

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAP AMERICA, INC. and SAP SE,
Petitioner,

v.

CYANDIA, INC.,
Patent Owner.

U.S. Patent No. 8,578,285
Issued: November 5, 2013
Application No. 13/086,274
Filed: April 13, 2011

Title: Methods, Apparatus And Systems For Providing Secure Information Via
Multiple Authorized Channels To Authenticated Users And User Devices

DECLARATION OF CHRISTOPHER M. SCHMANDT

SAP AMERICA, INC. EXHIBIT 1003

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I, Christopher M. Schmandt, do hereby declare as follows:

I. INTRODUCTION AND ENGAGEMENT

1. I have been retained as an independent expert on behalf of SAP America, Inc. in connection with the above-captioned Petition for *Inter Partes* Review (“IPR”) to provide my analyses and opinions on certain technical issues related to U.S. Patent No. 8,578,285 (hereinafter “the ’285 patent”).

2. Specifically, I have been asked to provide my opinions regarding whether claims 1-10, 13, 17-18, and 36-42 (each a “challenged claim” and collectively the “challenged claims”) of the ’285 patent would have been obvious to a person having ordinary skill in the art (“POSITA”) as of May 2008. It is my opinion that each challenged claim would have been obvious to a POSITA after reviewing the prior art discussed herein.

II. BACKGROUND AND QUALIFICATIONS

3. I have recently retired from my position as a Principal Research Scientist at the Media Laboratory at the Massachusetts Institute of Technology (“M.I.T”), after 40 years of employment by M.I.T. In that role, I also served as faculty for the M.I.T. Media Arts and Sciences academic program. I have more than 40 years of experience in the field of Media Technology and was a founder of the M.I.T. Media Laboratory.

4. I received my Bachelor of Science degree in Electrical Engineering and Computer Science from M.I.T. in 1978, and my Master of Science degree in Visual Studies (Computer Graphics), also from M.I.T, in January 1980. I was employed at M.I.T. since 1980, initially at the Architecture Machine Group, which was an early computer graphics research lab. In 1985, I helped found the Media Laboratory and continued to work there until my retirement. I ran a research group most recently titled “Living Mobile.” My research spanned distributed communication and collaborative systems, with an emphasis on multi-media and mobile user interfaces; I have more than 70 published conference and journal papers and one book in these fields. I have received “best paper” awards from both ACM and IEEE conferences, and am a member of the ACM CHI (Computer Human Interaction) Academy, a peer-awarded honor given to a handful of active researchers annually.

5. As reflected in my CV, attached as Appendix A, I was a Principal Research Scientist beginning in 1985, when I founded a group later named the Speech + Mobility Group, and I continued in that capacity until 2018. App. A, p., 152. My work in the Speech + Mobility group involved significant research in the area of message notifications for mobile devices such as cell phones and other types of personal communication devices. I conducted research in the field of Alerting and Mobile Messaging from 1985 to 2018. In my faculty position, I taught

courses and directly supervised student research and theses at the Bachelors, Masters, and Ph.D. level. I oversaw the Master's and Ph.D. thesis programs for the entire Media Arts and Sciences academic program. I was the official Departmental coordinator for MIT's Undergraduate Research Opportunities Program (UROP), through which the Lab employed typically 150 undergrad research assistants, for 35 years. I also served on and at times chaired the Departmental Intellectual Property committee. Based on my experience and qualifications, I have a solid understanding of the knowledge and perspective of a person of ordinary skill in this technical field (wireless communications) since at least 1980.

6. From as early as my undergraduate days, I researched and built software systems to support graphical user interfaces. My Bachelor's thesis in 1978 is one of the earliest example of an electronic book, complete with touchable user interfaces, page turning animations, and fonts which I engineered for robust display on what was at the time conventional NTSC television/video equipment. Much of my work for the next decade involved graphical user interfaces for novel display of personal information, such as audio recordings, email and voice messages, and calendars, with user interaction via touch screens of various types and computer mice.

7. It was customary for these systems to display information in a two dimensional grid, such as segments of voice mail recordings in Phone Slave (1984)

and email in Conversational Desktop (1985). But earlier my World of Windows (1982) displayed, on a single screen, streaming video of about 20 channels of live video into a grid of shrunk down active window panes; if a user indicated interest in a particular channel, they would first hear audio only, and subsequently the window would expand to fill the entire screen.

8. As desktop workstations with higher resolution displays became affordable from the mid 1980s, I deployed a number of applications to manage personal or personalized user data, including a version of voice mail, calendar, address book, and stock quotes. These applications would run on a remote server, and appear on the user's desktop as a grid of small windows similar to conventional icons in operating systems such as Windows. But unlike Windows, these small versions of the applications were "live" and would change appearance in response to application specific information, such as new voice messages or a calendar entry alert. A user could click on the small version of the application from the application grid to open a larger window for more complex interactions. Thus, a user could quickly access a variety of personal information from the grid layout of small versions of each application.

9. These personal information management applications were accessible on a variety of devices, not limited to the high resolution desktop display, but also including PDAs, pagers, and voice access over the telephone network. As these

devices were meant for users on the go and otherwise busy in the world, user agents monitored the various databases and decided when to notify users of a change, such as a calendar entry, a personal news story, or a new email. In doing so, a process (CLUES, 1996)¹ tracked conversations (a series of messages or phone calls with a particular person), a user's coarse geographic location (based on mining travel arrangements in the calendar), and scheduled appointments. In this manner, CLUES attempted to determine which events were relevant to the user *in context*, which was itself updated hourly.

10. Once it was determined that an event merited notification, another process, Active Messenger (1999)² would determine which device(s) should receive notification. This was done in part by observing activity on each device, i.e., when had a user most recently accessed his or her account from each device.

¹ Matthew Marx and Chris Schmandt, *CLUES: Dynamic Personalized Message Filtering*, Proc. of the 1996 ACM Conf. on Computer Supported Cooperative Work (CSCW '96), 113-121 (1996).

² Schmandt et al., *Everywhere messaging*, IBM Sys. J., Vol. 39, Nos. 3-4, 660-677 (2000), with Natalia Marmasse, Stefan Marti, Nitin Sawhney, and Sean Wheeler, discussing Active Messenger's device-based and session oriented cascaded event notifications.

The type of device recently used also influenced the manner of notification. For example, if the user was on a desktop computer an important email message may be displayed in its entirety, while if on a pager only the sender and subject line would fit into a single page (the entire message could be retrieved as a series of short pages).

11. In order to maintain privacy, these various applications and device accesses utilized well known authentication techniques, such as passwords evaluated at a centralized credential management server. Additional security was provided based on registered device addresses, such as a mobile phone number or a pager address as used by the POCSAG protocol.

12. My research also included the use of tactile alerts and notifications. As part of a project on autonomous communication intermediaries (2005), we built finger rings which included eccentric motor vibrators and micro switches to silently alert members of a group when one of them was receiving a phone call, and allow the entire group to vote whether to allow the call to go through.³

³ Stefan Marti and Chris Schmandt, *Giving the Caller the Finger: Collaborative Responsibility for Cellphone Interruptions*, Proc. of ACM (CHI 2005), 1633-1636 (2005), describing construction of a vibration enabled wearable ring used for incoming call notifications.

WatchMe⁴ was a wrist worn watch which used GPS to determine location and availability of each member of an intimate group; among other features it allowed one member to communicate with another tactilely by controlling vibration on the other's watch. Additionally, I am an inventor on U.S. Patent No. 7,098,776, titled "Methods and Apparatus for Vibrotactile Communication", filed in 2004.

13. In addition to my own work, part of my responsibility as a principal investigator was to track and maintain contacts with industrial researchers and product developers. In addition to government funding (DARPA, ONR, NSF) I relied on industrial funding through the Media Lab's two research consortia, Digital Life and Things that Think. Many established international communication companies and mobile phone developers participated in frequent visits and brainstorming sessions with my research group. As a result, during this time period I was made aware of industrial trends and emerging standards as well as further looking research agendas.

⁴ Schmandt et al., *WatchMe: communication and awareness between members of a closely-knit group*, Sixth Proc. of Ubicomp 2004, 214-231 (Sept. 2004), with Natalia Marmasse and David Spectre, describing how a person with one watch can send idiosyncratic tactile messages to another.

14. In addition to MIT-centered research, I have also participated in and reviewed for a number of conferences for both the ACM and IEEE. I have had program committee and conference management and conference chairing positions in the ACM CSCW, CHI, UIST, Mobicom, and Ubiquitous Computing conferences. I have served on the editorial board of several professional journals as well.

15. Based on the above experience and qualifications, I have a solid understanding of the knowledge and perspective of a person of ordinary skill (“POSITA”) in this technical field (providing information, including alerts, to a user on one or more of the user’s devices/platforms) since at least 1990.

16. My Curriculum Vitae is submitted herewith as Appendix A.

17. I am being compensated at my standard hourly rate for my study and other work in this matter. I am also being reimbursed for reasonable and customary expenses associated with my work in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony. In the last five years, I have provided deposition or trial testimony in the following matters:

- Blackberry v. *Facebook Inc.*, 2019
- *Bumble Trading Inc.* v. Match Group LLC, 2019
- *Tile Inc.* v. Cellwitch, Inc, 2019

- *Snap Inc. v SRK Technology LLC*, 2019
- *Microsoft v. Speakware*, IPR 2019
- *Microsoft Corp. v. Uniloc 2017 LLC*, 2019
- *Express Mobile v. Shopify*, 2020
- *Walmart v. Sound View Innovations*, 2020
- *Express Mobile v. Wix Ltd.* 2020
- *Motorola Mobility LLC v. Ironworks Patents LLC* 2021
- *Express Mobile v. GoDaddy Inc.* 2021
- *Bumble Trading LLC v. Kinectus LLC* 2021
- *Tile, Inc. v. Linquet Technologies Inc.* 2021
- *Unified Patents, LLC v. Gesture Technology Partners, LLC* 2021
- *Quantum Metric, Inc, Decibel Insight, Ltd., and Decibel Insight, Inc. v. Content Square Israel Ltd.* 2021
- *Facebook, Inc. v. Palo Alto Research Center, Inc.* 2021
- *Meta Platforms Inc. v. AlmondNet Inc.* 2022
- *Apple Inc. v. Zentian Limited* 2022
- *Google LLC v. Mira Advanced Technology Systems Inc* 2022
- *Google LLC v. Robocast* 2023
- *Google LLC v. Buffalo Patents LLC* 2023
- *Samsung Electronics Co., Ltd v. Stanton Techiya, LLC* 2024

- *Roku, Inc. v. AlmondNet, Inc.* 2024
- *LinkedIn v. AlmondNet, Inc.* 2024
- *Google, LLC v. Dialect, LLC* 2024

III. UNDERSTANDING OF PATENT LAW

18. I am not an attorney. For the purposes of this declaration, I have been informed about certain aspects of the law that are relevant to my opinions. My understanding of the law was provided to me by the Petitioner's attorneys.

19. I understand that when considering the scope of the claims of a patent that the patent claim terms should generally be given the ordinary meaning that the terms would have to a person of ordinary skill in the art in question after reading the patent as of the earliest claimed priority date. As discussed below, it is my opinion that the challenged claims are not entitled to the earliest priority date asserted by the '285 patent. However, in my opinion, the meaning of the claim terms would not have materially differed to a person of ordinary skill in the art ("POSITA") whether the claims were evaluated at the time of the earliest claimed priority date (2008) or at the time the application that led to the '285 patent was filed (2011).

