filtered by category, which could be selected and installed on a user's iPhone. EX1036, 1-2.



EX1036, 2.

42. As explained in Apple's press release days after opening the App Store, "[t]he App Store on iPhone works over cellular networks and Wi-Fi, which means it is accessible from just about anywhere, so users can purchase and download applications wirelessly and start using them instantly." EX1017, 1.

43. Another example is BlackBerry App World. "BlackBerry App World lets you browse, purchase and download apps directly to your BlackBerry." EX1018, 1.

EX1018, 1.

44. Like Apple's App Store, the BlackBerry App World store allowed users to browse available apps by category, or search to "refine the list even further." *Id.* And similar to the '016 patent, BlackBerry App World further filtered its catalog of applications to only show those compatible with the browsing device. EX1020, 2.

45. Numerous patents and patent applications before the '016 patent also described stores and portals displaying lists of applications for user selection. For example, U.S. Patent Pub. No. 2010/0157989 to Krzyzanowski *et al*. discloses "an application store [] operable to provide applications via the network for installation and execution on each of [a] plurality of devices." EX1021, Krzyzanowski, Abstract. Krzyzanowski describes that its "application storefront" would be "executed on the display/touch panel of the device" and "present a list of authorized applications from which the user can optionally install, wherein the list of authorized applications may be a subset of all the applications stored in an

application repository." *Id.*, ¶385. Krzyzanowski discloses filtering the list of "authorized applications" based on various factors, such as "upon the identity of the user, upon which vendor is offering the application, and/or upon other alternative or additional factors." *Id.*

46. Similarly, U.S. Patent Pub. No. 2010/0088367 to Brown *et al.* discloses "application storage servers" that "store a plurality of mobile device applications for use by [a] mobile wireless communications device." EX1022, Brown, ¶28. Brown further discloses an "application catalog server … configured to generate a list of the approved mobile device applications to be presented on the mobile wireless communications device(s) based upon [a] mobile device application identification file." *Id.*, Abstract. Brown then describes "direct[ing] the mobile wireless communications device(s) to the at least one application storage server to download and install a mobile device application selected from the list of approved mobile device applications." *Id.*

47. In addition to these documents, Clare (EX1004) and Ricci (EX1005), discussed further in my analysis below, disclose displaying lists of applications to users for selection and download. For example, Clare discloses a "software download service on a mobile network [that] provides users with personalized catalog presentations identifying software products available for downloading." EX1004, Abstract. And Ricci similarly discloses "an online software store, a phone

accessible store, or any other electronic store that allows a user to download software and/or software upgrades and/or activate features, and/or change settings in an enterprise-specific way." EX1005, Ricci, 3:4-8. Thus, application stores that provided filtered lists of applications for selection and download were well known and extremely common in the art prior to the filing date of the '016 patent.

B. Storing structured information about a user was well known prior to the filing date of the '016 patent.

48. To filter lists of applications, the '016 patent makes uses a variety of information related to a user. EX1001, 12:24-29. This information is stored in one or more data stores, such as a database, and referenced when needed. *Id.*, 7:59-67, 10:51-53, 12:31-35. But storing this type of information for use in various applications was not new.

49. For example, U.S. Patent Pub. No. 2008/0201225 to Maharajh *et al.* discloses techniques for, among other things, "facilitating access to content on a mobile device." EX1023, Maharajh, ¶7. As part of its techniques, Maharajh discloses storing "a **consumption profile** for a mobile media platform comprising **a device profile, a user profile**, a network profile, an encoding profile, and a content profile." *Id.*, ¶8.

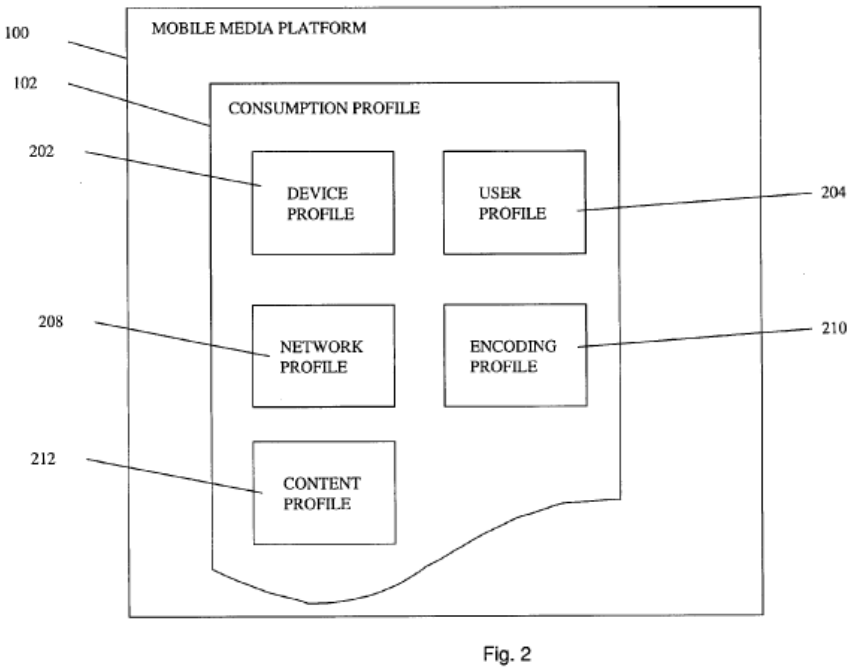


Fig. 2

EX1023, FIG. 2.

50. Maharajh then uses this various profile information to filter searched for and recommended content: "The consumption profile 102 may impact search and/or recommendations based on user preferences or other data that may be related to the user, a user profile, a device profile, a network provider, and the like." EX1023, ¶125. For example, "a recommendation for viewing a presidential candidate debate may be different for a device with limited video display capability or bandwidth than for a device with high speed bandwidth." *Id.* In this manner, Maharajh describes that "[t]he consumption profile 102 may include guidelines, preferences, and requirements that may be provided to a recommendation engine for making recommendations." *Id.*

51. U.S. Patent Pub. No. 2011/0010759 to Adler, another patent publication filed before the ’016 patent, discloses “an electronic store front for downloading software for a mobile device based on authorization data stored on the mobile device.” EX1024, Adler, Abstract. This authorization data is stored in the form “profiles”: “Profiles [] may be a set of data stored on the device [], which indicates authorizations granted or provided to the device.” *Id.*, ¶87. Adler also discloses that the profiles “may also include other data, such as device identifier data, user identifier data, etc.” *Id.* The authorization data of Adler “may include data, which indicates the types of applications and content that are eligible for download to the computing device.” *Id.*, ¶89.

52. Yet another reference, U.S. Patent Pub. No. 2007/0111726 to Lambert, discloses a “roaming user profile [] stored in a remote profile database accessible via a mobile communication network.” EX1025, Lambert, Abstract. Lambert describes that “[t]he roaming user profile stores configuration information and settings for a mobile terminal,” which “may relate to the user interface, customizable features of applications, and programmable functions of the mobile terminal.” *Id.* Lambert further discloses that the “roaming user profile can be accessed remotely by a mobile terminal in response to a login event to retrieve the configuration settings for a user and to configure the mobile terminal.” *Id.*

53. As I discuss in my analysis below, Clare (EX1004), Ricci (EX1005), and Marsh (EX1007), all available prior to the '016 patent's filing date, each disclose storing various attributes associated with a user for use in filtering lists of applications. Even ten years earlier, user profiles comprising various attributes associated with a user and stored in centralized databases were well known. *See, e.g.*, EX1026, Pinard. Thus, structured storage of information associated with a user or a user's mobile device was not new at the time of the '016 patent. Such information has been used to aid various practices for decades.

VII. CLAIM CONSTRUCTION

54. I have applied the ordinary and customary meaning of the claim terms as would have been read by a POSA in light of the '016 patent specification at the time of the '016 patent. At this time, explicit construction of specific claim terms is required for the following terms:

A. "profile"

55. The term "profile" appears in independent claims 1, 8, and 15 of the '016 patent, as well as a number of dependent claims. For example, claim 1 recites a "user profile" and a "mobile device profile," as shown below.

1. A method, comprising:
responsive to a request for a set of applications available for installation on a mobile device, accessing a user profile and a mobile device profile against an identifier associated with a user;
filtering a catalog of applications based on a set of policies applied to the user profile and mobile device profile to select a set of applications; and

EX1001, Claim 1 (excerpt).

56. The ’016 patent does not describe anything particularly unique about the recited “user profile” or “mobile device profile.” However, to the extent “profile” requires express construction, the term “profile” should be construed as “a data object maintained in one or more data stores that includes one or more attributes.” This construction is consistent with the use of “profile” in the ’016 patent claims and specification. For example, the ’016 patent explains that a “user profile” is “a data object maintained in one or more data stores that includes various attributes of a user.” EX1001, 10:51-53. The ’016 patent provides examples of such attributes:

> [F]ull legal name, username (for login access to various systems), email address information, domain components (dc), telephone numbers, office locations, organizational information (such as department or group identifiers of an enterprise, reporting structure information, job title, etc.), authentication information, and mobile device profile information (or pointers to device profile data objects).

Id., 10:55-64.

57. The ’016 patent similarly describes “mobile device profile data objects” and provides examples of attributes contained within such a mobile device profile:

> Mobile device **profile** information may include the make and model of the mobile device, an identifier of the operating system and version installed on the mobile device, serial numbers, and Media Access Control (MAC) address (or other unique identifiers associated with one or more communications interfaces of the mobile device).

Id., 11:13-21.

58. The ’016 patent does not specify or restrict the format of its “user profile” or “mobile device profile” other than being a “data object” that is “maintained in one or more data stores” (e.g., a database) and relates to a user/mobile device. *See, e.g., id*., 7:59-67, 8:45-49. And a POSA would have understood that a data object is a broad term that can refer to a number of things, including a piece or collection data. *See, e.g.*, EX1035, 335 (providing a definition of “object,” among other definitions, as “[a] table, chart, graphic, equation, or other form of information”). This is consistent with my understanding of the terms “profile” and “data object” as they are used in the ’016 patent, which are merely used to represent information stored in a database or other data store.

VIII. CLARE RENDERS OBVIOUS CLAIMS 1, 2, 5-9, 12-16, 19, AND 20.

59. Claims 1, 2, 5-9, 12-16, 19, and 20 would have been obvious to a POSA in view of Clare. In the next sections, I address each claim individually.

A. Brief Overview of Clare

60. Clare is directed to "techniques and equipment to allow tailoring of software application catalogs or the like, for applications available for downloading to users' mobile stations, based on user-specific criteria." EX1004, 1:6-9. In particular, Clare addresses the need "for a more convenient way to offer available software to mobile station users for selection and downloading." *Id.*, 2:29-31.

61. To address this need, Clare discloses a "software download service on a mobile network [that] provides users with personalized catalog presentations identifying software products available for downloading." *Id.*, Abstract. Clare's service identifies software products available for downloading based on "[c]ustomer-specific preferences," which may be established "by input by the customer using a web-interface on a personal computer or their mobile station, or by processing of user data such as demographics and usage history." *Id.* These "user preferences are stored in a database," and "[w]hen each customer operates a mobile station to access the download service, the listing(s) of available software products are filtered and/or prioritized using the customer's individual preference(s)." *Id.* Clare explains, "As a result, the service provides a 'catalog' of available software products that has been tailored to the particular user based on that user's preference(s)." *Id.*

62. Clare's Figure 4 illustrates an example technique for "present[ing] a personalized catalog to the user, obtain[ing] a software selection from the user, and download[ing] the selected software." *Id.*, 4:16-19.

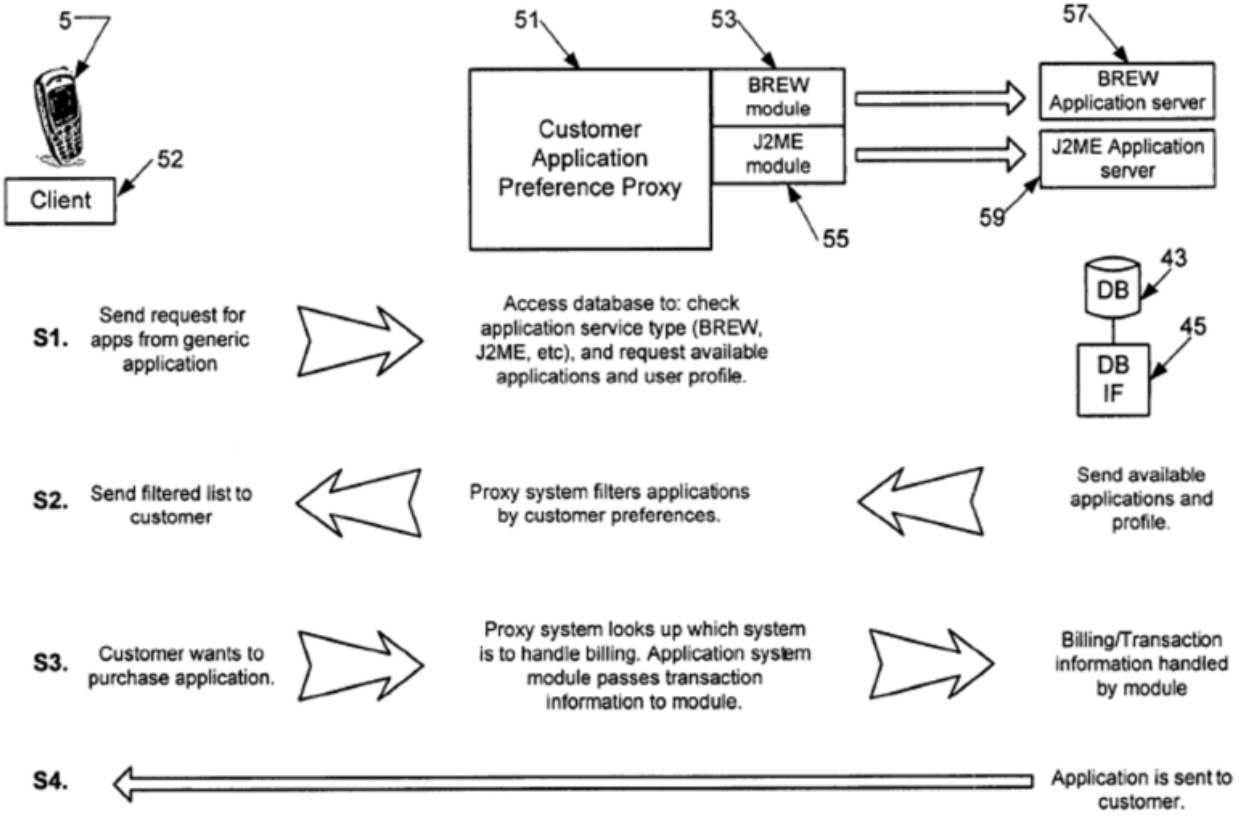


Fig. 4

EX1004, FIG. 4.

63. Clare describes that at step S1, "the user's mobile station 5 (client 52) sends a request to access the software downloading service." *Id.*, 13:29-32. "In response to the request, the customer application preference proxy 51 accesses the database 43" to determine compatibility requirements of the mobile station and "request[] the user's profile." *Id.*, 13:34-41. To retrieve this information, the user is identified by a "user identification" supplied to the database, for example, a

"mobile identification number" of the user's mobile device. *Id.*, 13:16-21. At step S2, "the database 4[3] and the interface 45 provide a listing of available software to the customer application preference proxy 51," which "includes all available programs that are compatible with the particular model of mobile station 5." *Id.*, 13:42-46. The user's profile is also received, which "includ[es] the user's preferences, from the database 43." *Id.*, 13:46-49. The preferences in the user's profile are then applied to the received list of available applications, "e.g., to filter or prioritize the available catalog information." *Id.*, 13:49-52. In other words, Clare's catalog of applications is filtered based on both the user's preferences and the requirements of the user's mobile station, e.g., based on the model of the user's mobile station.

64. Clare then discloses sending "the filtered information regarding available applications through the network to the mobile station 5, for presentation to the user." *Id*., 13:60-63. When a user selects one of the available applications for purchase and download, "[t]he server 57 or 59 sends the requested application back through the network to the mobile station 5." *Id.*, 14:4-14. The user's mobile station then installs the received application: "The mobile station 5 receives and stores the downloaded software, in this case the selected application; and the user may later select and run the application on the [mobile] station 5, as or whenever desired." *Id.*, 14:15-18.

B. Claim 1

65. Clare renders claim 1 obvious. Claim 1 is reproduced below. The claim limitations have been labeled for ease of discussion.

1. [1-pre]: "A method"

66. I understand that the preamble of a claim is not typically limiting. However, to the extent that the preamble language is deemed limiting, Clare teaches the preamble of claim 1. In particular, Clare discloses:

> In one aspect, a **method** enables distribution of software to one of the mobile stations served through a wireless communication network. The **method** involves receiving a preference for a user of the one mobile station. The **method** also involves receiving a request for access to a software distribution service, through the wireless communication network, from the one mobile station. Information regarding the available software is processed in accord with the received preference, to produce a personalized catalog of available software for the user. For example, the processing may filter or prioritize information regarding available application and/or content software.

EX1004, 2:44-55.

67. Clare further discloses that "[t]he method entails transmitting this personalized catalog to the one mobile station, for presentation to the user." *Id.*, 2:56-57. The user may then "review the presentation and select one or more applications or other items of software." *Id.*, 2:57-59. "The mobile station transmits

a user selection of software, and in response, the selected software is downloaded into the user's mobile station through the network." *Id.*, 2:62-65; *see also id.*, 4:16-19, FIG. 4 (illustrating a method "to present a personalized catalog to the user, obtain a software selection from the user, and download the selected software"). For these reasons, Clare teaches this element.

2. [1A]: "responsive to a request for a set of applications available for installation on a mobile device, accessing a user profile and a mobile device profile against an identifier associated with a user"

68. Clare discloses the recited "*request for a set of applications*":

"[R]eceiving a request for access to a software distribution service, through the wireless communication network, from [a] mobile station." EX1004, 2:47-50, FIG. 4. Then, Clare explains that "[i]nformation regarding the available software is processed in accord with the received preference, **to produce a personalized catalog of available software for the user**," for example by "filter[ing] or prioritiz[ing] information regarding available application and/or content software." *Id.*, 2:50-55 (emphasis added). Clare also provides "a flow-chart useful in explaining an application download procedure, with the presentation of a personalized catalog to the user" in Figure 4, which I have annotated below. *Id.*, 13:28-30.

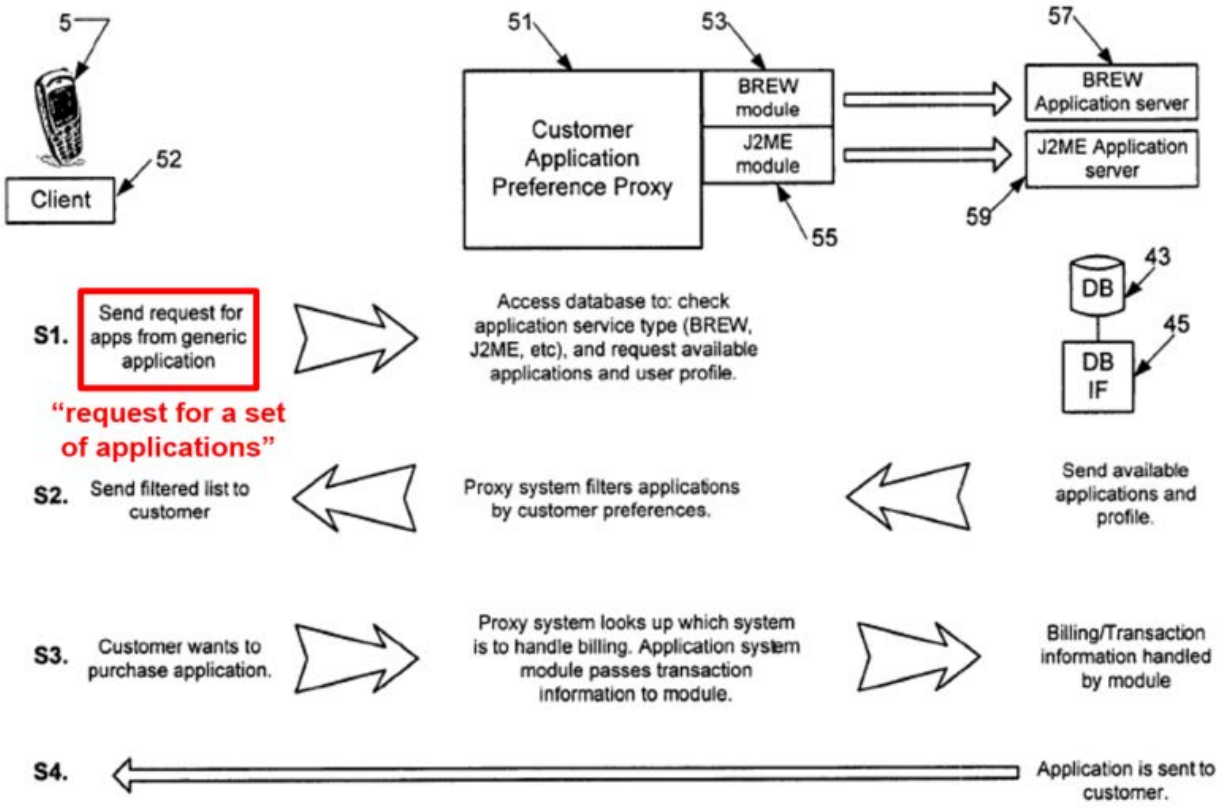


Fig. 4

EX1004, FIG. 4 (annotated).

69. As Clare explains, "In the first step of the exemplary method (at S1 in FIG. 4), the user's mobile station 5 (client 52) sends a request to access the software downloading service" (i.e., "*a request for a set of applications available for installation on a mobile device*"). EX1004, 13:30-33. At step S2, in response to this request, "filtered information regarding available applications" is sent "through the network to the mobile station 5, for presentation to the user." *Id.*, 13:60-63. Then, when the user selects a particular application, "[t]he server 57 or 59 sends the requested application back through the network to the mobile station 5." *Id.*, 14:4-12. The user's mobile station then installs the received application:

"The mobile station 5 receives and stores the downloaded software, in this case the selected application; and the user may later select and run the application on the [mobile] station 5, as or whenever desired." *Id.*, 14:15-18. That is because the user's mobile station can "store[] the downloaded software" in response to a selection, and the user is able to "run the application," the applications presented to the user for selection are "*available for installation on a mobile device*." *Id*. Thus, the user's request at step S1 constitutes "*a request for a set of applications available for installation on a mobile device*."

70. Clare also discloses "*responsive to [the] request . . ., accessing a user profile and a mobile device profile against an identifier associated with a user*." With respect to the recited "*mobile device profile*," Clare explains that its mobile stations have different software requirements and thus may be compatible with a subset of all available applications:

> It is assumed that the mobile stations 5 are of a type implementing one of several common application program interfaces (APIs) under the different software standards for mobile stations, such as BREW, J2ME or the like. Compatible stations 5 thus are capable of receiving compatible software downloads and locally running the downloaded application software, albeit for the respective one of the software standards that the particular station 5 supports.

Id., 7:52-63.

71. BREW (Binary Runtime Environment for Wireless) and J2ME (Java 2 Platform, Micro Edition) are application development platforms that allow mobile applications to execute on various mobile devices. *See, e.g.*, EX1027, BREW Brochure. In other words, mobile devices that are compatible with BREW or J2ME can execute applications developed for those platforms. *Id.*

72. For example, at step S1 of Figure 4, Clare discloses:

> **[A]ccess[ing] the database 43** (see also FIG. 2) and check[ing] to determine **the application service provider (BREW, J2ME, etc.) that the user's station 5 is setup for**. Based on this determination, the proxy 51 sends a request through the interface 45, requesting information from the database 45 regarding **the available applications that are compatible with the particular user's station 5** and requesting the user's profile.

EX1004, 13:35-41; *see also id.*, 8:48-51 ("determin[ing] the software compatibility of the particular user's station 5 and limit[ing] the catalog to the available programs of the appropriate type").

73. I have annotated this operation in Figure 4 of Clare below.

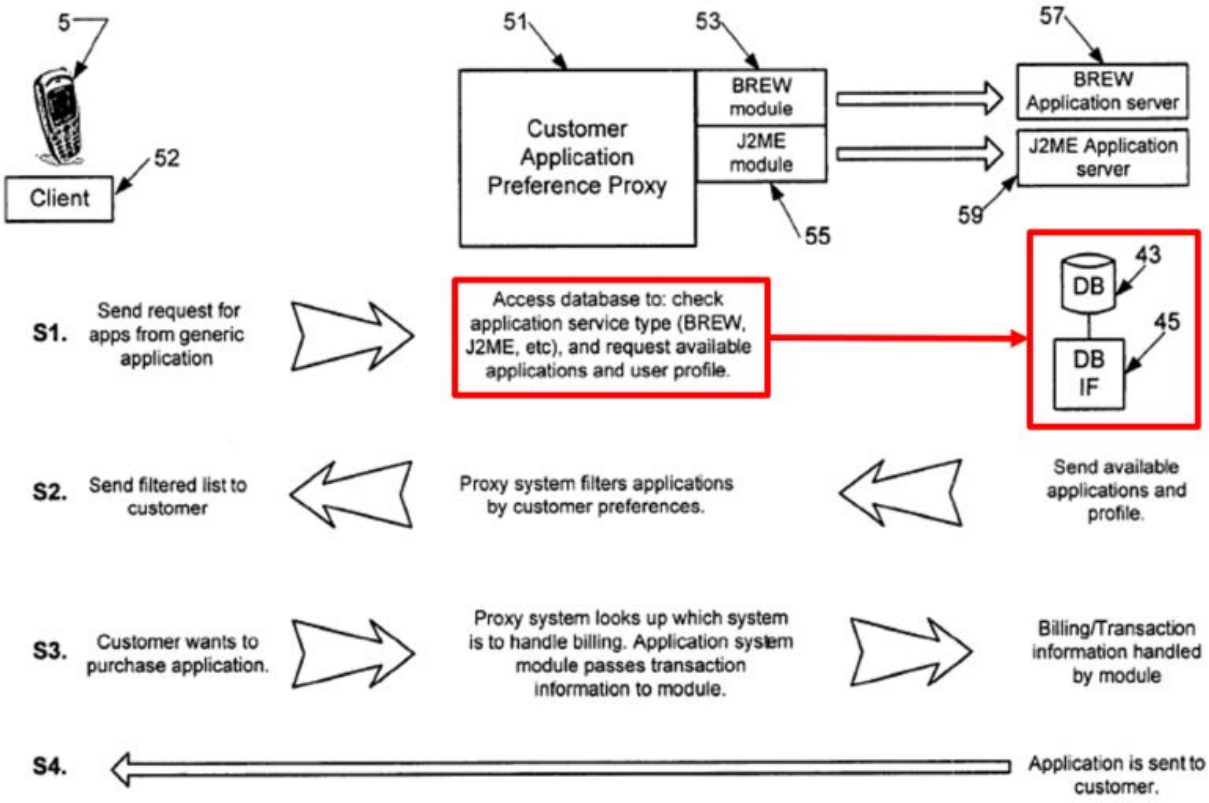


Fig. 4

EX1004, FIG. 4 (annotated).

74. Clare explains that its network "includes one or more databases, for storing information relating to the download service. For convenience, this will be referred to as a single database 43." EX1004, 9:50-55. Clare further discloses that "database 43 [] stores **information about the mobile stations 5** [(e.g., the recited "*mobile device profile*")]**, such as the type of station and thus the type of programs that each station is capable of running**." *Id.*, 9:65-10:1. As I explain with respect to claim construction, a POSA would have understood that the term "profile" refers to "a data object maintained in one or more data stores that includes one or more attributes." *See* Section VII.A. Because database 43 of Clare

stores various attributes of each user's mobile station (i.e., "*mobile device*"), such as the type of station, including the types of programs each station is capable of running (e.g., BREW, J2ME, etc.), the "information about the mobile stations 5" stored in Clare's database 43 provides a "*mobile device profile*." EX1004, 9:65-10:1. And Clare suggests that this information would be stored together, for example, in Clare's "USER_TABLE" (*see id.*, FIG. 3) or another table related to mobile stations, referring to "information about the mobile stations 5" as a single grouping of information. As I previously explained, the format of the "*mobile device profile*" in the '016 patent is not specified nor important. *See* Section VII.A.

75. And, as explained above, this "*mobile device profile*" is accessed in response to the user's "request to access the software downloading service," as shown in step S1. EX1004, 13:30-33, FIG. 4 (step S1).

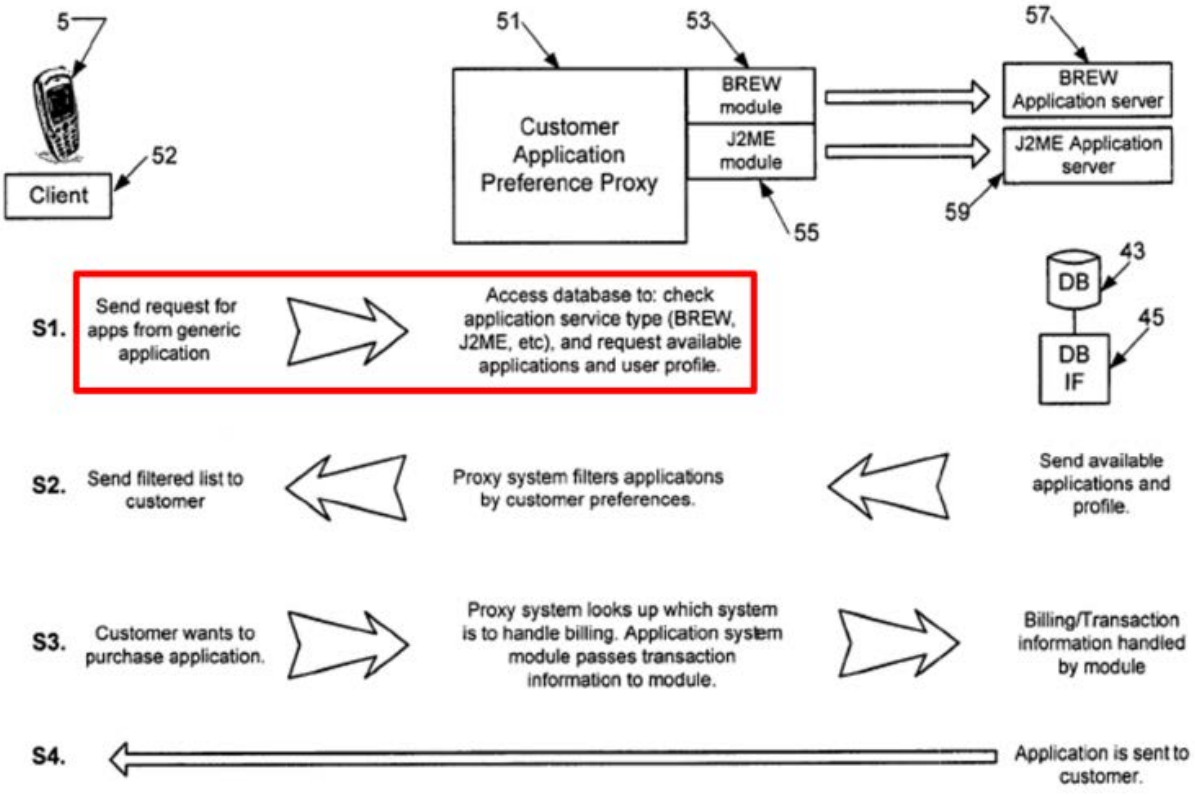


Fig. 4

EX1004, FIG. 4 (annotated).

76. With respect to the recited "*user profile*," Clare explicitly discloses "requesting the **user's profile**" (i.e., the claimed "*user profile*") and "receiv[ing] **a profile for the user** [(i.e., "*accessing a user profile*")] of mobile station 5, including the user's preferences, from the database 43." EX1004, 13:37-49; *see also id.*, 4:47-50 ("a server queries the database and obtains the user[']s profile").