20. I understand that the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the term appears, but in the context of the entire patent, including the other claims and the

specification of the application as filed. I further understand that the principal considerations regarding the scope and meaning of the claims are the plain language of the claim (including the surrounding claim language and context), the patent specification, and the prosecution history. I understand that while a claim is to be read in light of the specification, one must generally avoid importing limitations into the claim from the specification. I am also informed that the prosecution history can often inform the meaning of the claim by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be. I applied these understandings when considering the scope and meaning of the claims of the '285 patent.

21. I understand that a prior art reference anticipates an asserted claim, and thus renders the claim unpatentable, if all elements of the claim are disclosed in that prior art reference, either explicitly or inherently (i.e., necessarily present or implied).

22. I further understand that a claim is unpatentable if it would have been obvious. Obviousness of a claim requires that the claim would have been obvious from the perspective of a POSITA at the time the alleged invention was made. I understand that a claim could have been obvious from a single prior art reference or from a combination of two or more prior art references. I understand that an

obviousness analysis requires an understanding of the scope and content of the prior art, any differences between the alleged invention and the prior art, and the level of ordinary skill in evaluating the pertinent art.

23. I further understand that a claim would have been obvious if it unites old elements with no change to their respective functions, or merely substitutes one element for another known in the field, and that combination yields predictable results. While it may be helpful to identify a reason for this combination, I understand that there is no strict requirement of finding an express teaching, suggestion, or motivation to combine within the references. When a product is available, design incentives and other market forces can prompt variations of it, either in the same field or different one. If a POSITA can implement a predictable variation, obviousness likely bars its patentability. For the same reason, if a technique has been used to improve one device and a POSITA would recognize that it would improve similar devices in the same way, using the technique would have been obvious. I understand that a claim would have been obvious if common sense directs one of ordinary skill, without hindsight bias caused by knowledge of the challenged claims, to combine multiple prior art references or add missing features to reproduce the alleged invention recited in the claims.

24. I further understand that certain factors may support or rebut the obviousness of a claim. I understand that such secondary considerations include,

among other things, commercial success of the patented invention, skepticism of those having ordinary skill in the art at the time of invention, unexpected results of the invention, any long-felt but unsolved need in the art that was satisfied by the alleged invention, the failure of others to make the alleged invention, praise of the alleged invention by those having ordinary skill or expertise in the art, and copying of the alleged invention by others in the field. I understand that there must be a nexus—a connection—between any such secondary considerations and the alleged invention. I also understand that contemporaneous and independent invention by others is a secondary consideration tending to show obviousness.

25. I am not aware of any allegations by the named inventors of the '285 patent or any assignee of the '285 patent that any secondary considerations tend to rebut the obviousness of any challenged claim of the '285 patent.

26. I understand that in considering obviousness, it is important not to determine obviousness using the benefit of hindsight derived from the descriptions found in the patent being considered.

27. I understand that Petitioner has the burden of proving unpatentability by a preponderance of evidence, which means that the claims are more likely than not unpatentable.

28. I understand that other challenges to the patentability of a patent, including patent ineligibility, enablement, written description, and definiteness or clarity of claim language, cannot be raised in IPR proceedings before the Board.

29. The analysis in this declaration is in accordance with the above-stated legal principles.

**IV. MATERIALS CONSIDERED AND
INFORMATION RELIED UPON REGARDING '285 PATENT**

30. My opinions are based on my years of education, research, and experience, as well as my investigation and study of relevant materials.

31. As part of my work in connection with this matter, I have studied the '285 Patent and the U.S. Patent and Trademark Office file history of the application that led to the '285 Patent (U.S. Patent Application No. 13/086,274). I have also reviewed the prior art reference cited herein, as well as additional background references.

32. In preparing this declaration, I have reviewed the following materials bearing Exhibit Nos. that I understand are being referenced in the IPR to which my declaration accompanies:

LIST OF EXHIBITS

No.	Description
1001	U.S. Patent No. 8,578,285 ("the '285 patent")
1002	File History of U.S. Patent No. 8,578,285

1004	<i>IBM Rational Application Developer V6 Portlet Application Development and Portal Tools</i> (August 2005) (“WebSphere-Portal”)
1005	Ron Ben-Natan et al., <i>Mastering IBM WebSphere Portal</i> (2004) (“Ben-Natan”)
1006	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration</i> (May 2005) (“WebSphere-Everyplace-1”)
1007	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume II: Application Development</i> (March 2005) (“WebSphere-Everyplace-2”)
1008	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume III: E-Mail and Database Synchronization</i> (April 2005) (“WebSphere-Everyplace-3”)
1009	<i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume IV: Advanced Topics</i> (March 2005) (“WebSphere-Everyplace-4”)
1010	<i>IBM Workplace Web Content Management for Portal 5.1 and IBM Workplace Web Content Management 2.5</i> (January 2006”)
1011	<i>IBM WebSphere Portal Collaboration Security Handbook</i> (December 2004)
1012	<i>IBM WebSphere Everyplace Access Version 4.3 Handbook for Developers</i> (2nd ed. Nov. 2003)
1013	<i>IBM WebSphere Portal V5: A Guide for Portlet Application Development</i> (Jan. 2004)
1014	U.S. Provisional Application No. 61/052,765
1015	U.S. Patent No. 7,376,907 (“Santoro”)
1016	U.S. Patent Application Pub. No. 2008/0256643 (“Jones”)
1017	<i>Microsoft Computer Dictionary</i> (5th ed.) (excerpts)
1018	U.S. Patent No. 5,548,692 (“Cok”)

1019	<i>Microsoft Internet Explorer ResourceKit</i> , Microsoft (1998)
1020	U.S. Patent Application Pub. No. 2007/0174782 (“Russo”)
1021	David Pogue, <i>iPhone The Missing Manual</i> (excerpts) (2007) (“Pogue 2007 (iPhone)”)
1022	David Pogue, <i>Mac OS X Leopard The Missing Manual</i> (excerpts) (2007) (“Pogue 2007”)
1023	Harry Newton, <i>Newton’s Telecom Dictionary</i> (20th ed. 2004) (excerpts) (“Newton 2004”)
1024	U.S. Patent Application Pub. No. 2004/0044736 (“Austin-Lane”)
1025	Affidavit of Nathaniel Frank-White, Records Request Processor at the Internet Archive, dated August 16, 2024
1026	IBM Redbooks, <i>WebSphere Application Server V6 – System Management and Configuration Handbook</i> (Feb. 2005)
1027	Copyright Office Public Catalog: detailed record catalog entry for <i>IBM Rational Application Developer V6, Portlet Application Development and Portal Tools</i> , 1st ed., Registration Number/Date: TX0006234319 / 2005-09-13
1028	Library of Congress Catalog: detailed record catalog entry for <i>IBM Rational Application Developer V6, Portlet Application Development and Portal Tools</i> , LCCN number: 2005284159
1029	Copyright Office Registration for <i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration</i> (May 2005), Registration Number/Date: TX0006244913 / 2005-08-12
1030	Library of Congress Catalog: detailed record catalog entry for <i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volumes I-IV</i>
1031	Copyright Office Public Catalog: detailed record catalog entry for <i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume II: Application Development</i> (March 2005), Registration Number/Date: TX0006170514 / 2005-05-20

1032	Copyright Office Public Catalog: detailed record catalog entry for <i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume III: E-Mail and Database Synchronization</i> (April 2005), Registration Number/Date: TX0006169440 / 2005-06-17
1033	Copyright Office Public Catalog: detailed record catalog entry for <i>IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume IV: Advanced Topics</i> (March 2005)
1034	U.S. Patent Application Pub. No. 2007/0283020 (“Chowdary”)
1035	U.S. Patent Application Pub. No. 2007/0033251 (“Mandalia”)
1036	U.S. Patent No. 8,751,948
1037	WSRP standard 1.0 specification
1038	WSRP standard 2.0 specification
1039	U.S. Patent Application Pub. No. 2007/0130541 (“Louch”)
1040	Claims Listing
1041	U.S. Patent Application Pub. No. 2005/0159823
1042	Copyright Office Public Catalog: detailed record catalog entry for <i>Mastering IBM WebSphere Portal</i> (2004), Registration Number/Date: TX0006003513 / 2004-08-02
1043	Library of Congress Catalog: detailed record catalog entry for <i>Mastering IBM WebSphere Portal</i> (2004), LCCN number: 2004274459
1044	Affidavit of Nathaniel Frank-White, Records Request Processor at the Internet Archive, dated September 20, 2024

V. LEVEL OF SKILL IN THE ART, AND STATE OF THE ART

A. Person Of Ordinary Skill In The Art

33. I understand that several factors are relevant to determining the level of ordinary skill in the art at the time of the claimed invention. I understand that those factors include: (1) the educational level of the inventor(s); (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) sophistication of the technology; and (6) the educational level of active workers in the field.

34. Having reviewed and considered the '285 patent, its prosecution history, the state of the art at the time of the invention, including the level of skill of the person with whom I worked, and the above-listed factors, it is opinion that the person of ordinary skill in the art for purposes of the '285 patent in May 2008 ("POSITA") would have had a bachelor's degree in electrical engineering, computer science, or equivalent, with two or more years of experience developing and implementing graphical user interfaces for controlling server-based applications, including handling asynchronous notifications generated by those applications and web services, such as portal systems, or an equivalent amount of relevant work or research experience. A POSITA would have been familiar with common approaches for presenting information on a graphical user interface, including various layouts for presenting multiple elements, such as icons, widgets,

windows, etc. *E.g.*, EX1004, 2-4; EX1006, 34, 390; EX1015, 6:38–51, 7:31-43, FIG. 1; EX1018, 1:15–19, 3:35–40, FIG. 1; EX1019, xxx, 183; EX1021, 5; EX1022, 22.

35. Further, a POSITA would have been familiar with communication protocols and markup languages commonly used for transmitting information (including notification data) between a server and a user's device(s), such as HTTP, SMS, SMTP, HTML, XML, and RFC822 email headers. Similarly, a POSITA would have had an understanding of Java technologies, XML applications, and Web publishing, along with protocols and techniques for managing and interfacing to remote web objects, including portlets, such as Web Services for Remote Portlets (WSRP). EX1004, xix, 12, 899; EX1024, [0004-5], [0031], [0033], [0048]; EX1023, 402, 702, 760, 933; *see, e.g.*, EX1037 (WSRP 1.0), EX1038 (WSRP 2.0).

36. It was common practice to use SSO and/or other authentication processes to verify the identity of the user and their device to protect the user's privacy. EX1004, 5, 11, 15–16, 51, 630, 639, 900; EX1005, 15, 365–401; EX1006, 5; EX1007, 182–183; EX1009, 327–360; EX1017, 483 (SSO definition), 580 (X certificates). As part of authenticating a user, a POSITA would have understood how to implement a server with an authentication directory (*e.g.*, LDAP) including a plurality of user, device, and application accounts. *Id.*, 310 (LDAP definition) A

POSITA also would have been familiar with techniques to manage users' sessions, for example, to track the lifetime of a given sign-on. EX1004, 134-139, 285; EX1005, 18-19, 164, 228, 233-234, 264, 480-482; EX1006, 28-29, 381-384; EX1024, [0035]. It also was common practice to encrypt communications between a server and a user's device(s) to prevent unauthorized entities from gaining access to the information, thus protecting the user's privacy. EX1004, 11, 630, 899-900; EX1005, 5-6, 380-383; EX1006, 315-337; EX1017, 495; EX1023, 777. A POSITA also would have been familiar with protocols commonly used to authenticate users (e.g., single sign-on or SSO) and encrypt communications (e.g., SSL). *Id.*

B. State Of The Art

37. These cited background references, along with the references relied on in Section VII show the following claim-recited features reflected the general knowledge of a POSITA in 2008.