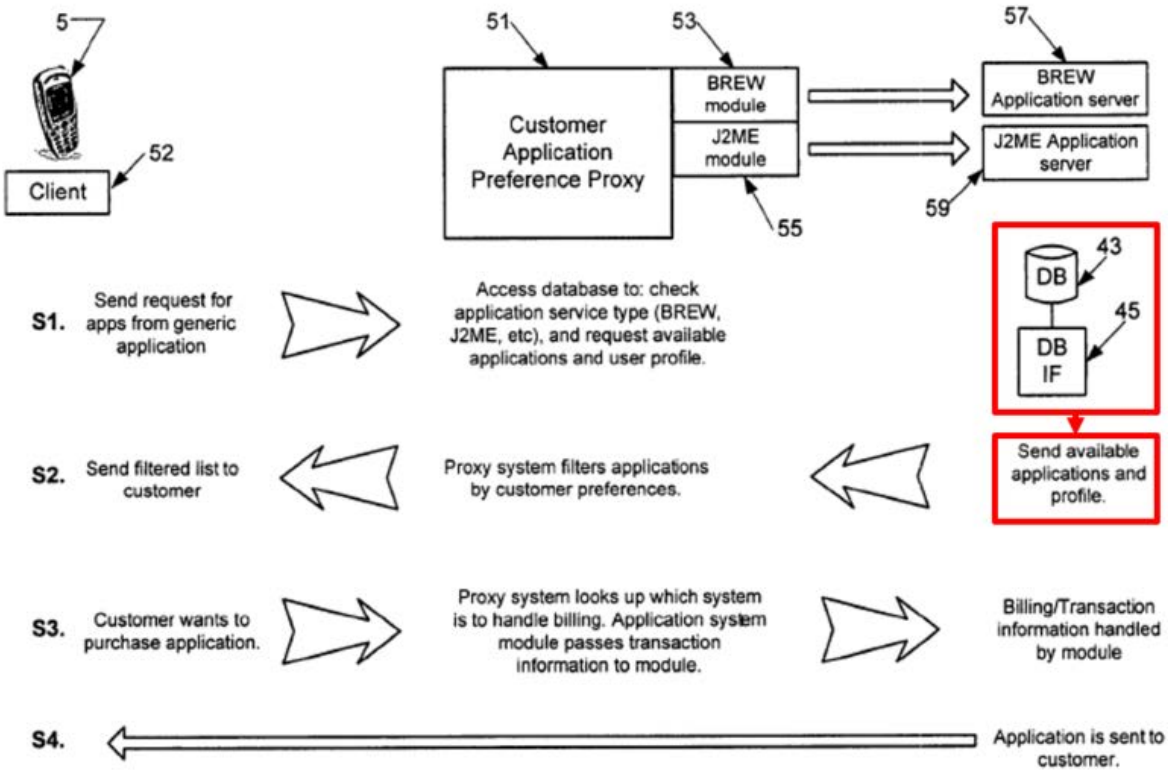


Fig. 4

EX1004, FIG. 4 (annotated).

77. Clare explains that the user's profile may include, for example, "selection of a preference input by a user," as well as "demographic data about the user, for example, age and income or area of residence from the user's account record with the mobile service carrier." EX1004, 10:64-11:4. Clare discloses that "[a]dditional preferences may be derived or existing preferences modified, based on usage history." *Id.*, 11:4-6.

78. Thus, consistent with the usage of a "*user profile*" in the '016 patent, Clare's user's profile is stored in database 43 and contains attributes associated with the user. For example, the '016 patent describes that its "user profile" "may

contain user identifying information such as full legal name, username (for login access to various systems), email address information, domain components (dc), telephone numbers, office locations," and other such information related to a user. EX1001, 10:55-64. Like Clare, this information provides attributes associated with the user that are logically grouped as a user profile.

79. Clare further discloses that preferences residing in the user's profile are applied to the list of compatible applications "to filter or prioritize the available catalog information," EX1004, 13:49-52, again "*accessing [the] user profile*." That is, Clare first accesses the user's profile via database 43, and then again accesses the profile "to filter or prioritize the available catalog information." This is consistent with the '016 patent's use of "access," which generally describes obtaining or examining the user profile information in some manner:

> [A] process or function hosted on device management system 102 **accesses** user and mobile device profile information as relevant for one or more policies to be applied (702). The process hosted on device management system 102 applies one or more policies to filter the list of available applications from the catalog (704) and returns a list of available applications for display in application management interface 600 (706).

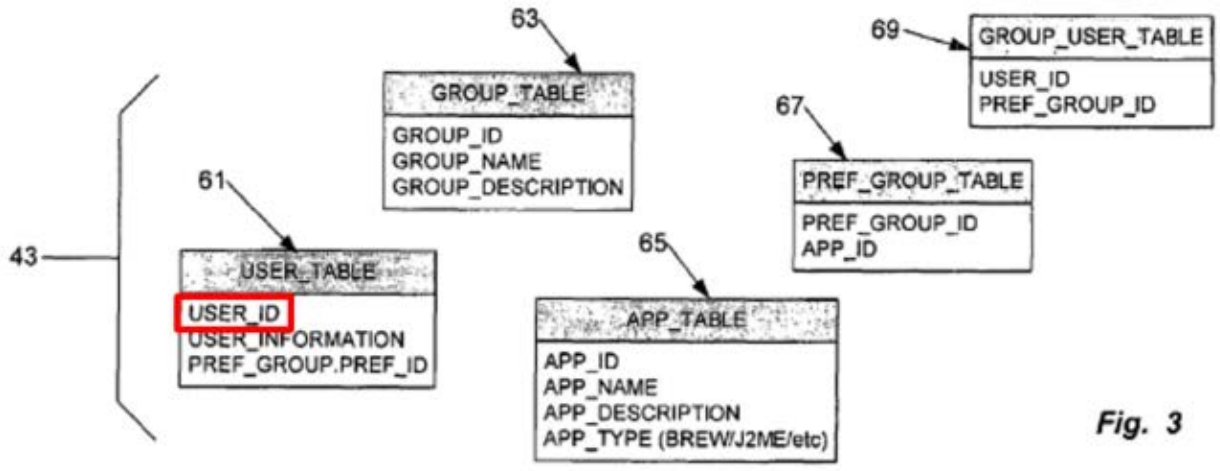
EX1001, 12:31-39.

80. Clare also teaches that the "*user profile*" and "*mobile device profile*" are accessed "*against an identifier associated with a user*." Clare discloses that

both the "*user profile*" and "*mobile device profile*" are contained in Clare's database 43. For example, Clare discloses that "database 43 [] stores **information about the mobile stations 5, such as the type of station** and thus the type of programs that each station is capable of running" and "the database 43 stores user specific information." EX1004, 9:65-10:5. Clare also discloses that "a **profile for the user** of mobile station 5, including the user's preferences, [is received] **from the database 43**"). *Id.*, 13:46-49. A POSA would have understood that to access this "*mobile device profile*" and "*user profile*" associated with the particular user in Clare, Clare's download service would need to know the identity of the user in order to query the database for the correct "*mobile device profile*" and "*user profile*." Because of this, Clare discloses techniques for identifying the user. For example, Clare explicitly discloses that the user profile is accessed based on Clare's "mobile identification number," i.e., the claimed "*identifier associated with a user*": "When the user connects to the download system, a server **queries the database and obtains the user[']s profile, for example, based on the mobile identification number (MIN) of the user's mobile station**." *Id*., 4:47-50. The mobile identification number (MIN) normally refers to a number that uniquely identifies a mobile phone subscriber within a carrier network, and can be used by service providers to identify subscribers within a database. *See* EX1028 (providing a definition of "Mobile Identification Number"). Using such an identifier

associated with the user to query Clare's database is logical because Clare's database needs some way of associating the user's profile with the user, and in this case, the MIN of the user's mobile station provides that association, allowing the user's profile to be identified based on the MIN. And this is consistent with the '016 patent claims. For example, claim 6 specifies that "*the identifier [associated with a user] is a mobile device identifier*."

81. Clare also provides a way of storing this user identifier in its database, for example, as depicted in the "USER_TABLE" of Clare's database 43, as noted earlier. In particular, the "USER_TABLE" includes a "USER_ID" that identifies the user, and this field can be used to identify the correct user upon receiving a query for the user's profile.



EX1004, FIG. 3 (annotated).

82. With respect to the "*mobile device profile*" being accessed based on the "*identifier*," a POSA would have recognized that the "*mobile device profile*"

would also be accessed based on the same user identification. Particularly, Clare discloses that "the customer application preference proxy 51 **accesses** the database 43 (see also FIG. 2) and **checks to determine the application service provider (BREW, J2ME, etc.) that the user's station 5 is setup for**" (i.e., accessing the claimed "*mobile device profile*") when the user connects to Clare's download service. EX1004, 13:34-37. Clare further discloses accessing database 43 via database interface 45, as shown below. *Id.*, 13:16-17.

EX1004, FIG. 4 (excerpt).

83. The only information provided to database interface 45 is the "**user identification supplied by the [customer application preference] proxy** (e.g., the MIN of the calling customer)." *Id.*, 13:17-21. Thus, a POSA would have understood that this user identification (e.g., the MIN) forms the basis of the customer application preference proxy's database queries, including "check[ing] to determine the application service provider (BREW, J2ME, etc.) that the user's station 5 is setup for." *Id.*, 13:35-37. Again, Clare's database needs some way of associating the compatibility information associated with the user's mobile station, and the MIN provides that association, allowing the "*mobile device profile*"

information to be identified based on the MIN. Accordingly, Clare also discloses "*accessing … a mobile device profile against an identifier associated with a user*." *Id*.

84. Moreover, to the extent Clare does not explicitly disclose this operation, a POSA would have found it obvious and logical to access Clare's "*mobile device profile*," stored in the same database as Clare's "*user profile*," based on Clare's user identification when the user connects to the download service. Clare explicitly discloses sending a request for applications that includes some user identification, e.g., the MIN. *See id*., FIG. 4 (step S1), 13:17-21. Using the same user identification to access Clare's "*user profile*" and "*mobile device profile*" would minimize the data required to be supplied to Clare's download service, as well as database 43, because both profiles can be queried based on the same parameter. This can drastically reduce query and storage overhead in Clare's database by, for example, enabling tables in the database to be indexed based on the user identification, e.g., the MIN. *See, e.g.*, EX1029, Indexing in Databases, 1.

85. And a POSA would have had a reasonable expectation of success using this user identification to access Clare's "*mobile device profile*" because Clare discloses using the MIN of the user's mobile station as an example user identification, illustrating that the "*mobile device profile*" information would be easily identified by Clare's user identification. The MIN thus provides a simple

primary key that can be used to query database tables storing Clare's "*user profile*" and "*mobile device profile*," which Clare's process expects to be included in the user's request and the customer application preference proxy's database queries. And creating database tables having information (e.g., rows) identifiable by a user identification value was well within the skill of a POSA, as illustrated for example by Clare's example database schema employing a USER_TABLE with a USER_ID.

86. For these reasons, Clare teaches this element.

3. [1B]: "filtering a catalog of applications based on a set of policies applied to the user profile and mobile device profile to select a set of applications"

87. First, Clare discloses "*a catalog of applications*." For example, Clare discloses, "[i]n one embodiment, **the application download server stores application programs** [(i.e., "*catalog of applications*")] compatible with two or more mobile station program standards. In the example, the server stores both BREW (binary runtime environment for wireless) type application programs and J2ME (Java 2 Platform, Micro Edition) type application programs." EX1004, 3:52-57; *see also id.*, 4:28-33 ("When the customer operates the mobile station to access the download service, the server processes **the catalog(s) of available software products** using the customers individual criteria, for example to filter or prioritize the information about available products."); *id.*, 4:67-5:3 ("a **catalog of available**

software provides a listing or other form of presentation informing the user of the programs and/or software content items that are available from the download service."). Therefore, a POSA would have understood Clare's catalog of available application programs to be a "*catalog of applications*."

88. Clare then discloses "*filtering [the] catalog of applications based on a set of policies applied to the user profile and mobile device profile to select a set of applications*." As I discuss above, Clare discloses requesting information "regarding **the available applications that are compatible with the particular user's station 5** and requesting the user's profile." EX1004, 13:37-41. In response, the "*catalog of applications*" is filtered based on the requirements of the user's mobile station (i.e., "*mobile device profile*" information): "the database 4[3] and the interface 45 provide a listing of available software to the customer application preference proxy 51. Typically, this listing includes all available programs **that are compatible with the particular model of mobile station 5**." *Id*., 13:42-46; *see also id.*, 8:48-50 ("determin[ing] the software compatibility of the particular user's station 5 and **limit[ing] the catalog to the available programs of the appropriate type**"). Thus, based on this disclosure, a POSA would have understood that Clare's system filters the catalog of available application programs based on compatibility with the user's mobile station, i.e., "*mobile device profile*" information.

89. Clare also discloses filtering the "*catalog of applications*" based on the preferences in the "*user profile*": "[T]he customer application preference proxy 51 **applies the user profile preferences to the received list of applications, e.g. to filter** or prioritize **the available catalog information**." *Id.*, 13:49-52. For example, the list of applications may be limited "to those applications meeting certain criteria specified by the profile." *Id.*, 13:52-57. And Clare discloses establishing user preferences that form the basis of its personal filtering criteria, including preference selections by the user, demographic data, or other personal criteria. *Id.*, 5:14-32.

90. Clare's filtering of applications based on user and mobile device information is consistent with the '016 patent's use of "policies":

> [T]he applications displayed to any given user are controlled by application of **one or more policies that may consider a variety of factors**. These factors may include the **identity of the user**, the role or job title of the user, the group/department (or sub-group) of the user, **the mobile device type and operating system**, and the like.

EX1001, 12:24-29. These policies thus act as filtering criteria that "can vary by primary attribute." *Id.*, 12:40-41. For example, like Clare's filtering based on the compatibility of the user's mobile station (EX1004, 13:42-46), the '016 patent provides example policies that "filter the applications such that only applications that are appropriate for the mobile device[']s hardware and/or operating system."

EX1001, 12:40-45. And the '016 patent does not limit what factors may be considered for use in its filtering aside from relating to the user or user's mobile device in some manner, just like Clare. *Id*., 12:24-29.

91. For these reasons, Clare teaches this element.

4. [1C]: "returning the set of applications in response to the request"

92. As shown in Figure 4 of Clare, after filtering the list of available applications, "the customer application preference proxy 51 **sends the filtered information regarding available applications through the network to the mobile station 5**, for presentation to the user." EX1004, 13:60-63; *see also id.*, 2:53-57 ("[T]he processing may filter or prioritize information regarding **available application** and/or content software. The method entails **transmitting this personalized catalog to the one mobile station**."). I have annotated this operation in Figure 4 of Clare below.

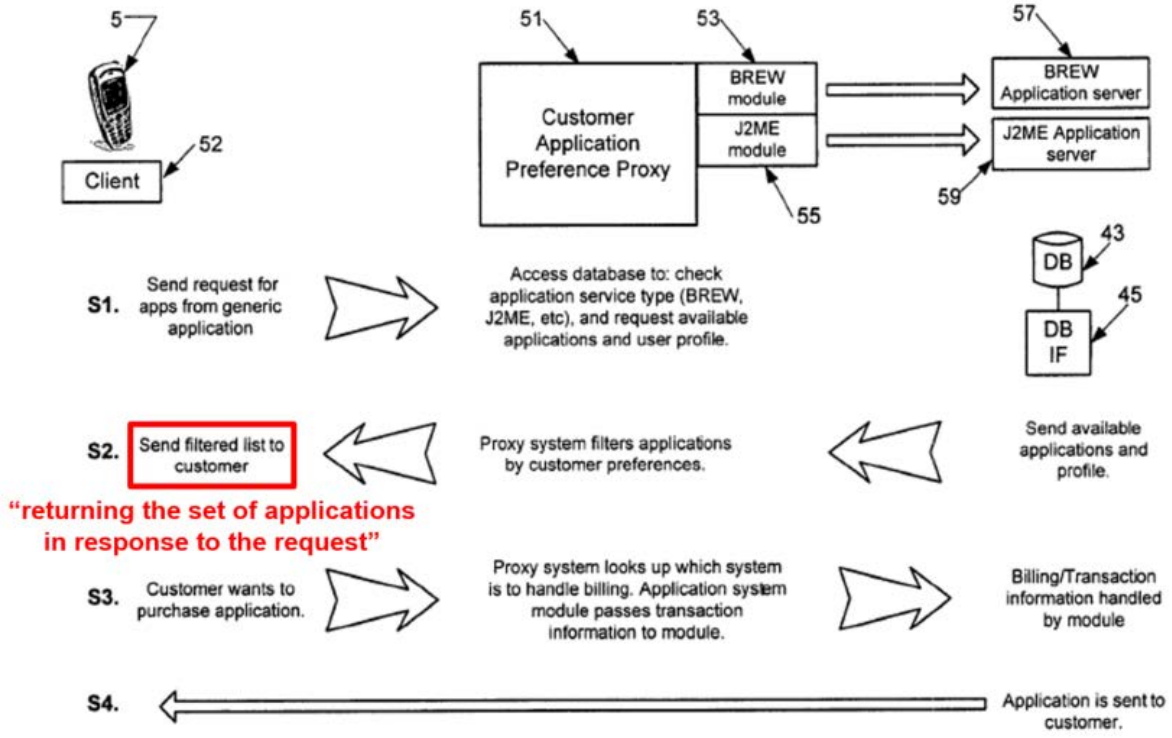


Fig. 4

EX1004, FIG. 4 (annotated).

93. Thus, Clare's process "*return[s] the set of applications in response to the request*" at the end of step S2. For these reasons, Clare teaches this element.