1. Displaying Secure User-Centric Information Channels (e.g., Icons Representing Computer Applications) In A Grid

38. It was well known in the art to display icons or other graphical representations of user-centric channels (e.g., applications, files, etc.), in a grid. For example, in 1996, more than ten years before the earliest possible effective filing date of the '285 patent, U.S. Patent No. 5,548,692 to Cok disclosed displaying an

ordered set of icons (32) representing files or application programs in a grid arrangement on a computer display (24). *E.g.*, EX1018, 1:15–19, 3:35–40, FIG. 1; EX1020, Abstract, FIGS. 4A–4B.

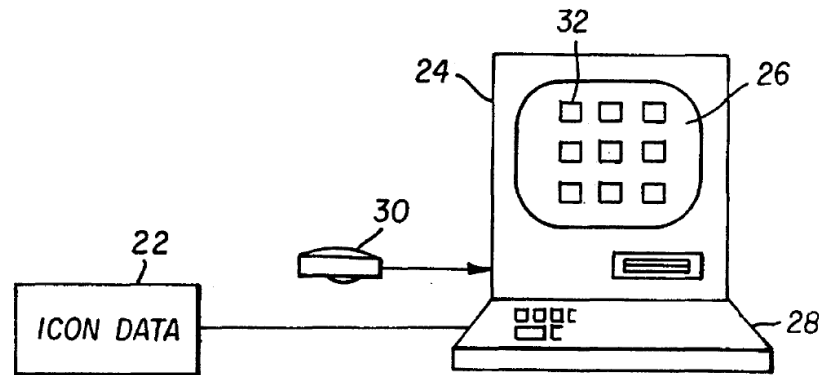


FIG. 1

EX1018, FIG. 1

39. Indeed, numerous references disclosed displaying icons or tiles representing user-centric channels (e.g., information sources, applications) in a grid. For example, Santoro (published in 2004) disclosed displaying tiles representing sources of information in a grid arrangement. EX1015, 6:38–51, 7:31–43, FIG. 1. *See also* EX1019, xxx (showing tiles displayed by Active Desktop), 183.

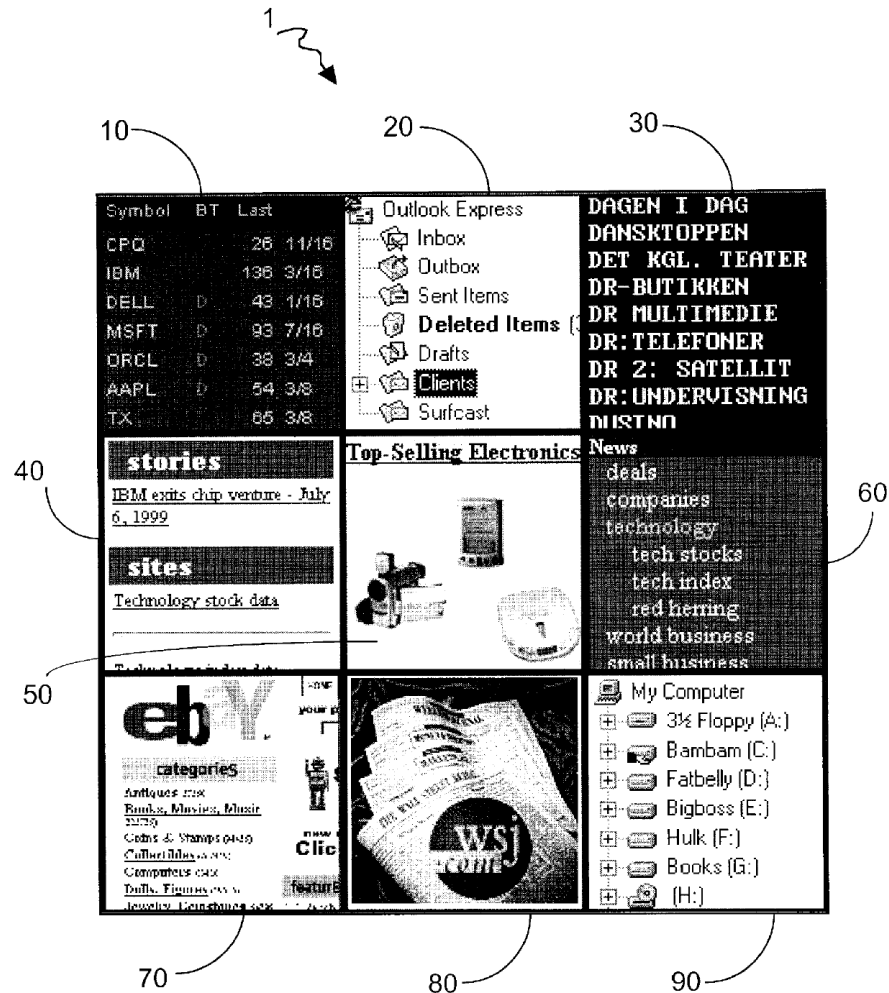


Fig. 1

EX1015, FIG. 1 (showing grid of tiles with access to secure user-centric information such as email, auction bids), FIG. 12 (showing passwords for Tiles), 15:5-11 (describing user password protection for subscription services), 17:2-3 (password features built into tiles), 26:25-26 (passwords stored with user profiles); EX1019, xxx (showing tiles displayed by Active Desktop), 183.

40. Some further examples follow:



Figure 11-4 Running the tool

EX1006, 390;

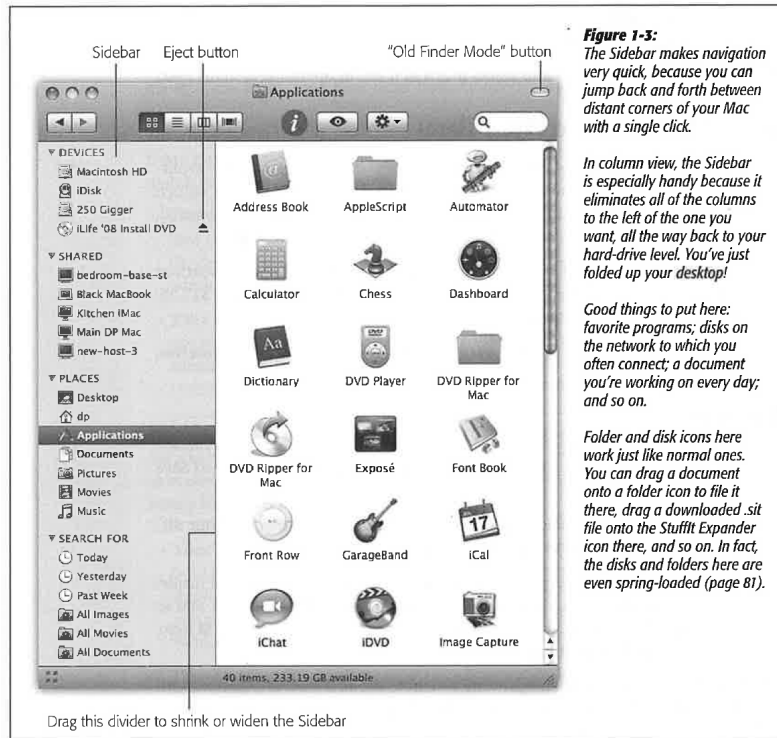


Figure 2-7 Microsoft Exchange PIM portlets

EX1006, 34 (showing icons representing applications for access to secure user-centric information such as e-mail, calendar, contacts in a grid);



EX1021, 5 (showing icons representing applications for access to secure user-centric information such as SMS messages);



EX1022, 22 (Mac OS Sidebar showing icons representing applications in a grid).

41. Louch also disclosed a channel grid for widgets on a dashboard:

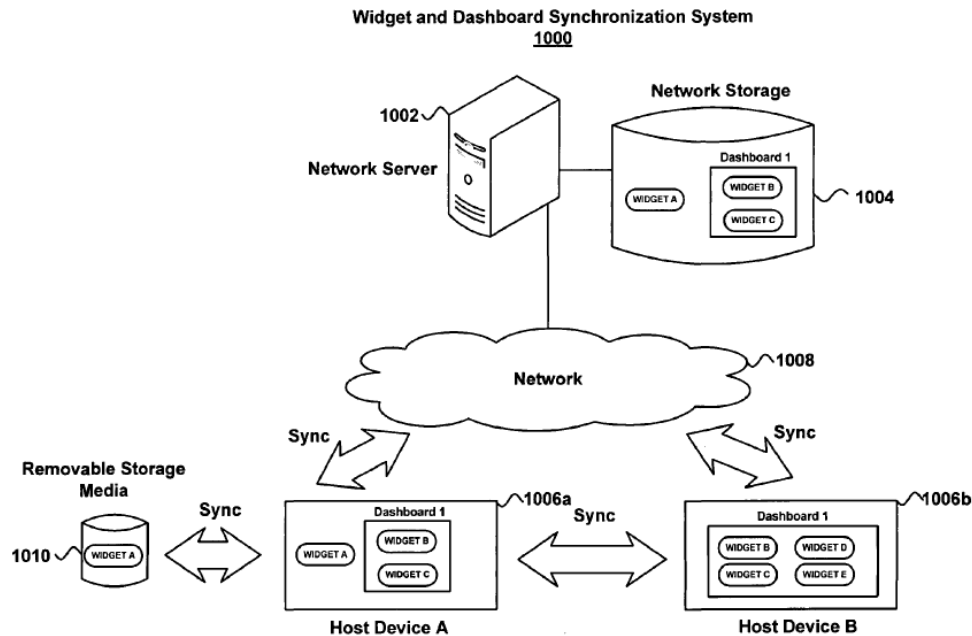


Figure 10

EX1039, FIG. 10.

42. Moreover, it was well known to use security protocols such as secure socket layer (SSL) and Simple Authentication and Security Layer (SASL) to encrypt and/or otherwise secure user-centric information to prevent unauthorized users to view protected information. EX1004, 11, 630, 899-900; EX1006, 315-337; *see also* EX1005, 5, 380-383; EX1017, 495; EX1023, 777.

2. Authenticating A User And/Or A Platform Associated With User

43. Long prior to the challenged claims' earliest possible effective filing date, it was common practice to authenticate users (e.g., via username and password) and/or platforms/devices associated with users to prevent unauthorized access of private or sensitive information. *E.g.*, EX1004, 5, 7, 11, 14-16, 27, 33,

119, 630–631, 899–900; EX1005, xvii, xxix, 17, 21, 242, 256, 270, 365–401, 483–486; EX1006, 5, 182–183, 250–254, 340–341; EX1007, 240; EX1008, 144; EX1009, 3, 9–10, 19–20, 302; EX1024, [0032], [0041].

44. Moreover, it was well known to authenticate users, user’s devices, and/or applications, including as part of a single sign-on (SSO) process, using lightweight directory access protocol (LDAP), tokens (e.g., LTPA tokens), and/or certificates. EX1004, 5, 11, 15–16, 630, 639, 900; EX1005, 15, 365–401; EX1006, 5; EX1007, 182–183; EX1009, 327–360; EX1017, 310, 483, 580; EX1023, 923.