5. [1D]: "wherein the returned set of applications is provided to a mobile device application management interface configured to display the set of applications to the user via the application management interface and to provide the ability for the user to select, via the application management interface, one or more of the displayed applications for installation on the mobile device"

94. As I discuss with respect to element [1C], Clare discloses sending "the filtered information regarding available applications through the network to the mobile station 5, **for presentation to the user**." EX1004, 13:60-63; *see also id.*, 2:53-57. For example, Clare explicitly discloses "**transmit[ting] one or more**

pages through the network 1 **for display on the [mobile] station 5**, listing available programs and providing other information related to downloading and purchasing the applications." *Id.*, 8:41-45; *see also id.*, 5:59-63 (mobile stations 5 "may be mobile telephone stations **with display** and user input capabilities to support browsing and data communications capabilities to support the software download service.").

95. The user is then able to view and select from this list of available applications (i.e., "*returned set of applications*"): "The user peruses the received catalog listing and selects one or more items, and the mobile station 5 transmits the selection information through the network…" *Id.*, 8:57-60. Thus, the interface, or "pages," displayed on the user's mobile station provide "*a mobile device application management interface configured to display the set of applications to the user via the application management interface and to provide the ability for the user to select, via the application management interface, one or more of the displayed applications*." Again, this is consistent with the use of "application management interface" in the '016 patent, which is simply used to refer to different user interfaces presented to a user for various purposes, e.g., to browse an application catalog. *See, e.g.*, EX1001, 1:52-53 ("FIGS. 8, 9 and 10 show example application management interfaces"); 11:61-63 ("FIG. 6 illustrates an application

management interface 600 that allows a user to manage the applications for a mobile device 104").

96. Clare also discloses that this application selection is for "*installation on the mobile device*." For example, as I discuss with respect to element [1A], in response to selection of an application, Clare discloses sending "the requested application back through the network to the mobile station 5." EX1004, 14:4-14.

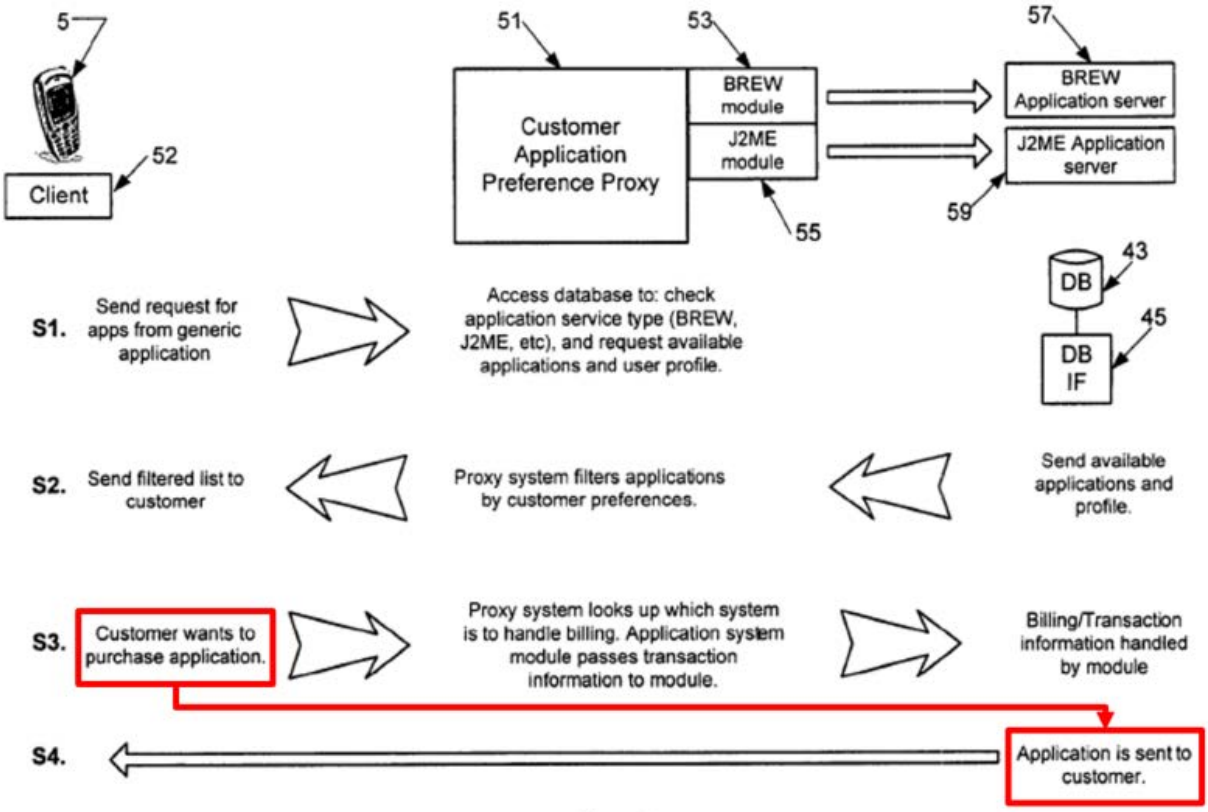


Fig. 4

EX1004, FIG. 4 (annotated).

97. The user's mobile station then installs the received application: "The mobile station 5 receives and **stores the downloaded software**, in this case the selected application; and the user **may later select and run the application on the**

[mobile] station 5, as or whenever desired." *Id.*, 14:15-18. That is, a POSA would have understood that by downloading the application and preparing it to be run on the mobile device, the user's mobile station installs the received application, consistent with the ordinary meaning of install. *See, e.g.*, EX1013, Microsoft Computer Dictionary, 276 (defining "install" as "[t]o set in place and prepare for operation").

98. For these reasons, Clare teaches this element.

C. Claim 2

99. Claim 2 recites, "*[t]he method of claim 1 further comprising: accessing a user directory store to retrieve the user profile*."

100. Clare discloses storing each user's profile in a database (i.e., the claimed "*user directory store*"): "[T]he user establishes a profile or modifies an existing profile regarding the user's catalog preference(s), and upon completion, the server 41 **stores the profile data in the appropriate record in database 43**." EX1004, 10:57-60. Clare further discloses accessing the database to retrieve the user's profile: "[T]he proxy 51 sends a request through the interface 45, . . . **requesting the user's profile**." *Id.*, 13:38-41. In response, [t]he customer application preference proxy 51 [] **receives a profile for the user** of mobile station 5, including the user's preferences, **from the database 43**." *Id.*, 13:46-49.

101. Clare's database 43 is a "***user directory*** *store*" because the user's profile is queried and accessed based on an identity of the user, i.e., looked up by a user identification: "During a download call, for example, the proxy 51 would query the customer preference database interface 45. The database management software **will first check which user is connecting, by means of . . . a user identification supplied by the proxy** (e.g. the MIN of the calling customer)." *Id*., 13:16-21; *see also id.*, 4:47-50 ("When the user connects to the download system, a server **queries the database and obtains the user[']s profile**, for example**, based on the mobile identification number (MIN) of the user's mobile station**"). That is, the information in Clare's database is organized by user, and as such the database acts as a "*user directory store*," looking up information associated with a user. In this manner, Clare teaches "*access[ing] a user directory store to retrieve the user profile*."

102. This disclosure of Clare is consistent with the description provided in the '016 patent. The '016 patent does not define or otherwise limit the meaning of "*a user directory store*." In fact, the '016 patent does not use the term "user directory store," or even the terms "user directory" or "directory store," outside of the claims. Instead, the '016 patent provides one example of what might be considered a "user directory store": "**In one implementation**, the user profile data

may be maintained in a Lightweight Directory Access Protocol (LDAP) directory" (EX1001, 10:53-55), but this example does not appear in the claims.

103. In any event, an LDAP directory is a well-known type of data store that contains a series of records organized in a particular manner. For example, U.S. Patent No. 6,347,312 to Byrne *et al.* explains that "[t]he LDAP information model in particular is based on an 'entry,' which contains information about some object," and "[e]ntries are typically organized in a specified tree structure, and each entry is composed of attributes." EX1030, Byrne, 1:45-49. Byrne further describes that "LDAP provides a number of known functions including query (search and compare), update, authentication and others," and "[t]he search and compare operations are used to retrieve information from the database." *Id.*, 1:50-53. Thus, Byrne explains that LDAP "provides the capability for directory information to be efficiently queried or updated," and "users can put together complex queries to get desired information from a backing store." *Id.*, 1:60-64.

104. In other words, similar to Clare's process, an LDAP directory service receives a query for information about a particular user and returns information from a database regarding that user. A POSA would have understood that such an LDAP directory service (or other directory service) could be used within Clare's process, for example as depicted in Clare's Figure 4, to authenticate a user upon connection to the download service and retrieve information about that user. And

Byrne explains that "[i]ncreasingly, it has become desirable to use a relational database for storing LDAP directory data." *Id*., 1:64-65. Therefore, a POSA would have recognized that Clare's database 43 would provide a proper backing store for such an LDAP directory service.

105. A POSA would have recognized that LDAP was commonly used and desirable to provide user authentication and information retrieval services within an enterprise or organizational context. *See, e.g., id*., 2:51-54 ("A still more general object of this invention is to provide a reliable and scaleable [*sic*] enterprise directory solution"); EX1031, 1 (discussing usage of LDAP in enterprise). Because LDAP optimizes its data store for read access, using LDAP can increase query speed, which would benefit users of Clare's download service at least in the context of an organization requiring concurrent access for multiple users. *Id*., 2-4. Thus, a POSA would have been motivated to use such a service for "mobile professionals" within an enterprise (EX1004, 1:13-16) or other organization to provide efficient authentication and retrieval of user information.

106. For these reasons, Clare teaches the elements of claim 2.

D. Claim 5

107. Claim 5 recites, "*[t]he method of claim 1 wherein the mobile device profile comprises one or more [of] a model identifier, an operating system identifier, a serial number, and a Media Access Control (MAC) address*."

108. Clare discloses that "database 43 [] stores information about the mobile stations 5, such as **the type of station** and thus the type of programs that each station is capable of running." EX1004, 9:65-10:1. Clare further explains that the type of station may include the "particular model of [the] mobile station," i.e. "*a model identifier*." *Id.*, 13:44-46. A POSA would have understood that the model of each mobile device at the time of the '016 patent, as is the case now, was identified by a name or number, e.g., "Samsung Galaxy," which provides "*a model identifier*" as recited in claim 5. *See, e.g.*, EX1032, List of Android Smartphones, 5.

109. Therefore, Clare discloses the elements of claim 5.

E. Claim 6

110. Claim 6 recites, "*[t]he method of claim 1 wherein the identifier is a mobile device identifier*."

111. As I discuss with respect to element [1A] of claim 1, Clare discloses accessing a "*user profile*" and "*mobile device profile*" "**for example, based on the mobile identification number (MIN) of the user's mobile station**." EX1004, 4:47-50; Section VIII.B.2. A POSA would have understood that the mobile identification number of the user's mobile station is "*a mobile device identifier*" because it identifies the user's mobile station. The MIN is a well-known identifier used in carrier networks prior to the '016 patent, and, for example, U.S. Patent No.

5,551,073 to Sammarco explains that "[e]ach mobile station is identified by a mobile identification number (MIN)," which is associated with a mobile subscriber. EX1033, Sammarco, 2:38-59; EX1028.

112. Therefore, Clare discloses the elements of claim 6.

F. Claim 7

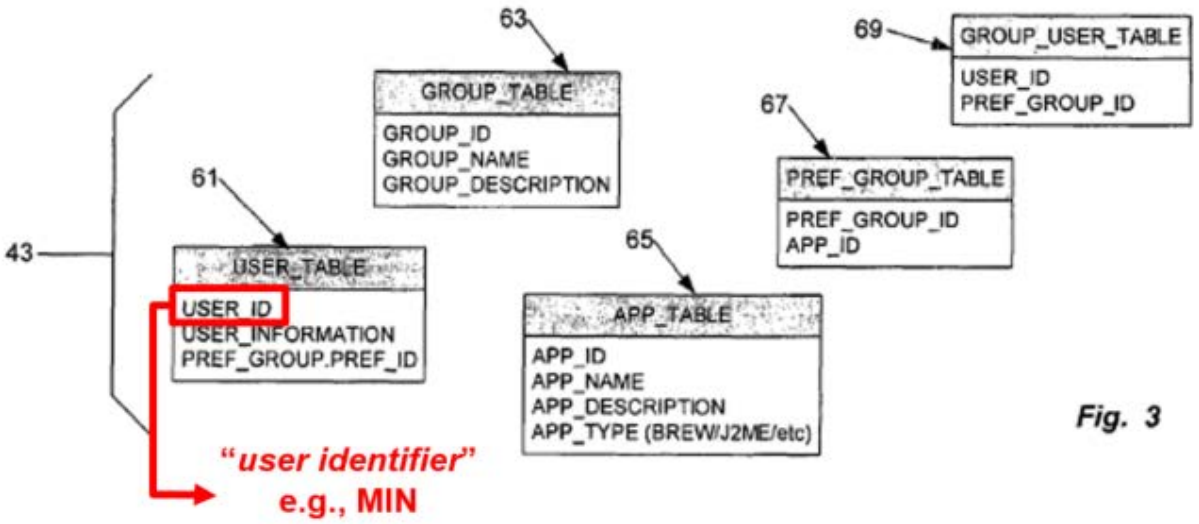
113. Claim 7 recites, "*[t]he method of claim 1 wherein the identifier is a user identifier*."

114. As I discuss with respect to element [1A] of claim 1, Clare discloses accessing a "*user profile*" and "*mobile device profile*" "**for example, based on the mobile identification number (MIN) of the user's mobile station**." EX1004, 4:47-50; Section VIII.B.2. While Clare's MIN relates to a user's device, as explained with respect to claims 6 and 13, Clare also explicitly uses this MIN in embodiments to identify a user, and thus the MIN also serves as a "*user identifier*."

115. Indeed, it was common at the time of the '016 patent to identify a user based the user's mobile device. For example, as I mentioned with respect to claim 1, the MIN normally refers to a number that uniquely identifies a mobile phone subscriber within a carrier network and is "used by mobile phone services providers to identify subscribers within its database." EX1028, 1; *see also* EX1033, 2:38-59 (explaining that the MIN identifies a mobile station and relates to a particular mobile subscriber). Identifying a user based on the mobile station

works because there is normally only a single user of a mobile station (i.e., user's don't normally share a mobile phone), and the MIN associated with that mobile station corresponds to a particular user.

116. Clare further discloses that when a user connects to Clare's database, "[t]he database management software will first check **which user is connecting**, by means of the USER_TABLE 61 and **a user identification supplied by the proxy (e.g. the MIN of the calling customer)**." EX1004, 13:16-21. This "user identification," e.g., the MIN, is stored in Clare's USER_TABLE as a USER_ID, as illustrated in Figure 3 below.



EX1004, FIG. 3 (annotated).

117. Thus, Clare's MIN provides "a user identification," i.e., "*a user identifier*," because it identifies the user in Clare's database. *Id.*, 13:16-21.

118. Additionally, Clare discloses accessing a "subscription server" from a communication device, "such as from a home PC," which "allow[s] the user to select one or more categories of personal interest to the user for filtering, or to allow the user to input various personal priorities." *Id.*, 10:6-20. In this case, Clare discloses authenticating the user by "execut[ing] an identification and password routine." *Id.* A POSA would have understood that an identification, in most cases a username, and password combination likewise provides "*a user identifier*." *See, e.g.*, EX1013, 318 (a user can "log on" or "gain access to a specific computer, a program, or a network by **identifying oneself with a username and password**").

119. Although Clare does not explicitly disclose employing such an identification and password when accessing Clare's download service, Clare does explicitly disclose authenticating the user when the user "sends a request to access the software downloading service." EX1004, 13:30-33. A POSA would have been motivated to use such an identification and password to authenticate the user when accessing the download service to allow the user to view Clare's filtered catalog of applications from other communication devices, such as a home PC, just as Clare allows for selecting filtering criteria. *Id.*, 10:11-13. Clare already discloses accessing its service from a home PC to establish user preferences, so naturally it would benefit the user to also be able to select applications for download to its mobile device from the same home PC. Clare's interface is transmitted in the form

of "one or more pages" for display, both for accessing Clare's personalized application catalog as well as defining user preferences, so a POSA would have understood that such pages could easily be formatted for display on either a mobile station or a home PC. *Id.*, 8:40-45, 10:35-38. For example, in a similar context, Ricci discloses a "set of web pages" used to display, either on a mobile device or another computer, an enterprise store and list of applications available for download to a mobile device. *See, e.g.*, EX1005, 13:32-41. Thus, there would be little difficulty providing access to Clare's personalized application catalog on a computer separate from the user's mobile station.