3. Communication Protocols And Markup Languages

45. Communication protocols and markup languages such as HTTP, SMS, SMTP, HTML, XML, and RFC822, were well known before the alleged priority date of the ’285 patent. EX1004, xix; EX1024, [0004-5], [0031], [0033], [0048]; EX1023, 402, 702, 760, 933-934. For example, in 2002, Austin-Lane described XML and HTML as “standard” (EX1024, [0031]), and described how existing systems used, *inter alia*, email, SMS, and TCP/IP communication protocols to deliver electronic content and messages (EX1024, [0004]).

VI. CLAIM CONSTRUCTION

46. I understand that, in *inter partes* review (IPR), claim terms should be given the ordinary meaning that the terms would have to a person of ordinary skill

in the art on the earliest effective filing date, in view of the specification and file history.

47. Unless otherwise expressly discussed, I apply the plain and ordinary meaning of all claim terms for this declaration. I reserve the right to offer my opinion on any constructions or construction issues present by Patent Owner Cyandia, Inc.

A. Proposed Constructions

1. “Channel”

48. For this declaration, I apply the following constructions:

“**Channel**” should be construed as: “a mechanism for providing the user access to and interaction with the user-centric information, comprising a visual component on the at least one user platform and an information delivery component on a server.”

49. It is my opinion that the claim-recited “channels” should be construed as “a mechanism for providing the user access to and interaction with the user-centric information, comprising a visual component on the at least one user platform and an information delivery component on a server” for several reasons.

50. The non-provisional '285 application does not define “channel” but states that “channels may be preconfigured and may contain any information format,” provides non-limiting examples, and states “channels may be represented

in 2D or 3D form across multiple type of platforms.” EX1002⁵, 18-19; EX1001, 4:14-35.

51. A related child patent of the '285 application, U.S. Patent No. 8,751,948 (EX1036), states that the channel is a “mechanism ... for providing the user access to and interaction with ... information” and that it comprises “two pieces (1) a visualization piece that is presented on the client device (e.g., user devices 118) and (2) the integration piece residing at the server (e.g., application server 110).” EX1036, 8:60-9:3. The visual component on the user device “is formed of a touchlet 212 and a channel application 214.” EX1036, 9:25-27; *see also id.*, 9:12-20, 9:30-39, 9:57-61, 11:36-44, 12:1-4. The touchlet is, for example, a user-selectable icon that “may serve as an icon to launch its associated channel application 214 to full screen mode.” EX1036, 12:3-4. The channel application 214 “manage[s] the visual rendering of at least some of the channel-specific information on a GUI of a user device 118.” EX1036, 9:46-49. The integration piece residing at the server comprises one or more service components that “retrieve the information 122 from the authorized information source(s) 114 and securely provide the retrieved information 122 to any visual components 210 of a

⁵ EX1002 citations to page numbering are added by Petitioner.

channel 200 for display to [a] user.” EX1036, 10:2-5. In addition to visual information, the information may be auditory or tactile. EX1036, 9:39-43.

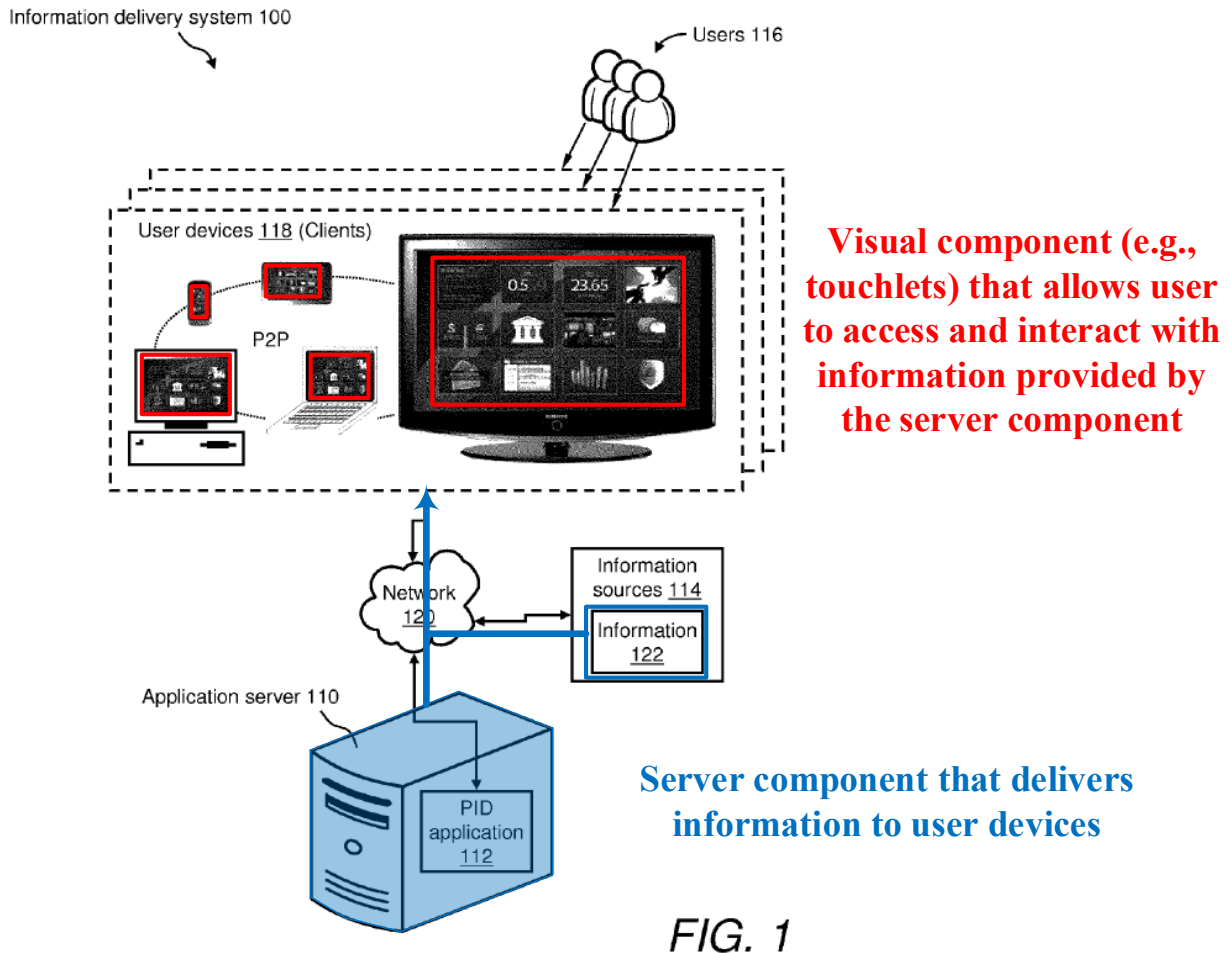


FIG. 1

EX1036, FIG. 1 (red and blue annotations added).

52. Thus, the channel’s server-side integration component and user-side visual component together “provid[e] the user access to and interaction with, for example, information 122 and/or any other information.” EX1036, 8:60-62.

53. While the ’948 patent issued from a continuation-in-part application, there is no indication that the applicants intended to change the meaning of

“channel” in that application compared to their ancestor applications including the application issuing as the ’285 patent.

54. The ’285 patent claims priority to the provisional ’765 application, which incorporates a document titled the 6thSpace Graphical User Interface and Portal Framework, which states: “Channels are dynamic icon-like applications that can launch other applications, receive data about other applications, display streaming data (text, video & audio). Channels can be animated or static and can display images and/or text.” EX1014⁶, 20.

VII. GROUND 1: THE CHALLENGED CLAIMS ARE OBVIOUS OVER THE WEBSPHERE-COMBINATION (WEBSPHERE-PORTAL, WEBSPHERE-EVERYPLACE, AND BEN-NATAN)

55. In my opinion, claims 1-10, 13, 17-18, and 36-42 are obvious the combination of WebSphere-Portal, Ben-Natan, and WebSphere-Everyplace (hereinafter “WebSphere-Combination”). WebSphere-Combination discloses or renders obvious every element in the challenged claims and the claimed combination of those elements.

A. Brief Overview Of The Prior Art

56. In short, WebSphere-Portal teaches implementation of IBM WebSphere Portal (“Portal”), which provides users with a personalized,

⁶ EX1014 citations to page numbering are added by Petitioner.

customizable framework for connecting to a range of enterprise content and applications (EX1004, 4). Ben-Natan also describes the functions and features of Portal. EX1005, xxv-xxx, 3-23. WebSphere-Everyplace teaches that WebSphere Everyplace Access (“WEA”) complements Portal by enabling mobile access to Portal’s enterprise content and applications (*e.g.*, EX1006, 4). In essence, Portal and WEA work together to extend enterprise applications and data to mobile users, providing an integrated experience across various devices.

57. WebSphere-Combination—WebSphere-Portal (EX1004), Ben-Natan (EX1005), and WebSphere-Everyplace (EXS1006-1009)—are books describing aspects of the same IBM product: WebSphere. *E.g.*, EX1004, (a); EX1005, xxvi, 4; EX1006, (a); EX1007, (a); EX1008, (a); EX1009, (a). WebSphere-Portal and WebSphere-Everyplace are part of IBM’s Redbooks, which I was aware of in 2008 through my work in the field. Moreover, it is my opinion that POSITAs in 2008 were aware of and/or used IBM’s Redbooks and would have looked to these Redbooks for guidance when developing portal systems. WebSphere-Portal and Ben-Natan primarily explain how to design, develop, and implement WebSphere Portal, an aspect of the WebSphere product that allows users to access information from a plurality of sources on a single user interface (a Portal Page). EX1004, xix, 4-51; EX1005, xxvi-xxx, 3-4, 7-12, 276, 473-480; EX1006, xi, 5-6, 25, 27-29. Ben-Natan and WebSphere-Everyplace also describe another aspect of the

WebSphere product, Everyplace Access (aka “WEA”), which “extend[s] [P]ortal functionality to mobile devices,” allowing users to leverage Portal functionality from virtually everywhere, hence the name “Everyplace.” EX1005, 479; *see also id.*, 473-476, 480; EX1006, 1-5, 25, 27-29.

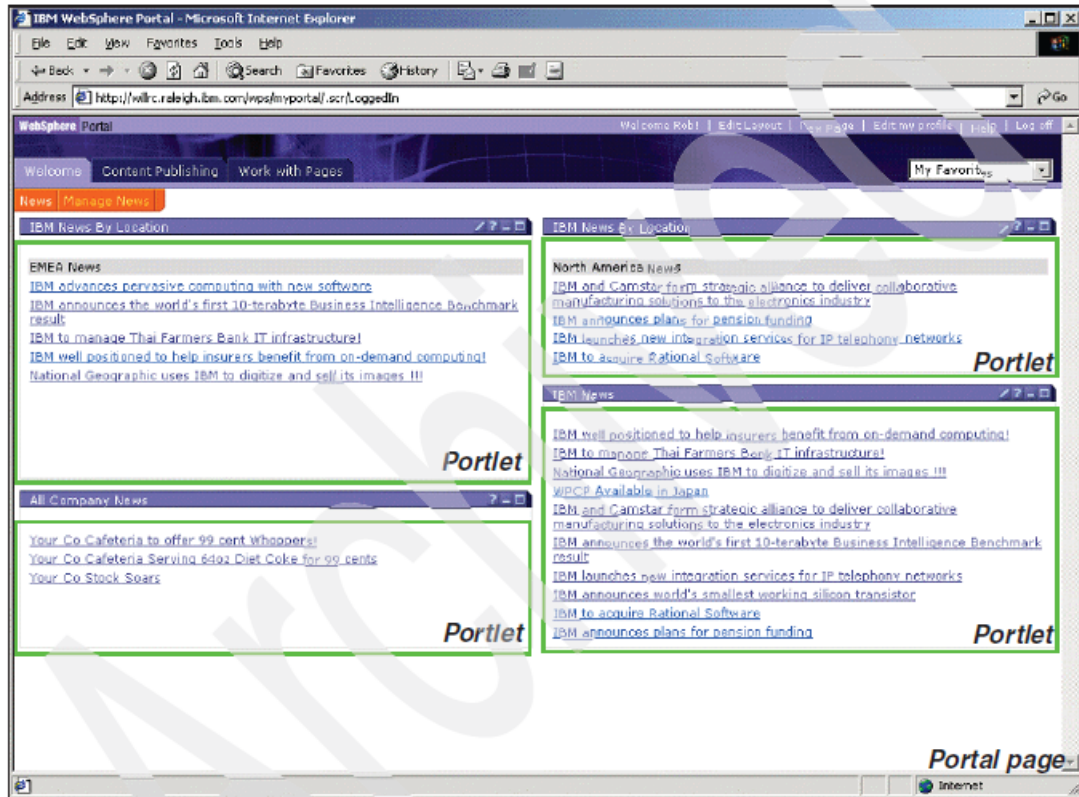


Figure 2-1 Portal page and portlets

EX1004, 49 (showing a Portal Page comprising a plurality of portlets, each of the portlets containing links to additional information).



Figure 2-7 Microsoft Exchange PIM portlets

EX1006, 34 (showing a WEA Portal Page displayed on a mobile device comprising portlets for accessing various Microsoft Exchange applications).

58. To access their account from one of their devices, the user first logs in with a username and password, such as using a single sign-on (SSO) process. *E.g.*, EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642; EX1005, 15, 195-196, 225-226, 270, 382-401; EX1006, 5, 30-33, 311, 378; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184; EX1009, 289-290, 314, 324-355.



Figure 21-16 Running Edit mode of the portlet

EX1004, 665.

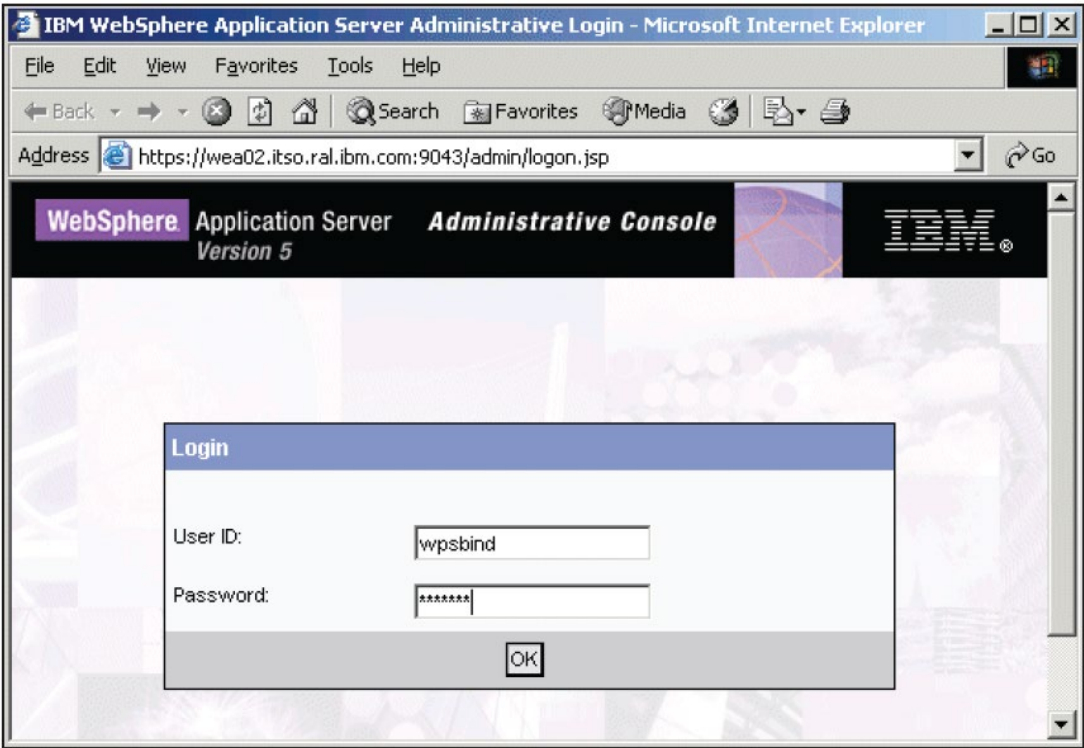


Figure 10-16 WebSphere Everyplace Access Login

EX1009, 347.



Figure 10-19 Login to WebSphere Everyplace Access

EX1007, 321.

59. Once logged in to their account, the user is presented with a grid of portlets. *E.g.*, EX1004, 28-29, 49, 60; EX1006, 30, 34; EX1008, 66-67, 182.

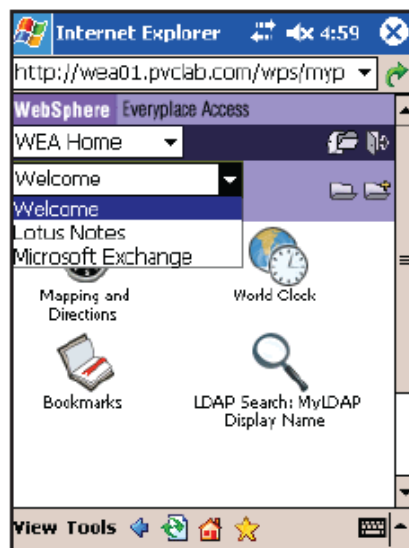


Figure 2-74 Welcome page (after login)

EX1008, 182.

60. The user can customize their profile, including modifying the layout and theme of their Portal Page(s). *E.g.*, EX1004, 18-20, 30, 58-64, 95, 247, 935-989, 1000 (“To rearrange portlets ... click the Show tools icon. This action produces tools that allow you to arrange and remove portlets. Click Edit page to add new portlets or change page layout.”); EX1005, 143-177; EX1006, 41-67.

61. The user also can set up alerts, such as a stock price alert. *E.g.*, EX1006, 9-11; EX1009, 1-10, 19-25, 29-33, 40-50, 80-82.

Figure 1-31 Configure the stock subscription

EX1009, 44 (showing a user configuring to be alerted when stock CK drops below a stock price of 50); *see also id.*, 41.

62. The user is alerted via one or more of a plurality of notification methods, including a message within the message center portlet of the WebSphere application, an email, an instant message, and a text message to a mobile device. EX1009, 2, 7-14, 20-25, 29-44, 48-50.



Figure 1-35 Stock notification received

EX1009, 48 (red annotations added) (showing receipt of an alert/notification within the WebSphere application).

6. You can select the new message to see the details (as shown in Figure 1-36).

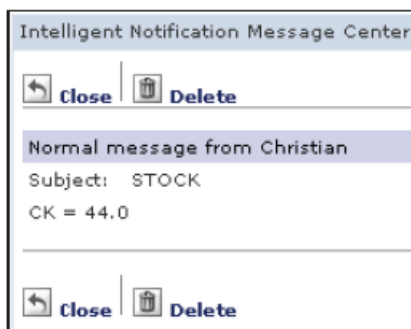


Figure 1-36 Stock notification details

EX1009, 48 (showing details of the received alert/notification: the stock CK dropped to a price of 44, below the user-set threshold of 50).

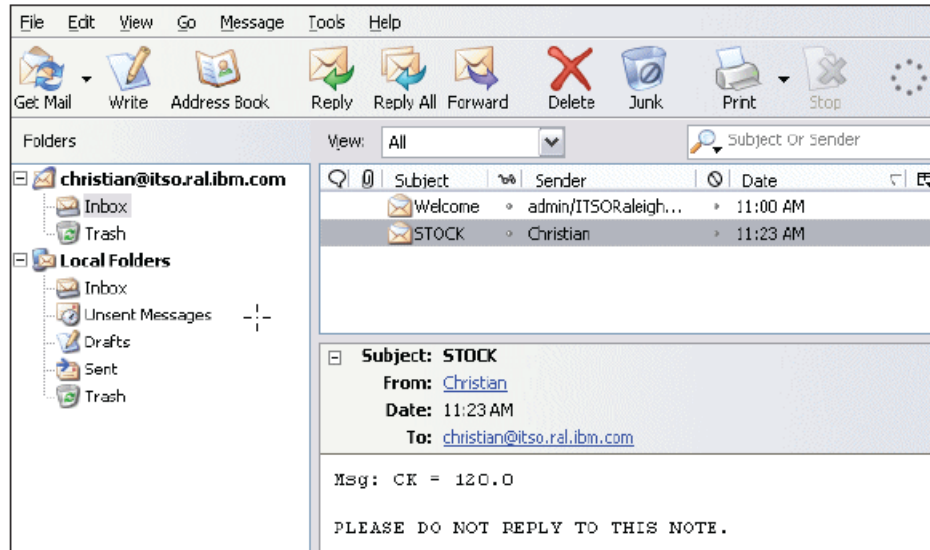


Figure 1-37 Stock notification to e-mail account

EX1009, 49 (showing an alert sent to a user's email).



Figure 1-38 Stock notification in the BlackBerry emulator

EX1009, 50 (showing an alert sent to a user's Blackberry).

63. Information (which includes alerts/notifications) is provided to the user based on their role (e.g., users, privileged users, editors, managers,

administrators, etc.) and is secured (e.g., encrypted) using a security protocol such as Secure Socket Layer (SSL). *E.g.*, EX1004, 5, 11, 19-20, 630, 899-900; EX1005, 5, 193, 380-383; EX1006, 315-337; EX1008, 234; EX1009, 277. A user's session is also tracked, such as by a Portlet Session Listener (*e.g.*, EX1004, 134-139, 285; EX1005, 264), and the user's online status (*e.g.*, on an instant message service) is provided to other users (*e.g.*, EX1005, 18-19, 164, 228, 233-234, 480-482; EX1006, 28-29, 381, 384).

1. WebSphere-Portal (EX1004)

64. In my opinion, WebSphere-Portal is analogous art to the '285 patent because they both relate to "interacting with multiple information forms across multiple types of computing devices and platforms." EX1001, Abstract, 1:27-32; EX1004, 4, 7.

2. Ben-Natan (EX1005)

65. In my opinion, Ben-Natan is analogous art to the '285 patent because they both relate to "interacting with multiple information forms across multiple types of computing devices and platforms." EX1005, xxv-xxx, 3-23, 241; EX1001, Abstract, 1:27-32.

3. WebSphere-Everyplace (EX1006-EX1009)

66. In my opinion, WebSphere-Everyplace is analogous art to the '285 patent because they both relate "interacting with multiple information forms across

multiple types of computing devices and platforms.” EX1001, Abstract, 1:27-32; EX1006, 2, 6; EX1007, 4; EX1008, 2; EX1009, 2.

67. I note that WebSphere-Everyplace references each volume and includes the note: “This IBM® Redbook is part of a series of four volumes related to WebSphere® Everyplace® Access V5.0. These Redbooks™ will help you plan, install, administer, and develop mobile applications to run in a WebSphere Everyplace Access V5.0 environment.” EX1006, xi; EX1007, xi; EX1008, ix; EX1009, xi.