120. And Clare does not limit its authentication techniques for accessing the download service. Instead, Clare teaches using the "mobile identification number" as an example but leaves open other identification techniques that could be used in the context of Clare's download service. EX1004, 4:47-50. Thus, authentication using an identification and password would enable a user to access Clare's download service without requiring the MIN of the user's mobile station to be provided, which would be more convenient, if not necessary, when accessing Clare's download service from a home PC or other device separate from the user's mobile device.

121. Therefore, Clare discloses the elements of claim 7.

G. Claim 8

122. Clare renders obvious claim 8. Claim 8 is reproduced below. The claim limitations have been labeled for ease of discussion.

1. [8-pre]: "An apparatus"

123. To the extent that the preamble language is deemed limiting, Clare teaches the preamble of claim 15. In particular, Clare discloses "an apparatus for distributing software to mobile stations through a wireless communication network":

> Another aspect of the disclosed subject matter relates to an **apparatus for distributing software to mobile stations through a wireless communication network**. This **apparatus** includes a system for receiving user selections and downloading software to the mobile stations through the wireless communication network.

EX1004, 3:11-18.

124. Therefore, Clare teaches this element.

2. [8A]: "a memory"

125. Clare discloses "*a memory*." Specifically, Clare discloses:

> **[M]any of the functions relating to the catalog manipulation and distribution and the attendant downloading of selected software are implemented on computers** connected for data communication via the components of the network 1. The relevant functions may be performed in servers such as 35, 37

> and 41 shown in FIG. 1 implementing the programs shown in FIG. 2.

Id., 14:20-26.

126. Clare then discloses that "each such general-purpose computer typically comprises a central processor, an internal communication bus, **various types of memory (RAM, ROM, EEPROM, cache memory, etc.)**, disk drives or other code and data storage systems, and one or more network interface cards or ports for communication purposes." *Id.*, 14:31-37.

127. Therefore, Clare teaches this element.

3. [8B]: "a network interface"

128. Clare also discloses "*a network interface*" for the reasons I discuss with respect to element [8A]. In particular, Clare discloses that "each such general-purpose computer typically comprises … **one or more network interface cards or ports for communication purposes**." EX1004, 14:31-37. As is well understood, a network interface card provides "*a network interface*" for communication. *See, e.g.*, EX1013, 363 (defining "network interface card" as "[a]n expansion card or other device used to provide network access to a computer or other device, such as a printer").

129. Therefore, Clare teaches this element.

4. [8C]: "one or more processors"

130. Clare also discloses "*one or more processors*" for the reasons I discuss with respect to element [8A]. In particular, Clare discloses that the disclosed functions can be performed by servers that are general-purpose computers, and that "each such general-purpose computer typically comprises **a central processor**…" EX1004, 14:31-37.

131. Therefore, Clare teaches this element.

5. [8D]: "computer program code stored on a non-transitory storage medium comprising instructions operative to cause the one or more processors to"

132. Clare discloses this element for the reasons I discuss with respect to element [8A]. In particular, Clare discloses that "each such general-purpose computer typically comprises … **disk drives or other code and data storage systems**." *Id*., 14:31-37.

133. Clare further discloses processor-executable code implementing its "catalog and/or software downloading functions":

> The software functionalities (e.g. in FIG. 2) involve programming, including **executable code** as well as associated stored data. The software code is executable by the general-purpose computer that functions as the particular server, e.g. 35, 37 or 41 (FIG. 1) . . . [T]he embodiments involve one or more software products in the form of **one or more modules of code carried by at least one machine-readable [medium].**

> **Execution of such code by a processor of the computer platform enables the platform to implement the catalog and/or software downloading functions, in essentially the manner performed in the embodiments discussed and illustrated herein**.

Id., 14:50-65.

134. A POSA would have understood that Clare's storage for its executable code is non-transitory because the code must be stored for more than a momentary period in order to be executed as part of Clare's download service. Thus, based on this disclosure, a POSA would have understood that Clare discloses "*computer program code stored on a non-transitory storage medium comprising instructions operative to cause the one or more processors to*" perform actions consistent with the embodiments disclosed in Clare.

135. Therefore, Clare teaches this element.

6. [8E]: "responsive to a request for a set of applications available for installation on a mobile device, access a user profile and a mobile device profile against an identifier associated with a user"

136. Clare discloses element [8E] for the reasons I discuss with respect to element [1A] of claim 1. Clare discloses that such operations can be performed by Clare's "apparatus." EX1004, 3:11-18 ("Another aspect of the disclosed subject matter relates to an apparatus for distributing software to mobile stations through a wireless communication network."), 14:50-65 ("The software functionalities (e.g.

in FIG. 2) involve programming, including executable code as well as associated stored data. The software code is executable by the general purpose computer that functions as the particular server, e.g. 35, 37 or 41 (FIG. 1).").

7. [8F]: "filter a catalog of applications based on a set of policies applied to the user profile and mobile device profile to select a set of applications"

137. Clare discloses element [8F] for the reasons I discuss with respect to element [1B] of claim 1. Clare discloses that such operations can be performed by Clare's "apparatus." EX1004, 3:11-18, 14:50-65.

8. [8G]: "return the set of applications in response to the request"

138. Clare discloses element [8G] for the reasons I discuss with respect to element [1C] of claim 1. Clare discloses that such operations can be performed by Clare's "apparatus." EX1004, 3:11-18, 14:50-65.

9. [8H]: "wherein the returned set of applications is provided to a mobile device application management interface configured to display the set of applications to the user via the application management interface and to provide the ability for the user to select, via the application management interface, one or more of the displayed applications for installation on the mobile device"

139. Clare discloses element [8H] for the reasons I discuss with respect to element [1D] of claim 1. Clare discloses that such operations can be performed by Clare's "apparatus." EX1004, 3:11-18, 14:50-65.

H. Claim 9

140. Claim 9 recites, "*[t]he apparatus of claim 8 wherein the computer program code further comprises instructions operative to cause the one or more processors to: access a user directory store to retrieve the user profile*." Clare discloses the elements of claim 9 for the reasons I discuss with respect to claim 2.

I. Claim 12

141. Claim 12 recites, "*[t]he apparatus of claim 8 wherein the mobile device profile comprises one or more a model identifier, an operating system identifier, a serial number, and a Media Access Control (MAC) address*." Clare discloses the elements of claim 12 for the reasons I discuss with respect to claim 5.

J. Claim 13

142. Claim 13 recites, "*[t]he apparatus of claim 8 wherein the identifier is a mobile device identifier*." Clare discloses the elements of claim 13 for the reasons I discuss with respect to claim 6.

K. Claim 14

143. Claim 14 recites, "*[t]he wherein the identifier is a user identifier*." Clare discloses the elements of claim 14 for the reasons I discuss with respect to claim 7.

L. Claim 15

144. Clare renders obvious claim 15. Claim 15 is reproduced below. The claim limitations have been labeled for ease of discussion.

1. [15-pre]: "A non-transitory storage medium comprising computer program code including computer-readable instructions operative, when executed, to cause one or more processors to"

145. To the extent that the preamble language is deemed limiting, Clare teaches the preamble of claim 15 for the reasons I discuss with respect to elements [8C] and [8D] of claim 8. Additionally, Clare discloses that its "computer or machine 'readable medium' refer[s] to any medium that participates in providing **instructions** to a processor for execution," i.e., "*computer program code including computer-readable instructions*." EX1004, 14:66-15:1.

146. Therefore, Clare teaches this element.

2. [15A]: "responsive to a request for a set of applications available for installation on a mobile device, access a user profile and a mobile device profile against an identifier associated with a user"

147. Clare discloses element [15A] for the reasons I discuss with respect to element [1A] of claim 1. Clare further discloses that these operations can be implemented as code stored on a non-transitory storage medium and executed by one or more processors. *See* EX1004, 14:50-65.

3. [15B]: "filter a catalog of applications based on a set of policies applied to the user profile and mobile device profile to select a set of applications"

148. Clare discloses element [15B] for the reasons I discuss with respect to element [1B] of claim 1. Clare further discloses that these operations can be

implemented as code stored on a non-transitory storage medium and executed by one or more processors. *See* EX1004, 14:50-65.

4. [15C]: "return the set of applications in response to the request"

149. Clare discloses element [15C] for the reasons I discuss with respect to element [1C] of claim 1. Clare further discloses that these operations can be implemented as code stored on a non-transitory storage medium and executed by one or more processors. *See* EX1004, 14:50-65.

5. [15D]: "wherein the returned set of applications is provided to a mobile device application management interface configured to display the set of applications to the user via the application management interface and to provide the ability for the user to select, via the application management interface, one or more of the displayed applications for installation on the mobile device."

150. Clare discloses element [15D] for the reasons I discuss with respect to element [1D] of claim 1. Clare further discloses that these operations can be implemented as code stored on a non-transitory storage medium and executed by one or more processors. *See* EX1004, 14:50-65.

M. Claim 16

151. Claim 16 recites, "*[t]he non-transitory storage medium of claim 15 wherein the computer program code further comprises instructions operative to cause the one or more processors to: access a user directory store to retrieve the*

user profile." Clare discloses the elements of claim 16 for the reasons I discuss with respect to claim 2.

N. Claim 19

152. Claim 19 recites, "*[t]he non-transitory storage medium of claim 15 wherein the mobile device profile comprises one or more a model identifier, an operating system identifier, a serial number, and a Media Access Control (MAC) address*." Clare discloses the elements of claim 19 for the reasons I discuss with respect to claim 5.

O. Claim 20

153. Claim 20 recites, "*[t]he non-transitory storage medium of claim 15 wherein the identifier is a mobile device identifier*." Clare discloses the elements of claim 20 for the reasons I discuss with respect to claim 6.

IX. THE COMBINATION OF CLARE AND RICCI RENDERS OBVIOUS CLAIMS 3, 5, 10, 12, 17, AND 19.

154. Claims 3, 5, 10, 12, 17, and 19 would have been obvious to a POSA in view of Clare and Ricci. In the next sections, I address each claim individually.

A. Brief Overview of Ricci

155. Ricci is directed to "a software distribution architecture that is particularly useful for enterprise customers." EX1005, 2:1-3. Ricci explains that "[w]hile online stores that sell software are well known, they have drawbacks. For example, when a customer accesses an online store, the customer can be

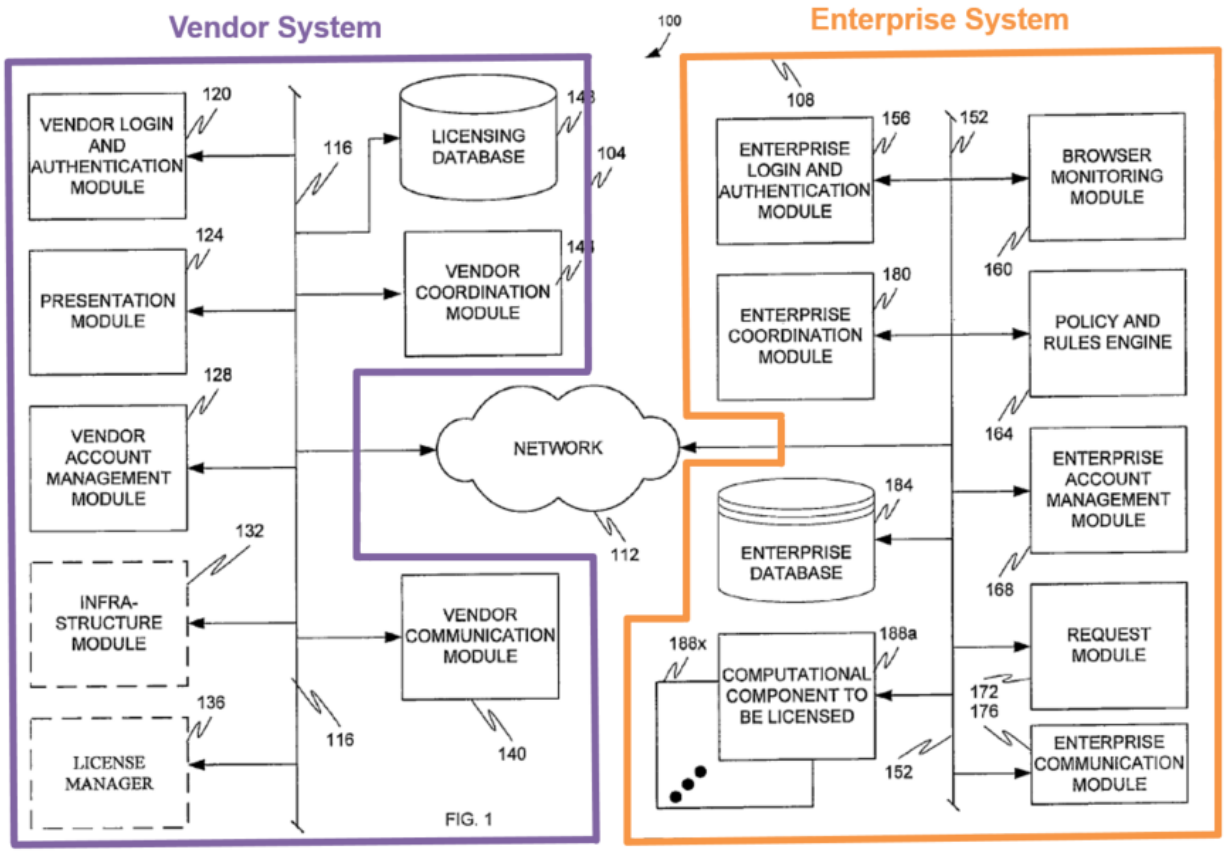
overwhelmed by the number of software applications available for purchase." *Id.*, 1:23-26. Ricci also explains that "[a]nother drawback is that online stores allow any application to be purchased and/or licensed and downloaded by a requesting enterprise customer, without regard to the rules of the enterprise of which the user is a member." *Id.*, 1:34-37.

156. Ricci addressed these issues by providing "an online software store, a phone accessible store, or any other electronic store that allows a user to download software and/or software upgrades and/or activate features, and/or change settings in an enterprise-specific way." *Id.*, 3:4-8. For example:

> [W]hen a customer accesses an online store, the customer is directed to a filtered set of software applications and is not overwhelmed by a large number of software applications for purchase. This can assist the customer in quickly and efficiently locating and purchasing the software applications that are most interesting or applicable to the customer or his/her enterprise.

Id., 3:17-23. To filter the set of software applications displayed to the user, Ricci's invention "can restrict the download of software in violation of enterprise policies, rules, and guidelines and other enterprise-level restrictions and requirements or of licensing restrictions." *Id.*, 3:28-30.

157. Ricci discloses an exemplary "enterprise system" in Figure 1 that "includes a number of components interconnected by internal, commonly private, network 116." *Id.*, 7:17-18.

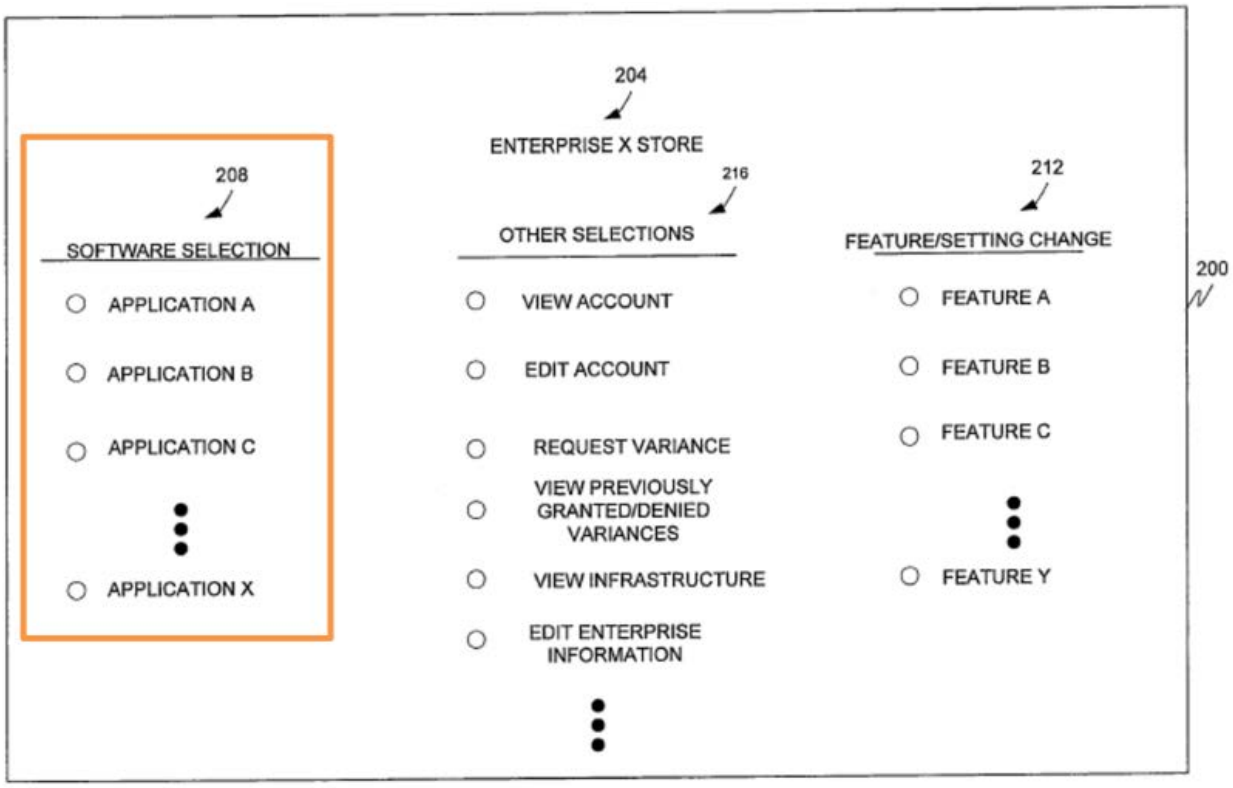


EX1005, FIG. 1 (annotated).

158. Of note, the enterprise system includes an enterprise login and authentication module 156, a policy and rules engine 164, and an enterprise database 184. The "enterprise login and authentication module 156 authenticates members of the enterprise by any suitable methodology, such as symmetric cryptographic identification methods (e.g., using symmetric secret key(s)), asymmetric cryptographic identification methods (e.g., using asymmetric key(s)), digital signatures, one-way functions, two-way functions, and user credentials (such as a login name and password)." EX1005, 9:60-67. The policies and rules engine 164 includes "policies and rules that cover software, software upgrade(s),

software feature(s), and/or software setting(s) downloading for the enterprise." *Id.*, 10:24-29. The enterprise database 184 "stores detailed information about the operations of the enterprise, including personnel databases that hold information such as salary, benefits, skills data, job descriptions and titles, contact information," and other data. *Id.*, 11:52-59.

159. The enterprise system 108 is connected to a software vendor system 104 that provides different software options to members of the enterprise. *Id.*, 7:6-13, 16:3-16. The vendor system 104 similarly includes a "vendor login and authentication module 120 [that] authenticates members of the enterprise." *Id.*, 7:19-25. The enterprise system 108 communicates with vendor system 104 to provide "a structured store specific to a company," which is illustrated in Figure 2 of Ricci. *Id.*, 13:32-36.



EX1005, FIG. 2 (annotated).

160. Ricci discloses that "[t]he display 200 is driven by the devices, systems, and/or other infrastructure that the company has purchased or otherwise possesses," and "'Software Selection' 208 lists the various software applications and upgrades available for selection by the authenticated requestor." *Id.*, 13:37-41. The applications available for selection in Software Selection 208 can be filtered by a number of factors, as illustrated in Figure 3, which include "requestor context 308, device type and/or identifier 312, hardware features, setting, and capabilities [316], and software, software upgrades, features, settings, and capabilities 320." *Id.*, 15:17-24.

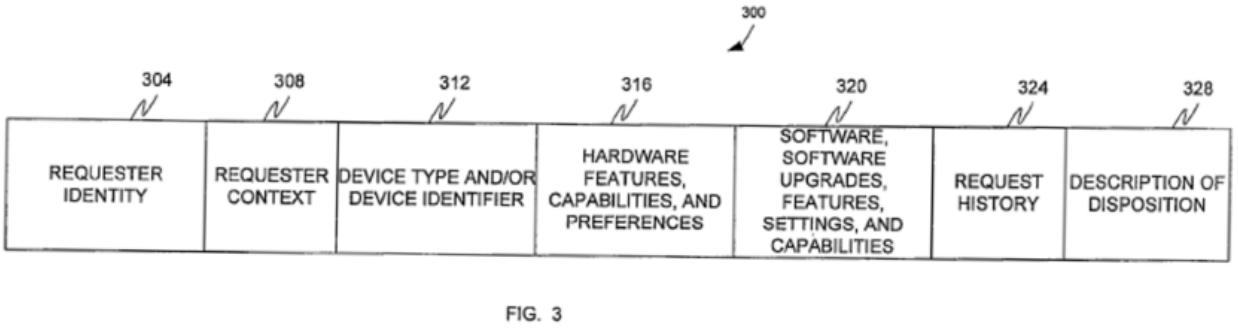


FIG. 3

EX1005, FIG. 3.

161. As shown in Ricci's Figure 3, this factor data may be stored as a set of data structures in, for example, enterprise database 184. *Id.*, 12:8-9. Based on this filtering, Ricci discloses that "a first enterprise member can receive a first set of software application selections 208 and/or feature/setting changes while a second enterprise member of the same enterprise receives a second, different set of software application selections 208 and/or feature/setting changes 212." *Id.*, 15:24-29. For example, Ricci discloses:

> This difference can be, for instance, because of differences in job responsibilities or levels of the first and second enterprise members, working units of the first and second enterprise members, work locations of the first and second enterprise members, customer relationships of the first and second enterprise members, device types and/or identifiers 312 associated with the first and second enterprise members, hardware features, capabilities, and preferences 316 of communication devices used by the first and second enterprise members, software, software upgrades, Software features,

> software settings, and capabilities 320 of software used by the first and second enterprise members, and the like.

Id., 15:29-41.

B. Ricci's Priority Date

162. I understand that Ricci was filed on September 28, 2010, and claims priority to U.S. Provisional Appl. No. 61/323,696 (EX1012, the "Ricci provisional"), filed on April 13, 2010. I also understand that for a reference to be entitled to the priority date of its provisional application's filing date, the provisional application must support (1) at least one claim of the reference, and (2) the subject matter on which the petitioner relies. It is my opinion that the Ricci provisional supports at least one of Ricci's claims, as well as the subject matter of Ricci that I rely on in my analysis below, and that I understand BlackBerry has relied on in its petition.

1. The Ricci provisional supports at least one claim of Ricci.

163. First, the Ricci provisional supports at least one claim of Ricci. For example, exemplary claim 19 of Ricci is supported by the Ricci provisional. I discuss each element of claim 19 in the sections below.

a) "A method"

164. The Ricci provisional discloses method for implementation of "an online store, a phone accessible store, or any other electronic store that allows a user to download applications in an enterprise specific way." EX1012, Ricci

provisional, 3. For example, the Ricci provisional discloses accessing an "enterprise specific application store" and viewing "apps that IT has allowed and pre-approved." *Id*., 4. The user can then "download applications" from the store. *Id*., 3. Therefore, the Ricci provisional supports this claim element.

b) "(a) receiving, by a processor enabled software vendor and from a requestor, a request for content, the requestor being associated with an enterprise other than the processor enabled software vendor"

165. The Ricci provisional discloses "a login and authentication module" that "allows members of an enterprise to access the applications **specific to their enterprise and locks them out of other enterprises application stores**." EX1012, 3. The Ricci provisional further discloses that "[t]he user could access an enterprise specific application store by entering the name of their enterprise or by presenting the user with a specific store such as Store.Mojo.com/my_company," and "[a]n account on the store would either be created in the default Seller's store (store.mojo.com) which would then allow customization." *Id.*, 4. After the login process (which provides "*a request for content*"), the store displays available applications to the user. For example, "[t]he company store reflects only those apps that IT has allowed and pre-approved." *Id.* Therefore, the Ricci provisional supports this claim element.

c) "(b) determining, by the processor enabled software vendor, an identity of the enterprise"

166. The Ricci provisional discloses "a login and authentication module" that "allows members of an enterprise to access the applications **specific to their enterprise** and locks them out of other enterprises application stores." EX1012, 3. In this manner, the Ricci provisional discloses "*determining … an identity of the enterprise*" when the user attempts to access the enterprise-specific application store. Therefore, the Ricci provisional supports this claim element.

d) "(c) selecting, by a processor executable presentation module and based on the identified enterprise, first content to be forwarded to the requestor, the first content including a plurality of possible software, software upgrade, software feature, and/or software setting options for selection by the requestor"

167. Ricci explicitly discloses "a presentation module" that "can at a minimum offer a store generic to the type of enterprise that the customer is a member of." *Id*. When the user accesses the application store, the store forwards for display available applications ("*first content to be forwarded to the requestor*") to the user. For example, "[t]he company store reflects only those apps that IT has allowed and pre-approved." *Id.*, 4. Therefore, the Ricci provisional supports this claim element.

e) "(d) receiving, by the processor enabled software vendor and from the requestor, a first selection of one of the plurality of possible software, software upgrade, software

feature, and/or software setting options for selection by the requestor"

168. The Ricci provisional discloses "download[ing] applications," which a POSA would have understood to be initiated through selection of an application for download. *Id.*, 3. The Ricci provisional also discloses, "If the company allows for presentation of applications that are not pre-approved, then the user may only **request a download** [(i.e., "*a first selection of one of the plurality of possible software*")] and then await IT approval." *Id.*, 4. Therefore, the Ricci provisional supports this claim element.

f) "(e) determining, by the processor enabled software vendor, that the processor enabled software vendor has not received previous approval of the first selection from the enterprise"

169. The Ricci provisional discloses, "If the company allows for **presentation of applications that are not pre-approved**, then the user may only **request a download** and then await IT approval." EX1012, 4; *see also id.* ("If the application **is not on the list** and IT requires preapproval…"). Thus, the Ricci provisional discloses determining whether applications have not been previously approved. Therefore, the Ricci provisional supports this claim element.

g) "(f) in response to step (e), forwarding, by the processor enabled software vendor to the enterprise, a request for approval of the first selection"

170. The Ricci provisional discloses forwarding a request for approval to the enterprise: "If the application is not on the list and IT requires preapproval,

then app download wait **until IT approves the app for use**. In the alternative app can be downloaded but not installed [without] IT approval. **The approval could be done throw** [*sic*] **an email process or an HTML pop up on the designated approver[']s computer**." *Id*., 4. Therefore, the Ricci provisional supports this claim element.

h) "(g) preventing, by the processor enabled software vendor, successful installation of the downloaded software, software upgrade, software feature, and/or software setting option until approval is received from the enterprise"

171. As I discuss with respect to the previous element, the Ricci provisional discloses, "If the application is not on the list and IT requires preapproval, **then app download wait until IT approves the app for use**." *Id.* Thus, the Ricci provisional discloses "*preventing … successful installation of the downloaded software … until approval is received from the enterprise*." Therefore, the Ricci provisional supports this claim element.

2. The Ricci provisional supports the disclosure of Ricci relied upon with respect to claims 3, 5, 10, 12, 17, and 19 of the '016 patent.

172. The Ricci provisional also supports the disclosure of Ricci relied on with respect to claims 3, 5, 10, 12, 17, and 19 of the '016 patent. Ricci discloses a "request module 172 and/or enterprise coordination module 180 could maintain a whitelist of previously approved software…" EX1005, 15:7-15. Ricci further discloses that "a first enterprise member can receive a first set of software

application selections … while a second enterprise member of the same enterprise receives a second, different set." *Id*., 15:24-41. And "this difference can be, for instance, because of differences in **job responsibilities or levels of the first and second enterprise members**, … **hardware features, capabilities**, and preferences." *Id.*

173. The Ricci provisional provides similar disclosure, explaining that "[t]he presentation module can be driven by the **devices**, systems and/or other infrastructure that the company has purchased. Further, it can be driven by the company's IT guidelines with regard to the security, **compatibility** and/or other factors." EX1012, 3. The Ricci provisional further discloses that "[t]he system could maintain a list of prior approvals to speed the process," and that "[t]he approvals could also be **level based, assuming again that the store is tied with the personnel system**." *Id.*, 4. Based on this disclosure, the Ricci provisional supports the disclosure relied upon for claims 3, 5, 10, 12, 17, and 19 of the '016 patent, primarily factors that can be used to filter applications within Ricci's application store.

174. For these reasons, it is my opinion that Ricci is entitled to the filing date of its provisional application.

C. The Combination of Clare and Ricci

175. A POSA would have been motivated to combine Clare and Ricci with a reasonable expectation of success. Both Clare and Ricci are concerned with distribution of software applications to electronic devices, and more specifically, filtering sets of software applications for display to a user. For example, Clare discloses that "the service provides a 'catalog' of available software products that has been tailored to the particular user based on that user's preference(s)." EX1004, Abstract. And Ricci discloses, "when a customer accesses an online store, the customer is directed to a filtered set of software applications and is not overwhelmed by a large number of software applications for purchase." EX1005, 3:17-20. Moreover, both references involve distribution of software applications to mobile devices. *See* EX1004, 1:13-16 ("In recent years, cellular or personal communication service type mobile devices have emerged as a must-have appliance among mobile professionals and consumers alike"), 2:29-31 ("Hence, a need exists for a more convenient way to offer available software to mobile station users for selection and downloading."); EX1005 11:60-67 ("Examples of computational component(s) to be licensed [] include … Personal Digital Assistants (PDAs), wireless (e.g., cellular) phones, … and the like).

176. While Clare is concerned with distribution of software applications in a general context, Ricci focuses on distribution of software applications to users

within an enterprise, a common scenario now as well as in the timeframe of the '016 patent. For example, Ricci discloses that one "drawback is that online stores allow any application to be purchased and/or licensed and downloaded by a requesting enterprise customer, without regard to the rules of the enterprise of which the user is a member." EX1005, 1:23-62. Thus, Ricci provides application-filtering techniques that improve software application distribution to users that are part of a particular enterprise, both for the benefit of the individual user and the enterprise itself. *Id.*, 2:1-3 ("The present invention is directed to a software distribution architecture that is particularly useful for enterprise customers."). For example, Ricci provides filtering criteria that makes it easy for a user to find applications relevant to their job function, and also that have been approved by their enterprise for download. *See*, *e.g.*, *id.*, 6:49-58, 10:24-34, 12:9-39.

177. Clare also suggests the importance of software distribution within an enterprise-type environment: "[M]obile devices have emerged as a must-have appliance among **mobile professionals** and consumers alike…. The public has come to accept that mobile communication service **enhances business** and personal communications." EX1004, 1:12-19. Therefore, A POSA would have understood that Ricci's disclosed filtering techniques are applicable and useful to Clare's application distribution architecture, especially when used in a business context.

178. As I discuss with respect to element [1B] of claim 1 above, Clare filters its catalog of applications based on both mobile device compatibility and user preferences. *See, e.g., id.*, 5:14-32, 13:42-57; Section VIII.B.3. Clare further teaches that other filtering criteria may be used within its architecture: "[T]hose skilled in the art will recognize that the customizing of the catalogs **may utilize a variety of other personal criteria, to provide each individual user with a personalized catalog presentation**." *Id.*, 5:28-32. While Clare does not explain in detail such personalized criteria that would benefit mobile professionals and businesses, Ricci provides such additional criteria relevant to user devices within the context of an enterprise environment.

179. For example, Ricci provides a "policy and rules engine" that functions similar to Clare's filtering components (e.g., customer application preference proxy 51) and includes "a set of policies and rules that cover software, software upgrade(s), software feature(s), and/or software setting(s) downloading for the enterprise." EX1005, 10:24-29. These policies and rules enable, for example, "a first enterprise member [to] receive a first set of software application selections 208 and/or feature/setting changes while a second enterprise member of the same enterprise receives a second, different set of software application selections 208 and/or feature/setting changes 212." *Id.*, 15:24-29. Ricci explains that "the policy and rules engine [] can consider a number of factors in deciding whether or not to

approve a requested software," e.g., for display as software selections to the user. *Id*., 15:17-21.

180. Such factors may include a "requestor context," which includes, for example, "current location of the requestor, current device being used by the requestor, satellite and/or main office location(s) of requestor, job title or hierarchy level of requestor, job description of requestor, work unit (such as department, group, team, and other work unit) associated with requestor, and/or interpersonal working relationship of requestor." *Id*., 12:15-24. Ricci's factors may also include "hardware features, settings, and capabilities," such as the device's "operating system." *Id.*, 12:27-39, 15:21-24. These factors ensure that application selections presented to the user are allowed and approved by the enterprise and are compatible with enterprise mobile devices, reducing reliance on support professionals to monitor and facilitate software distribution within the enterprise. *Id.*, 14:40-42, 3:12-13 ("Employee abuses and other enterprise problems from unregulated software can be significantly reduced."). And based on these factors, Ricci discloses that "a first enterprise member can receive a first set of software application selections 208 and/or feature/setting changes while a second enterprise member of the same enterprise receives a second, different set of software application selections 208 and/or feature/setting changes 212." *Id.*, 15:24-29.