4. Combining Websphere-Portal With Websphere-Everyplace And Ben-Natan

68. In my opinion, a POSITA would have been motivated with a reasonable expectation of success to combine the teachings of the three WebSphere references (WebSphere-Portal, Ben-Natan, and WebSphere-Everyplace, collectively referred to as “WebSphere-Combination”) (WebSphere-Portal, Ben-Natan, and WebSphere-Everyplace, collectively referred to as “WebSphere-Combination”). *E.g.*, EX1004, xix; EX1005, xxvi; EX1006, xi, 27-29. Moreover, WebSphere-Portal expressly identifies WebSphere-Everyplace as a related publication (EX1004, 1005) and both are IBM Redbooks that share at least one common author (EX1004, (b)-(c), xix-xx; EX1006, (b)-(c), xi-xiii; EX1007, (b)-(c), xii; EX1008, (c)-(d), ix-x; EX1009, (c)-(d), xii). Ben-Natan, in turn, provides “Expert Guidance” on building and deploying the same Portals described in

WebSphere-Portal and WebSphere-Everyplace. EX1005, (i); *see also id.*, 1-22, 473-493.

69. Indeed, the WebSphere references have the same or similar descriptions of Portal and its functionality, including that Portal comprises portlets (e.g., windows, icons, etc.) that are assembled into portal pages and provide access to information of interest to a user. *Compare* EX1004, 8 (“Portlets are assembled into portal pages” and “combine Web-based content, application functionality and access to resources”) 21-31 *with* EX1005, xviii, 7-9, 241 (“[P]ortlets [] are arranged on the portal page in a grid Common examples of portlets are portal applications that show the local weather forecast, the stock ticker, or a user’s email.”), 242 *with* EX1006, 6 (“Portlets are visual windows that organize content from different sources, such as Web sites, e-mail, and business applications, into a single interface for individual or group access. ... They are application that ... run inside the Portal Container of the Portal”). Thus, when implementing or evaluating WebSphere Portal, a POSITA would have looked to the teachings of all three of these references to obtain a more comprehensive and complete understanding of the WebSphere Portal system, its features, capabilities, and interoperability of its corresponding modules, and how to implement it.

70. A POSITA would have been especially motivated to combine the teachings of WebSphere-Everyplace and Ben-Natan on WebSphere Everyplace

Access (WEA) with the teachings of WebSphere-Portal and Ben-Natan on WebSphere Portal because, as explained by Ben-Natan, WebSphere Everyplace Access “extend[s] [P]ortal functionality to mobile devices,” providing the benefit of allowing users to leverage Portal functionality from virtually anywhere.

EX1005, 479; *see also id.*, 473-476, 479-480; EX1006, 1-7, 20, 25, 27

(“Everyplace Access extends the functionality of the Portal offering by providing specialized portlets for mobile devices.”), 28-29. Moreover, WebSphere-Portal expressly refers to WebSphere-Everyplace. EX1004, 1005. Both are Redbooks published by the same company—IBM—and share at least one author in common. EX1004, (b)-(c), xix-xx; EX1006, (b)-(c), xi-xiii; EX1007, (b)-(c), xii; EX1008, (c)-(d), ix-x; EX1009, (c)-(d), xii. WebSphere Portal and WEA also use the same application server—WebSphere Application Server—to implement Portal, further confirming Portal and WEA’s interoperability. EX1004, 8, 17-18, 21, 32; EX1005, 5, 442; EX1006, 3-4, 6, 22.

71. A POSITA would have reasonably expected to succeed in combining the teachings of these three references at least because the teachings are compatible with one another and were intended to be combined as part of the same system (WebSphere Portal). EX1004, 1005; EX1005, 473-476, 479-480; EX1006, 1-7, 20, 25, 27-29. For example, the three references disclose the same compatible features, including arranging portlets in a grid on a Portal Page (*e.g.*, EX1004, 28, 49;

EX1005, 241; EX1006, 30, 34), enabling a user to sign in to their account with single sign-on (SSO) (*e.g.*, EX1004, 7, 630; EX1005, 382-401; EX1006, 5; EX1007, 182-187), and using Secure Socket Layer (SSL) to encrypt information relayed between the servers and the user devices (*e.g.*, EX1004, 899-900; EX1005, 380-383; EX1006, 315-337). That is, a skilled artisan would not have expected any incompatibilities between the teachings of the three WebSphere references relied on herein. To the extent Patent Owner argues that WebSphere-Everyplace and WebSphere-Portal relate to different version numbers of Portal, a POSITA would have reasonably expected WebSphere Portal to be backwards-compatible with an earlier version of WebSphere-Everyplace, especially since WebSphere-Portal expressly refers to WebSphere-Everyplace. EX1004, 1005. WebSphere-Everyplace-1 illustrates the intended combination of Portal with WEA in Figure 1-2. EX1006, 5. As seen below, WEA adds mobile services (shown in the yellow box) to WebSphere Portal, including PIM (personal information management) & e-mail sync, database sync, notification services, location awareness, offline content access, messaging services, and device services:

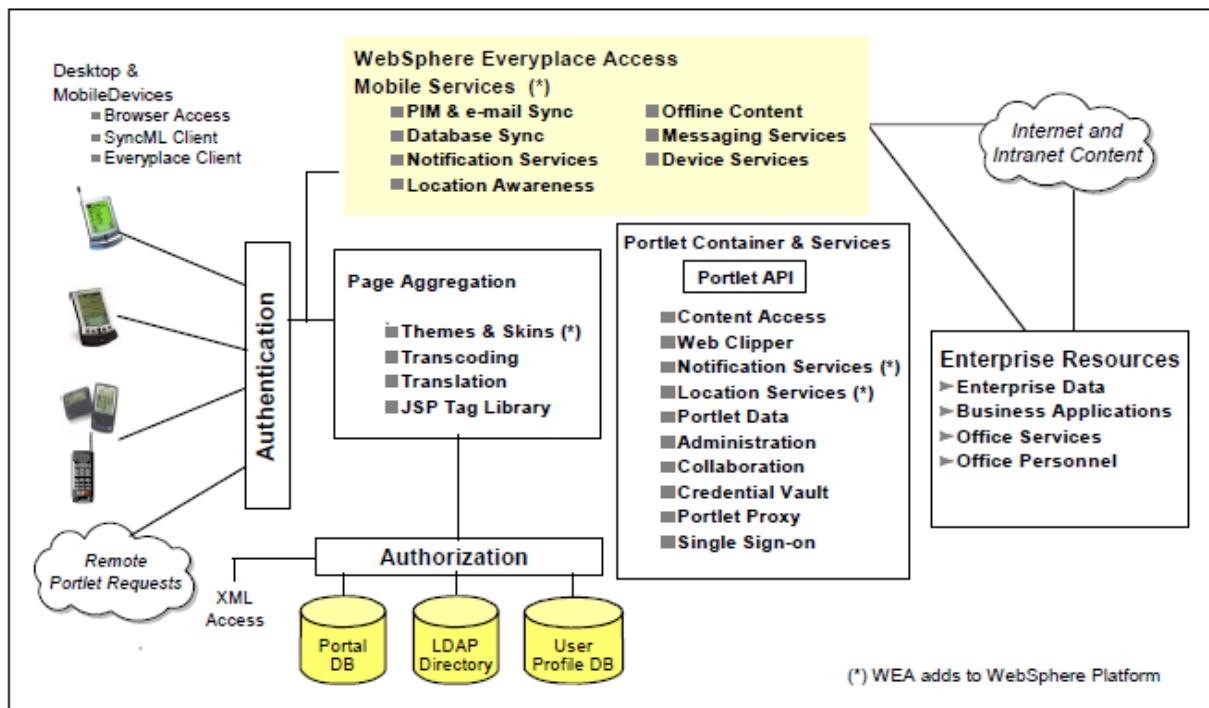


Figure 1-2 WebSphere Everyplace Access server

EX1006, 5 (yellow box in original). WebSphere-Everyplace-1 explains that WEA “builds on the services provided by both WebSphere Application Server and WebSphere Portal technology and provides the additional services needed for mobile computing solutions. [WEA] uses many common services provided by the Portal technology, as shown in the Page Aggregation and Portlet Container & Services boxes within Figure 1-2”).

B. The Prior Art Teaches All Elements Of Each Challenged Claim

72. As further explained below, WebSphere-Combination (the combination of WebSphere-Portal, Ben-Natan, and WebSphere-Everyplace) discloses or renders obvious every element in the challenged claims and the claimed combination of those elements. More specifically, WebSphere-

Declaration of Christopher M. Schmandt

Combination combines the teachings of WebSphere-Portal and Ben-Natan regarding the components, structures, functions and operations of Portal with the teachings of WebSphere-Everyplace regarding the components, structures, functions and operations of WEA and their relationship and interactions with Portal.

1. Claim 1

[1.1]⁷ An apparatus to provide secure user-centric information via a plurality of user platforms operated by a user, the apparatus comprising:

73. In my opinion, WebSphere-Combination teaches this element.

74. WebSphere-Combination discloses an apparatus (one or more “server[s]”) that provides secure user-centric information (encrypted information such as alerts, financial (e.g., stock) information, weather information, email, news, etc., that a user can access only after signing into their account) via a plurality of user platforms (“client” or “client device” such as a desktop computer/workstation, notebook/laptop computer, cellular/mobile phone, PDA, etc.) operated by a user. EX1004, 2 (“Personalization enables the portal to deliver user-specific information targeting a user based on their unique information.”), 4-11 (“Portal allows users to view content on multiple devices ...”), 39, 42-43, 48-

⁷ Reference numbers in the format of [claim#.element#] are added throughout for ease of reference.

49, 116, 152-154, 630, 899-900, 956, 995; EX1005, 4-8, 16, 141, 164, 241, 473-479, 495; EX1006, 4-7, 25, 41-42, 310-311, 316; EX1007, 23, 209; EX1008, 2, 305; EX1009, 2-3, 30, 58, 80, 159; *see also* EX1026, 7.

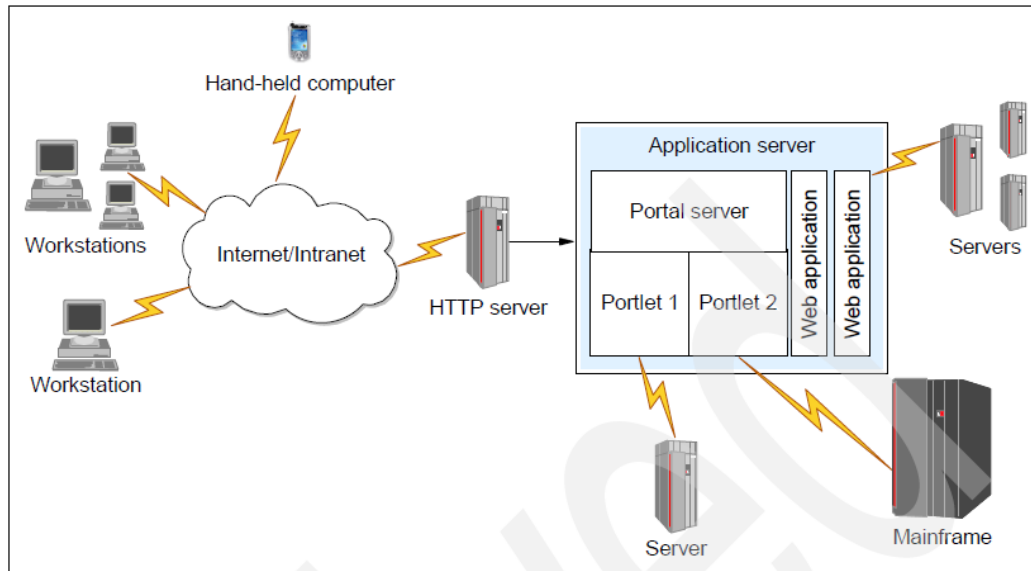


Figure 1-13 Portal Solutions - portlet to remote application

EX1004, 43 (showing one or more servers providing secure user-centric information to a plurality of user platforms); *see also id.*, 5, 10, 14, 18, 39, 42, 995; EX1005, 16, 26, 43-44; EX1006, 3, 5, 24, 41, 237; EX1008, 2; EX1009, 3, 359-360.