181. Therefore, when distributing software applications within the context of an enterprise or other organizational environment, a POSA would have been motivated to look to a reference such as Ricci to learn more about filtering techniques useful in the context of an enterprise, which would ensure that Clare's filtered list of available applications are appropriate for the enterprise user. As I note above, this helps both users to quickly find relevant applications, as well as the enterprise to ensure compliance with policies and device hardware. Clare already suggests the use of additional factors in filtering available applications (EX1004, 5:28-32), as well as such filtering in a professional setting (*id.*, 1:13-19), and Ricci provides such factors useful within an enterprise environment (EX1005, 12:15-23, 15:21-29), for example filtering based on job role or responsibilities (*id.*, 15:29-34). Therefore, a POSA would have had a reasonable expectation of success employing such additional factors within Clare's architecture, which would amount to nothing more than combining known elements (e.g., various filtering criteria) according to known methods to yield predictable results (e.g., filtering available applications based on criteria specific to an enterprise user). In other words, Ricci's additional filtering information could be stored with Clare's user and/or mobile device information with minimal, if any, modification to Clare's process.

182. In addition to these specific motivations described above, a POSA would have been further motivated to combine Clare and Ricci because both are in the same general field of software application distribution, and both references specifically address problems filtering sets of software applications available to a user. EX1004, Abstract; EX1005, 3:17-20. Thus, Ricci would have been a natural place in which a POSA would have looked for additional implementation details, e.g., personalized filtering criteria, when considering distribution of applications within an enterprise environment.

183. Therefore, a POSA would have been motivated to combine Clare and Ricci.

D. Claim 3

184. Claim 3 recites, "*[t]he method of claim 1 wherein the user profile comprises one or more of a role, job title or enterprise group identifier, and wherein one or more of the policies in the set of policies considers at least one of the role, job title and enterprise group identifiers*."

185. As I discuss with respect to elements [1A] and [1B] of claim 1, Clare discloses a "*user profile*," including various user preferences. *See* Sections VIII.B.2-3; EX1004, 13:46-49. Clare then discloses "appl[ying] the user profile preferences to the received list of applications, e.g. to filter or prioritize the available catalog information." EX1004, 13:49-52.

186. Although Clare does not explicitly disclose criteria such as "*a role, job title or enterprise group identifier*" within its user profile, Clare teaches that "those skilled in the art will recognize that the customizing of the catalogs may utilize a variety of other personal criteria, to provide each individual user with a personalized catalog presentation." *Id*., 5:28-32. In the same field of endeavor, and in the context of an enterprise environment, Ricci employs criteria including "*a role*" and "*job title*" to filter applications available to a user. For example, Ricci discloses that software available to an authenticated requester may be "a function of one or more of satellite and main office location(s) of the requestor, **job title, description, and/or hierarchy level of the requestor**, degree of importance of the requestor to the enterprise, **work unit of the requestor (such as departments, groups, teams, and other work units)**, and/or interpersonal working relationship(s) of the requestor…." EX1005, 8:12-36.

187. More specifically, Ricci discloses consideration of a "requestor context" to determine a "set of software application selections" to provide to a user. *Id.*, 15:17-41. Ricci explains that the "requester context" may include a "**job title** or hierarchy level of [the] requester," or a "job description of [the] requester." *Id.*, 12:14-23. A POSA would have understood that these attributes constitute "*a role*" or "*job title*," as recited in claims 3, 10, and 17. In addition to the explicit disclosure of a "*job title*," the job description, hierarchy level, and work unit (e.g.,

department, group, team) relate to the role of the requester within the organization. Thus, Ricci discloses filtering criteria including "*a role*" or "*job title*."

188. As I discuss above, in the context of an enterprise, a POSA would have been motivated to include such filtering criteria in Clare's user profile to ensure that available applications are appropriate for the enterprise user. Section IX.C. For example, Ricci discloses that "[e]mployee abuses and other enterprise problems from unregulated software can be significantly reduced" based on Ricci's filtering criteria. EX1005, 3:12-13; Section IX.C. Moreover, restricting employees' access to applications not in line with their job function can reduce abuses, such as restricting administrative applications to only those employees with administrative privileges and function. This ensures that each user of the enterprise only has access to functions in which they are qualified to perform, at least with respect to the applications needed to perform those functions.

189. Therefore, the combination of Clare and Ricci discloses the elements of claim 3.

E. Claim 5

190. Claim 5 recites, "*[t]he method of claim 1 wherein the mobile device profile comprises one or more a model identifier, an operating system identifier, a serial number, and a Media Access Control (MAC) address*."

191. As I discuss with respect to element [1A] of claim 1, Clare discloses "stor[ing] information about the mobile stations 5, such as the type of station and thus the type of programs that each station is capable of running," in a database, which provides a "*mobile device profile*." *See* Section VIII.B.2. EX1004, 9:65-10:1. As I discuss with respect to element [1B] of claim 1, Clare then discloses filtering its catalog of available programs based on those "that are compatible with the particular model of mobile station 5." *See* Section VIII.B.3; EX1004, 13:42-46.

192. Additionally, Ricci discloses filtering available applications based on "*an operating system identifier*." Specifically, Ricci discloses that its filtering techniques can consider "hardware features, settings, and capabilities," which may include the device's "**operating system**." EX1005, 12:27-39, 15:21-24. In addition to or as an alternative to Clare's "*model identifier*," a POSA would have been motivated to include an operating system identifier in Clare's filtering criteria to ensure compatibility with the user's mobile station. Section IX.C.

193. For example, Clare discloses "determin[ing] the application service provider (BREW, J2ME, etc.) that the user's station 5 is setup for," (EX1004, 13:34-37), but Clare does not explicitly disclose in what form this information is stored. BREW and J2ME, as disclosed in Clare, refer to the "runtime environment" supported by a particular mobile station. *Id.*, 1:37-51. The runtime environment essentially refers to the underlying operating system and other resources required

to support execution of an application. *See, e.g.*, EX1034 (defining "runtime environment" as "[a] configuration of hardware and software. It includes the CPU type, **operating system** and any runtime engines or system software required by a particular category of applications.").

194. Thus, a POSA would have recognized that an efficient way to store the application service provider information would be as an "*operating system identifier*," similar to that used in Ricci, because the application service provider specifies what can execute on the mobile station. Again, a POSA would have had a reasonable expectation of success employing such filtering criteria within Clare's architecture because this would involve nothing more than combining known elements (e.g., filtering by operating system) according to known methods to yield predictable results. Section IX.C.

195. Therefore, the combination of Clare and Ricci discloses the elements of claim 5.

F. Claim 10

196. Claim 10 recites, "*[t]he apparatus of claim 8 wherein the user profile comprises one or more of a role, job title or enterprise group identifier, and wherein one or more of the policies in the set of policies considers at least one of the role, job title and enterprise group identifiers*." The combination of Clare and

Ricci discloses the elements of claim 10 for the reasons I discuss with respect to claim 3.

G. Claim 12

197. Claim 12 recites, "*[t]he apparatus of claim 8 wherein the mobile device profile comprises one or more a model identifier, an operating system identifier, a serial number, and a Media Access Control (MAC) address*." The combination of Clare and Ricci discloses the elements of claim 12 for the reasons I discuss with respect to claim 5.

H. Claim 17

198. Claim 17 recites, "*[t]he non-transitory storage medium of claim 15 wherein the user profile comprises one or more of a role, job title or enterprise group identifier, and wherein one or more of the policies in the set of policies considers at least one of the role, job title and enterprise group identifiers*." The combination of Clare and Ricci discloses the elements of claim 17 for the reasons I discuss with respect to claim 3.

I. Claim 19

199. Claim 19 recites, "*[t]he non-transitory storage medium of claim 15 wherein the mobile device profile comprises one or more a model identifier, an operating system identifier, a serial number, and a Media Access Control (MAC) address*." The combination of Clare and Ricci discloses the elements of claim 19 for the reasons I discuss with respect to claim 5.

X. THE COMBINATION OF CLARE AND MARSH RENDERS OBVIOUS CLAIMS 3, 10, AND 17.

200. Claims 3, 10, and 17 would have been obvious to a POSA in view of Clare and Marsh. In the next sections, I address each claim individually.

A. Brief Overview of Marsh

201. Marsh is directed to "streamlining the procurement and provisioning of devices, services, and applications." EX1007, Marsh, Abstract. Marsh explains that "conventional approaches by which organizations procure and provision wireless applications is generally inefficient and has the potential for error. For example, if the member fails to perform adequate research to determine the compatibility of the device with the application(s) to be installed, the member may potentially purchase an incompatible device." *Id.*, ¶9. Thus, Marsh's intention was to "better streamline the process of procuring and provisioning these wireless applications." *Id.*, ¶10.

202. Marsh provides an example "diagram illustrating operation of an embodiment of a system for performing procurement and provisioning of wireless applications for a corresponding compatible device." *Id.*, ¶25.

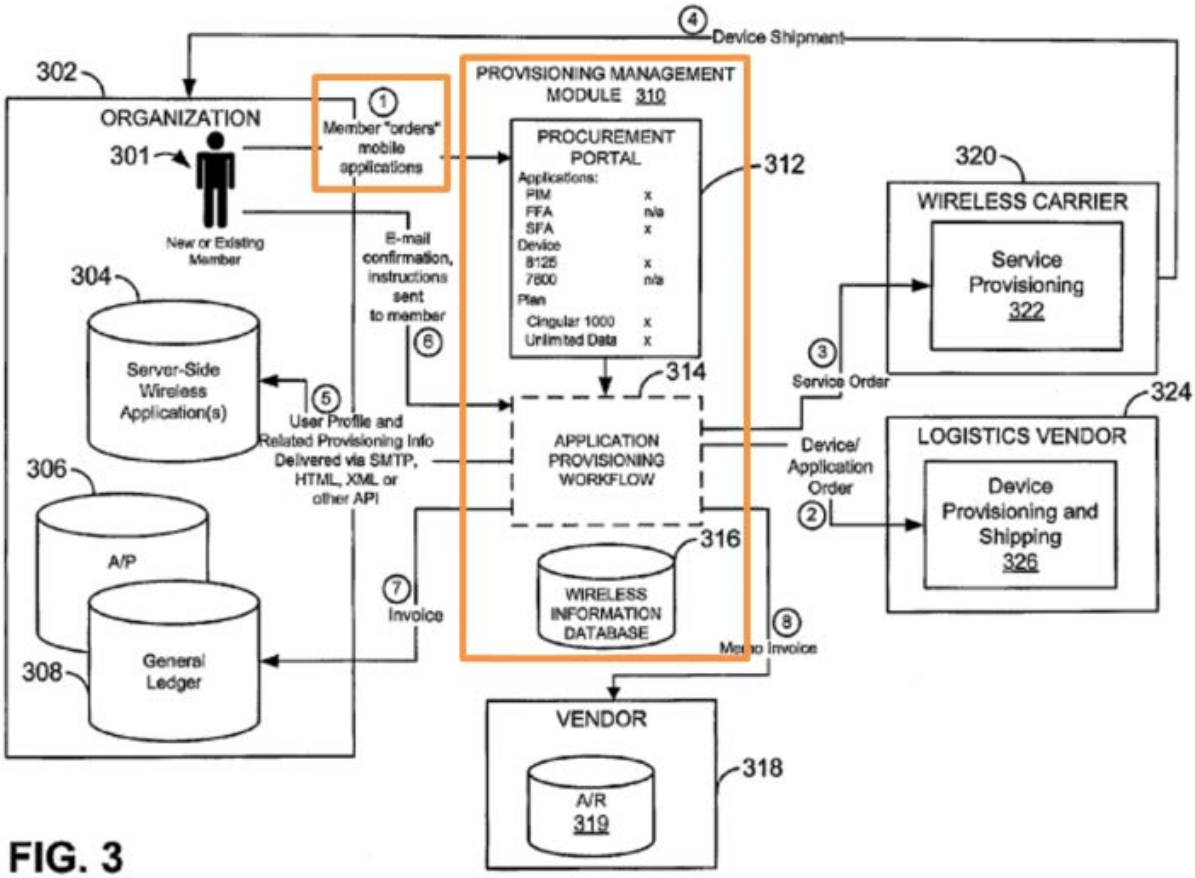


FIG. 3

EX1007, FIG. 3 (annotated).

203. Marsh discloses that "in step (1), a member 301 of an organization 302 first interfaces with a provisioning management system 310, which allows the member 301 to select a device and a service plan. The provisioning management system 310 also allows the member 301 to select wireless applications to be installed onto a selected device." EX1007, ¶28. As part of and prior to the user's application selection, Marsh further discloses that "[a] check is performed on the member 301 to generate a list of wireless applications to which the member 301 is eligible to gain access to. Eligibility may be based on such criteria as the member's

position, title, or other rules defined by the organization 302." *Id.* Once the user's request is approved and the user's device has been provisioned, "[t]he fully provisioned device will then be shipped to the member 301 in step (4) so that the member 301 may utilize the device." *Id.*, ¶30.

B. The Combination of Clare and Marsh

204. A POSA would have been motivated to combine Clare and Marsh with a reasonable expectation of success. Both Clare and Marsh are concerned with the distribution of applications to mobile devices. For example, Clare discloses that its "service provides a 'catalog' of available software products that has been tailored to the particular user based on that user's preference(s)." EX1004, Abstract. And Marsh discloses "various embodiments of systems and methods for streamlining the process of procuring and provisioning devices, services, and applications, thereby increasing the likelihood of successful large-scale wireless application deployment within an organization." EX1007, ¶22; *see also id.*, FIG. 3 (step 1: "Member 'orders' mobile applications").

205. While Clare is concerned with distribution of software applications in a general context, as I discuss above, Marsh focuses on distribution of software applications and procurement of mobile devices for members (e.g., employees) within an organization, such as corporation (i.e., enterprise). *Id.*, ¶¶22-23. As part of Marsh's procurement techniques, Marsh discloses "generat[ing] a list of

wireless applications to which the member 301 is eligible to gain access to," and then allowing the user to "select wireless applications to be installed onto a selected device" from this list. *Id.*, ¶28. Marsh also discloses that "[e]ligibility may be based on such criteria as the member's position, title, or other rules defined by the organization." *Id.* Thus, Marsh provides application-filtering techniques beneficial within an organizational context. *See, e.g., id.*, ¶22 ("[S]treamlining the process of procuring and provisioning devices, services, and **applications**, thereby increasing the likelihood of successful large-scale wireless application deployment within an organization."). In other words, Marsh provides techniques that allow a user to find and select applications relevant to their job function, and also that comport with any policies defined by their organization.

206. Clare also suggests the importance of software distribution within an organizational environment: "[M]obile devices have emerged as a must-have appliance among **mobile professionals** and consumers alike…. The public has come to accept that mobile communication service **enhances business** and personal communications." EX1004, 1:12-19. Therefore, Marsh's disclosed filtering techniques based on "position, title, or other rules defined by the organization" are applicable and useful to Clare's application distribution architecture, especially when used in a business context. EX1007, ¶28.

207. As I discuss with respect to element [1B] of claim 1 above, Clare filters its catalog of applications based on both mobile device compatibility and user preferences. *See, e.g.*, EX1004, 5:14-32, 13:42-57; Section VIII.B.3. Clare further teaches that other filtering criteria may be used within its architecture: "[T]hose skilled in the art will recognize that the customizing of the catalogs **may utilize a variety of other personal criteria, to provide each individual user with a personalized catalog presentation**." *Id.*, 5:28-32. While Clare does not explain in detail such personalized criteria that would benefit mobile professionals and businesses, Marsh provides such additional criteria relevant to user devices within the context of an organization, ensuring that the list of wireless applications presented to the user for selection comply with the "rules defined by the organization." EX1007, ¶28.

208. Therefore, when distributing software applications to members of an organization (e.g., a corporation), a POSA would have been motivated to look to a reference such as Marsh to learn more about filtering techniques useful in the context of an enterprise, which would ensure that Clare's filtered list of available applications are appropriate for the member of the organization. As noted above, this helps both users to quickly find relevant applications, as well as the enterprise to ensure compliance with its defined rules and device hardware. Clare already suggests the use of additional criteria in filtering available applications (EX1004,

5:28-32), as well as such filtering in a professional setting (*id.*, 1:13-19), and Marsh provides such criteria useful within an organizational environment (EX1007, ¶28), for example filtering based on job responsibilities (e.g., position or title). Therefore, a POSA would have had a reasonable expectation of success employing such additional factors within Clare's architecture, which would amount to nothing more than combining known elements (e.g., various filtering criteria) according to known methods to yield predictable results (e.g., filtering available applications based on criteria specific to a member of an organization). In other words, Marsh's additional filtering information could be stored with Clare's user and/or mobile device information with minimal, if any, modification to Clare's process.