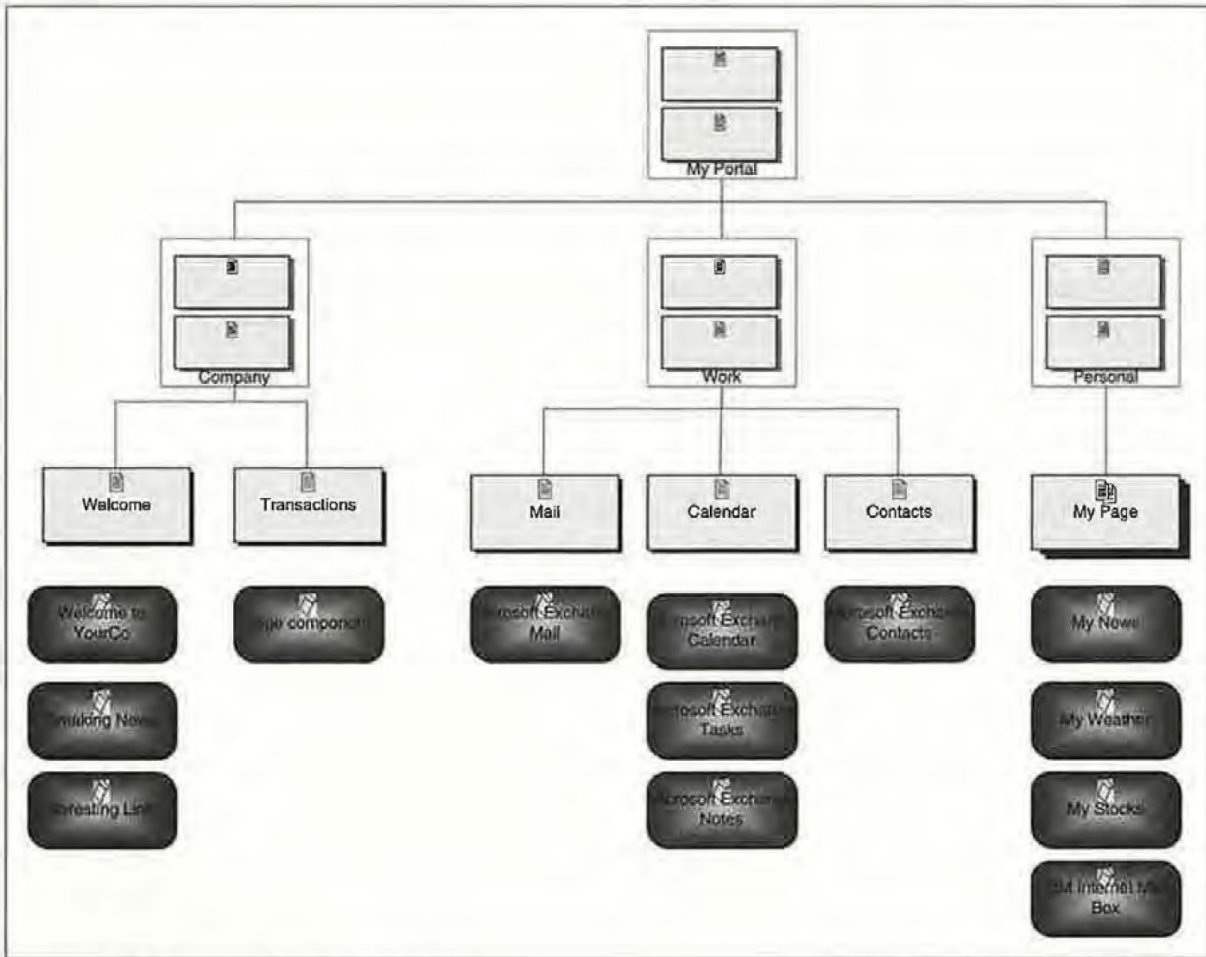


Figure 7-11 New Portal structure.

EX1005, 141 (showing examples of secure user-centric information provided to the user platforms, including, “news,” “email,” “contacts,” “notes,” “weather,” “stocks,” etc.); EX1004, 49; EX1006, 34; EX1008, 182. WebSphere-Combination discloses using secure socket layer (SSL) to encrypt communications (including the secure user-centric information) between the apparatus and the plurality of user platforms. EX1004, 11, 630, 899-900; EX1005, 380-383; EX1006, 22, 315-337; EX1008, 234; EX1009, 277. This “enables secure message communication between servers and clients over the Internet.” EX1004, 899. WebSphere-Declaration of Christopher M. Schmandt

Combination also discloses requiring a user to log into their account, e.g., using single sign-on (SSO) before they can gain access to secure user-centric information. EX1004, 5, 7, 11, 27, 33, 51, 76, 134-137, 630, 642; EX1005, 15, 195-196, 225-226, 270, 382-401; EX1006, 5, 30-33, 310-311, 378; EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184; EX1009, 289-290, 314, 324-355. Moreover, it was well known to use security protocols to encrypt communication (*supra* Section V.B.1) and to require a user to log into their account (*supra* Section V.B.2).

75. WebSphere-Portal thus discloses that Portal functions on a computer system (apparatus) that provides users with information access across multiple user platforms. EX1004, 5-11 (“Portal ... provid[es] tooling for aggregating and personalizing Web-based content and making that content available via multiple devices.”), 14, 18 (“Portal itself installs as an Enterprise application in WebSphere Application Server.”), 39, 995. WebSphere-Everyplace teaches extending this functionality to mobile user platforms. *E.g.*, EX1006, 4-7, 25 (“[Portal] can be used to support the always connected employees while [WEA] can be used to support mobile employees); EX1007, 23, 209; EX1008, 305; EX1009, 159.

76. WebSphere-Portal thus teaches Portal provides secure user-centric information. EX1004, 7 (“Portal ... allows the end user to interact with enterprise applications ... and [provides] Single Sign-On, security ... [and] support for

mobile devices. ... Portal provides a single, secure, interacting point of access to ... information”), 630. A POSITA would have understood that Portal’s use of security, e.g. Single Sign-On, established a user session making content or data available to a particular user after their identity is established. WebSphere-Everyplace teaches extending this security to a user’s mobile devices. *E.g.*, EX1008, 2 (“[WebSphere’s Everyplace Synchronization Server] utilizes WebSphere Portal Server for user management, security, server administration, and definition of user synchronization preferences.”).

[1.2] at least one communication interface to facilitate wired and/or wireless communications with the plurality of user platforms via one or more transmission media;

77. WebSphere-Combination teaches this element.

78. Although WebSphere-Combination does not use the words “communication interface” or “transmission media,” a POSITA would have understood or found it obvious that the apparatus includes at least one communication interface (e.g., wireless transceiver, ethernet port and associated electronics to send and receive appropriate electrical or optical signals on the medium attached to the port) to facilitate wired and/or wireless communication with a plurality of user platforms via one or more transmission media (e.g., ethernet cable, electromagnetic radiation) at least because the WebSphere-Combination discloses that the apparatus communicates over the Internet using one

or more communication protocols, including TCP/IP, 802.11, and HTTP. EX1004, 10-11, 42-43, 56, 81, 102, 997; EX1005, 13, 16, 26-27, 43-44, 71, 74, 324, 476, 482-483; EX1006, 3, 101, 113-114.

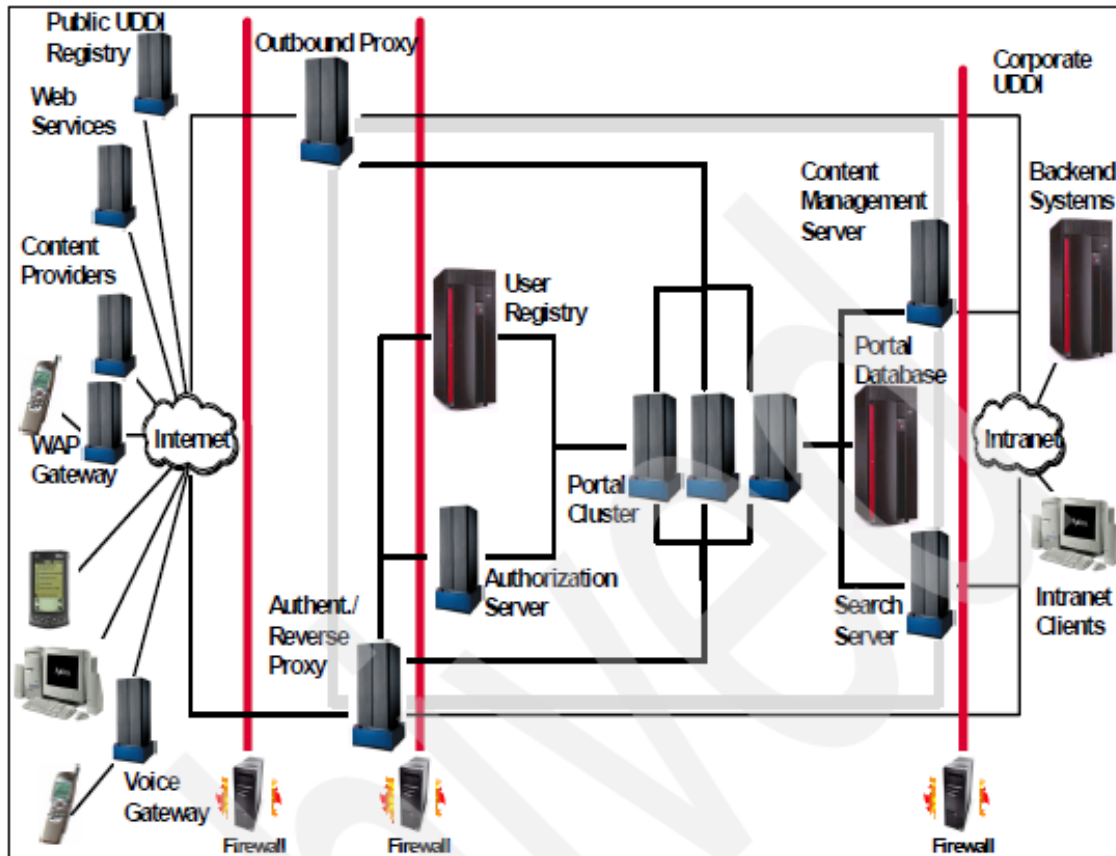


Figure 1-3 Distributed Portal system

EX1004, 10.