209. Therefore, a POSA would have been motivated to combine Clare and Marsh.

C. Claim 3

210. Claim 3 recites, "*[t]he method of claim 1 wherein the user profile comprises one or more of a role, job title or enterprise group identifier, and wherein one or more of the policies in the set of policies considers at least one of the role, job title and enterprise group identifiers*."

211. As I discuss with respect to elements [1A] and [1B] of claim 1, Clare discloses a "*user profile*," including various user preferences. *See* Sections

VIII.B.2-3; EX1004, 13:46-49. Clare then "applies the user profile preferences to the received list of applications, e.g. to filter or prioritize the available catalog information." EX1004, 13:49-52.

212. Although Clare does not explicitly disclose criteria such as "*a role, job title or enterprise group identifier*" within its user profile, Clare teaches that "those skilled in the art will recognize that the customizing of the catalogs **may utilize a variety of other personal criteria, to provide each individual user with a personalized catalog presentation**." *Id.*, 5:28-32. In the same field of endeavor, and in the context of an organizational environment, Marsh employs criteria including "*a role*" and "*job title*" to filter applications that a user is able to select. This enables organizations to "better streamline the process of procuring and provisioning [] wireless applications" for users within the organization. EX1007, ¶10.

213. For example, Marsh discloses "generat[ing] **a list of wireless applications** to **which the member 301 is eligible to gain access to**," and allowing the user to "select wireless applications to be installed onto a selected device" from this list. *Id.*, ¶28. Marsh further discloses that "[e]ligibility may be based on such criteria as the **member's position** [(i.e., "*role*")], **title** [(i.e., "*job title*")], or other rules defined by the organization." *Id.* As explained above, in the context of an organization, a POSA would have been motivated to include such

filtering criteria (with a reasonable expectation of success) in Clare's user profile to ensure that available applications are appropriate for the enterprise user. Section X.B. For example, restricting employees' access to applications not in line with their position can reduce abuses, such as restricting an administrative application to only those employees with administrative privileges and function. Again, this ensures that each user of the enterprise only has access to functions in which they are qualified to perform, at least with respect to the applications needed to perform those functions.

214. Therefore, the combination of Clare and Marsh discloses the elements of claim 3.

D. Claim 10

215. Claim 10 recites, "*[t]he apparatus of claim 8 wherein the user profile comprises one or more of a role, job title or enterprise group identifier, and wherein one or more of the policies in the set of policies considers at least one of the role, job title and enterprise group identifiers*." The combination of Clare and Marsh discloses the elements of claim 10 for the reasons I discuss with respect to claim 3.

E. Claim 17

216. Claim 17 recites, "*[t]he non-transitory storage medium of claim 15 wherein the user profile comprises one or more of a role, job title or enterprise*

group identifier, and wherein one or more of the policies in the set of policies considers at least one of the role, job title and enterprise group identifiers." The combination of Clare and Marsh discloses the elements of claim 17 for the reasons I discuss with respect to claim 3.

XI. THE COMBINATION OF CLARE AND ADAMS RENDERS OBVIOUS CLAIMS 4, 11, AND 18.

217. Claims 4, 11, and 18 would have been obvious to a POSA in view of Clare and Adams. In the next sections, I address each claim individually.

A. Brief Overview of Adams

218. Adams is directed to "electronic devices, and in particular to controlling application installation of such devices by a device owner." EX1006, Adams, ¶3. Adams explains that "[i]n a corporate environment, employees are often provided with access to office supplies and equipment to be used in performing job functions. Standard equipment typically includes at least a personal computer (PC), and may also include **wireless mobile communication devices** and other types of electronic devices." *Id.*, ¶4. "In these types of situations, a user of an electronic device is not the owner of the device, and the user and owner may have different perceptions of acceptable device uses," such as "the type of operations or software applications that may be executed by the device." *Id.*, ¶5.

219. To provide control of a device by the device owner (e.g., a corporation), Adams discloses "owner control information" that can include "a list

of software applications that a user is authorized to install on the mobile device [], as well as possibly **a list of required software applications that must be installed on the mobile device**." *Id.*, ¶57. Adams discloses that this "required software application list could reside on a remote or external device (e.g., remote computer system, external card or memory device, etc.) that can be consulted at need." *Id.*, ¶85. When a device is initialized, the required software application list is consulted, and "[t]he device may transparently initiate download of required applications that were determined to be unavailable" on the device, as illustrated, for example, in the exemplary process of Figure 8. *Id.*, ¶87.

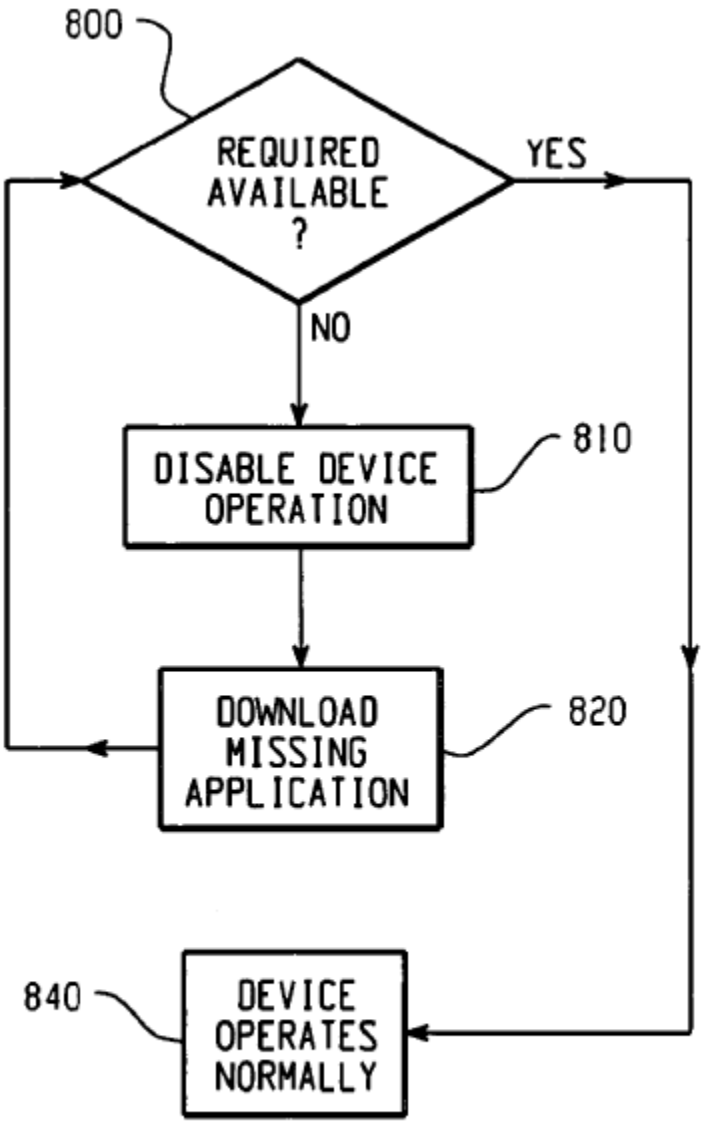


Fig. 8

EX1006, FIG. 8.

B. The Combination of Clare and Adams

220. A POSA would have been motivated to combine Clare and Adams with a reasonable expectation of success. Both Clare and Adams relate to

distribution of software applications to electronic devices. For example, Clare discloses that its "service provides a 'catalog' of available software products that has been tailored to the particular user based on that user's preference(s)." EX1004, Abstract. And Adams discloses "[o]wner application control information [that] is consulted to determine if one or more required applications are available for execution on the electronic device," and "[i]f not, one or more required applications not available are downloaded and installed." EX1006, Abstract. Furthermore, both references involve distribution of software applications to mobile devices. *See* EX1004, 1:13-16 ("In recent years, cellular or personal communication service type mobile devices have emerged as a must-have appliance among mobile professionals and consumers alike"), 2:29-31 ("Hence, a need exists for a more convenient way to offer available software to **mobile station** users for selection and downloading."); EX1006, ¶4 ("In a corporate environment, employees are often provided with access to office supplies and equipment to be used in performing job functions. Standard equipment typically includes at least a personal computer (PC), and may also include **wireless mobile communication devices** and other types of electronic devices.").

221. While Clare is concerned with distribution of software applications in a general context, as I discuss above, Adams is concerned with electronic devices distributed to users in a corporate environment, similar to Ricci and Marsh.

EX1006, ¶4. Specifically, Adams' techniques ensure that required applications, as specified by the corporation owning the device, are installed on the device:

> Required applications: These applications must be present on the device before the user may use the device; alternatively, one or more operations of the device can be disabled until such applications are available for execution on the device. This will allow the owner to install audit and remote administrative applications. The user can in some implementations be prevented from deleting these applications.

Id., ¶26; *see also id.*, ¶86 ("the mobile device 30 can download and install missing or corrupted applications transparently to the user of the device").

222. Thus, Adams' techniques provide further control of an organization's application-related policies, controlling which applications are necessarily provided to the user's device. Clare also suggests the importance of software distribution within a corporate environment, explaining that "mobile devices have emerged as a must-have appliance among **mobile professionals** and consumers alike…. The public has come to accept that mobile communication service **enhances business** and personal communications." EX1004, 1:12-19.

223. Therefore, in the context of a corporate environment, a POSA would have been motivated to employ Adams' "required application" distribution techniques within Clare's architecture to further streamline distribution of applications and reduce the catalog of applications that need to be presented to the

user. Moreover, within the context of an enterprise or other organization, Adams' techniques "allow the owner to install audit and remote administrative applications" that the user may not otherwise decide to select for installation. EX1006, ¶26. As I discuss with respect to element [1B] of claim 1 above, Clare already discloses server-based operations to filter available applications for presentation to a user. *See, e.g.*, EX1004, 5:14-32, 13:42-57; Section VIII.B.3. Adams' techniques allow Clare's catalog to be further filtered by removing those applications from Clare's personalized application catalog and separately ensuring that those required applications are installed on the user's device. In other words, because certain applications may be required to be installed, the user need not see these applications in its personalized catalog, making it simpler to find applications of interest.

224. Clare already teaches the usefulness of "remov[ing] items from the personalized catalog that have previously been downloaded and are already resident in the user's mobile station" (*id.*, 5:20-22), so removing required applications, whether already installed or scheduled to be installed, aligns with the operation of Clare. And this further aligns with Clare's goal of ensuring "customers can easily find applications that appeal to their interest." *Id.*, 2:40-43.

225. Adams further discloses that its "required software application list could reside on a remote or external device," for example, a "remote computer

system" (e.g., within Clare's download service) "that can be consulted at need." EX1006, ¶85. In the context of a corporate-distributed device, it would have been logical to consult this list of required applications when a user first connects to Clare's download service, or at another convenient time, to ensure that the user's device includes the applications required by the corporation. For example, a "required software application list" could be stored as part of Clare's "*user profile*" (e.g., applications required for a specific company role) or "*mobile device profile*" (e.g., applications required for a specific type of mobile station), or both, and maintained in Clare's download service database. Based on these required applications, Clare could then send the required applications "back through the network to the mobile station," as normal. EX1004, 14:1-18.

226. Thus, a POSA would have had a reasonable expectation of success implementing Adams' techniques as part of Clare's download service because this would amount to nothing more than combining known elements (e.g., Adams' distribution of required applications and Clare's application download service) according to known methods to yield predictable results. Clare's database is capable of storing a list of required applications as disclosed by Adams, and these applications could simply be removed from the user's personalized catalog as part of Clare's filtering techniques, as I mention above. Clare further discloses transmitting applications to a user's mobile station for installation (*see, e.g., id.*,

FIG. 4 (step S4)), so a POSA would have expected that required applications could be distributed without any change to Clare's communication architecture. Therefore, a POSA would have been motivated to combine Clare and Adams.

C. Claim 4

227. Claim 4 recites, "*[t]he method of claim 1 further comprising: identifying required applications in the set of applications; and providing an indication of the required applications to the user*."

228. As I discuss with respect to elements [1A] and [1B] of claim 1, Clare discloses storing user-related information and mobile device-related information in a database as part of its download service. *See* Sections VIII.B.2-3; EX1004, 9:65-10:1, 13:46-49. This information is then used to filter a set of applications. *See* Sections VIII.B.2-3; EX1004, 13:42-52. But Clare does not explicitly disclose "*identifying required applications in the set of applications*."

229. In the same general field of endeavor, Adams discloses techniques for identifying and installing required applications. For example, Adams discloses generating "a list of software applications that a user is authorized to install on the mobile device [], as well as possibly **a list of required software applications that must be installed on the mobile device**." EX1006, ¶57. Adams discloses that this "required software application list could reside on a remote or external device (e.g., remote computer system, external card or memory device, etc.) that can be

consulted at need." *Id.*, ¶85. Thus, this "required software application list" "*identif[ies] required applications in [a] set of applications*." For example, when implemented as part of Clare's download service, a POSA would have understood that this list would identify required applications in Clare's catalog of applications.

230. Adams then discloses "*providing an indication of the required applications to the user*." For example, Adams illustrates use of its "required software application list" in Figure 8, reproduced below.

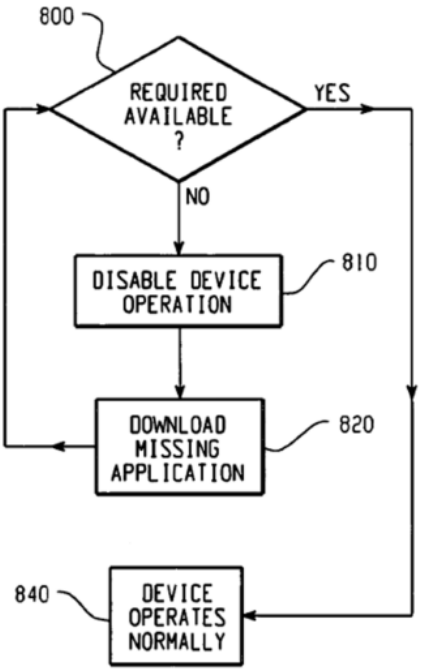


Fig. 8

EX1006, FIG. 8.

231. Adams describes that its "device initialization may include use of the required software application list," and at step 800, "[a] determination is made as to whether required applications are available on the device." EX1006, ¶87. In this

case, "[t]he device examines installed applications," and "identification information associated with installed applications can be transmitted to a remote server managed by the owner that performs the comparison [to the required software application list] and **returns the results of such a comparison to the device**." *Id.* Then, "[i]f required applications are missing," "[t]he device may transparently initiate download of required applications that were determined to be unavailable." *Id.* A POSA would have understood that by "return[ing] the results" of the comparison between required applications and applications installed on the device (*id.*), Adams discloses "*providing an indication of the required applications to the user*." And since Adams discloses that its download of required applications is "**transparently** initiate[d]," *Id.*, ¶87, a POSA would have understood that the user of the mobile device would be aware of the required applications returned to the user's device. Indeed, Adams discloses that this download and installation of missing applications is performed "transparently **to the user of the device**." *Id.*, ¶86.

232. As I discuss above, in the context of a corporate environment, a POSA would have been motivated to employ Adams' "required application" distribution techniques within Clare's architecture to further streamline distribution of applications and reduce the catalog of applications that need to be presented to the user. Section XI.B. For example, within the context of an enterprise or other

organization, Adams' techniques "allow the owner to install audit and remote administrative applications" that the user may not otherwise decide to select for installation. EX1006, ¶26. And a POSA would have had a reasonable expectation of success implementing Adams' techniques because Clare already discloses transmission of applications from its download service to the user's mobile station (*see, e.g.*, EX1004, 5:49-58, FIG. 4 (Step S4)), and a "required software application list" could be stored as part of the information maintained in Clare's download service database, e.g., database 43.

233. Therefore, the combination of Clare and Adams discloses the elements of claim 4.

D. Claim 11

234. Claim 11 recites, "*[t]he apparatus of claim 8 wherein the computer program code further comprises instructions operative to cause the one or more processors to: identify required applications in the set of applications; and provide an indication of the required applications to the user*." The combination of Clare and Adams discloses the elements of claim 11 for the reasons I discuss with respect to claim 4.

E. Claim 18

235. Claim 18 recites, "*[t]he non-transitory storage medium of claim 15 wherein the computer program code further comprises instructions operative to*

cause the one or more processors to: identify required applications in the set of applications; and provide an indication of the required applications to the user."

The combination of Clare and Adams discloses the elements of claim 18 for the reasons I discuss with respect to claim 4.

XII. CONCLUSION

In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this 10th day of September, 2020.

Respectfully submitted,

David Goldschlag, Ph.D.