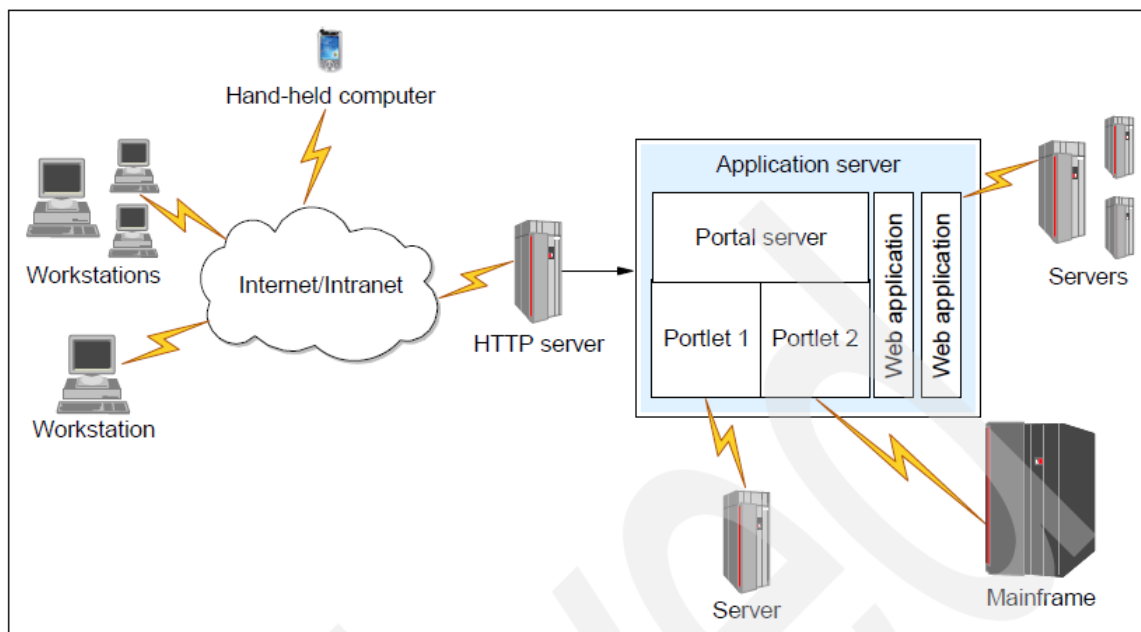


Figure 1-13 Portal Solutions - portlet to remote application

EX1004, 43.

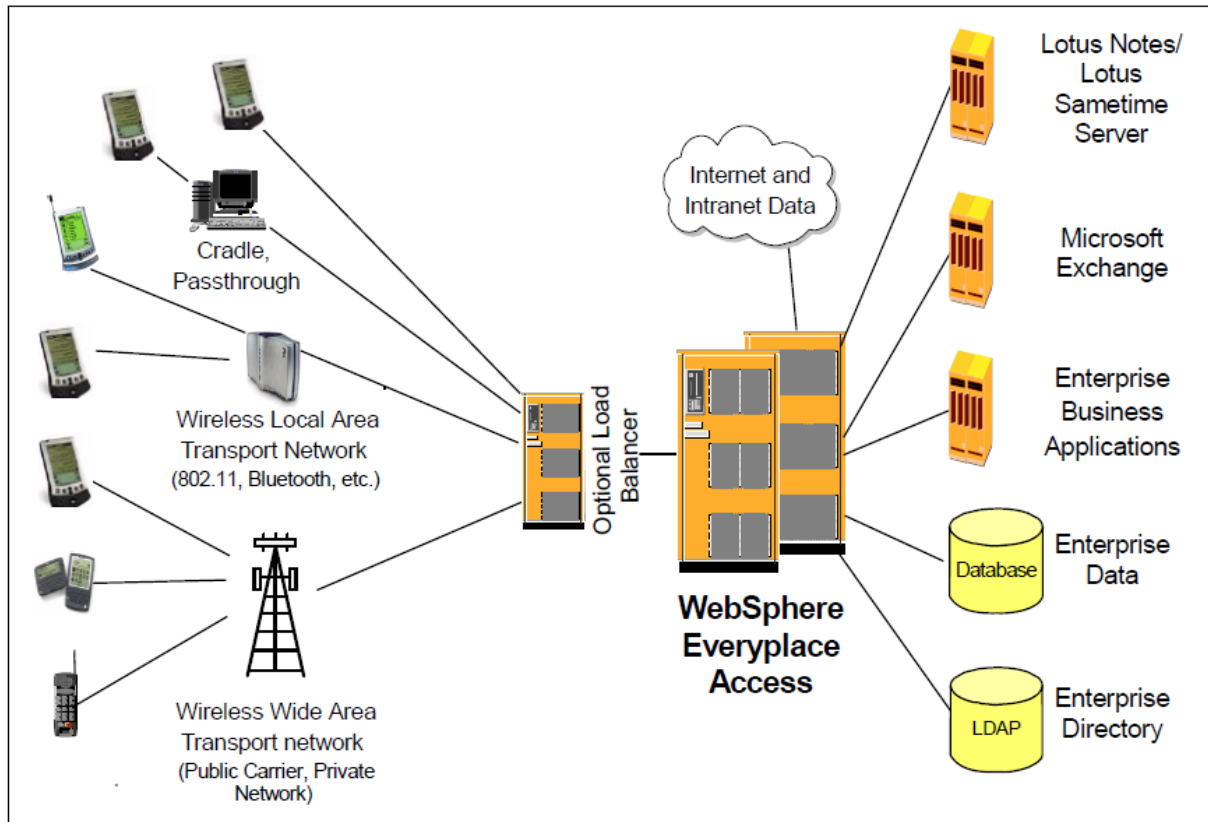


Figure 1-1 Logical view of mobile computing with WebSphere Everyplace Access

EX1006, 3. Indeed, that WebSphere-Combination teaches encrypting communications using SSL—an encryption systems used to “ensure privacy when information is sent across the Internet”—confirms that the apparatus and user platforms communicate over the Internet. EX1004, 11.

79. WebSphere-Combination also discloses communicating over a wireless network. *E.g.*, EX1006, 3. To perform these communications over a wireless wide area network and/or the Internet, a POSITA would have understood or at least found it obvious that the apparatus includes a communication interface at least because they understood that a communication interface is needed to

communicate over a wide area network and the Internet. For example, a POSITA would have understood that for a wired connection, the apparatus (one or more servers) includes a port (e.g., ethernet port) that connects to the Internet via a cable (e.g., ethernet cable), and for a wireless connection, the apparatus (one or more servers) includes a wireless transceiver that emits electromagnetic radiation.

EX1041.

80. Moreover, a POSITA would have understood or at least found it obvious that the apparatus includes a communication interface to perform at least the other disclosed types of communications, including email over SMTP and texting over SMS, at least because these types of communications also require a communication interface. EX1006, 5, 10, 47-48, 399.

[1.3] at least one memory to store processor-executable instructions; and at least one processor communicatively coupled to the at least one communication interface and the at least one memory, wherein upon execution of the processor-executable instructions by the at least one processor, the at least one processor establishes a user session to manage provision of and interaction with the secure user-centric information by:

81. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Portal teaches how Portal uses memory storing processor-executable instructions (software) with a processor communicatively coupled to Portal's communication interface that, upon execution, establishes a user session for managing and interacting with secure user-centric information.

Memory, Processor-Executable Instructions, Processor

82. WebSphere-Combination discloses that the apparatus includes at least one memory (“2 GB of memory at a minimum”) and at least one processor (“Pentium 4 processor”) (EX1005, 26, 44, 237; EX1004, 8, 16-18, 102, 1004; EX1006, 24, 237) and that the apparatus (one or more servers) runs WebSphere software (*e.g.*, EX1004, 155-201; EX1005, 65-103; EX1007, 3-21; EX1009, 79-138); *see also* EX1013, 502. A POSITA would have understood or at least found it obvious that the at least one processor is communicatively coupled to the at least one communication interface and the at least one memory at least because it would need to be to be able to perform the WebSphere-Combination’s disclosed functionality. Moreover, a POSITA would have known that computers (including servers) work by fetching processor-executable instructions from memory and that the apparatus (one or more servers) would not be able to perform its intended computing functions without such memory and processor-executable instructions. For at least this additional reason, a POSITA would have understood or found it obvious that the apparatus (one or more servers) includes at least one memory storing processor-executable instructions. *See, e.g.*, EX1041.

83. WebSphere-Portal discloses Portal is software installed on computer memory with a processor, communicatively coupled to Portal’s communication interface: “Portal itself installs as an Enterprise application in WebSphere

Application Server.” EX1004, 18. WebSphere-Portal states that Portal “consists of pre-integrated software ... built on the award-winning WebSphere Application Server 5.1 platform” and “[g]ives users a content publishing and personalization interface.” EX1004, 8, 16-18.

Establishing a User Session

84. WebSphere-Portal teaches how the Portal system’s processor executes Portal software to establish a user “session” to manage and provide interaction with secure user-centric information. *See, e.g.*, EX1004, 27 (“The user is authenticated at login and the user identification is available throughout the session. ... The user’s device is determined by information contained in the request header. Once determined, this information is also stored in the session.”). *See* element [1.4]; Section V.B.3.

85. WebSphere-Portal also describes user sessions specific to a particular portlet. EX1004, 124 (“When the user initially accesses a portlet, a PortletSession is created. The portlet session stores transient data associated with an individual use of the portlet.”), 128 (Figure 4-5 showing a portlet session); EX1005, 15 (Portal controls user sessions), 180 (describing user session state), 253 (PortletSession); EX1007, 182-187 (SSO for portlet session).

86. As discussed further below in element [1.4], Portal's channels allow access to a user's e-mail, contacts, journal entries, or calendars, which a POSITA would have understood required establishing a user session

87. WebSphere-Portal teaches how the Portal system's processor executes Portal software to establish a user "session" to manage provision of and interaction with secure user-centric information like email, contacts, notes, calendar, and notifications. *See, e.g.*, EX1004, 27 ("The user is authenticated at login and the user identification is available throughout the session. ... The user's device is determined by information contained in the request header. Once determined, this information is also stored in the session."); Section V.B.3.

88. WebSphere-Portal also describes user sessions specific to a particular portlet. EX1004, 124 ("When the user initially accesses a portlet, a PortletSession is created. The portlet session stores transient data associated with an individual use of the portlet."), 128 (Figure 4-5 showing a portlet session); *see also* EX1005, 15 (Portal controls user sessions), 180 (describing user session state), 253 (PortletSession); EX1007, 182-187 (SSO for portlet session).

89. As discussed further below in element [1.4], Portal's channels allow access to a user's e-mail, contacts, journal entries, or calendars, which a POSITA would have understood required establishing a user session.

[1.4] A) implementing a channel grid framework including a matrix of a plurality of channels through which the user receives and/or interacts with, via the plurality of user platforms, respective portions of the secure user-centric information,

90. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Portal teaches establishing a user session to manage provision of and interaction with the secure user-centric information by implementing a channel grid framework to interact with secure user-centric information, as explained below.

Grid Framework Including a Matrix

91. WebSphere-Portal discloses that the apparatus (one or more servers) is programmed to implement a channel grid framework (a Portal page) including a matrix of channels (portlets) through which the user receives and/or interacts with, via the plurality of user platforms (devices), respective portions of the secure user-centric information (alerts, financial (e.g., stock) information, weather information, email, news, etc.). EX1004, 3, 6-8, 18-19, 28-29, 30 (“Portlets provide access to specific services or information, for example, a calendar or news feed.”), 34, 48-49, 60, 116, 152-153, 241, 620, 630, 946-947, 956, 989, 1000; EX1005, 13, 141, 241 (“[a] portal page typically contains several portlets that are arranged on the portal page in a grid of rectangles of varying size”), 242-247, 277, 493-494;

EX1006, 6, 10, 30, 34, 42, 390; EX1007, 290-293, 308-311, 319-321; EX1008, 66-67, 182; EX1009, 1-50; EX1010, 205-214.

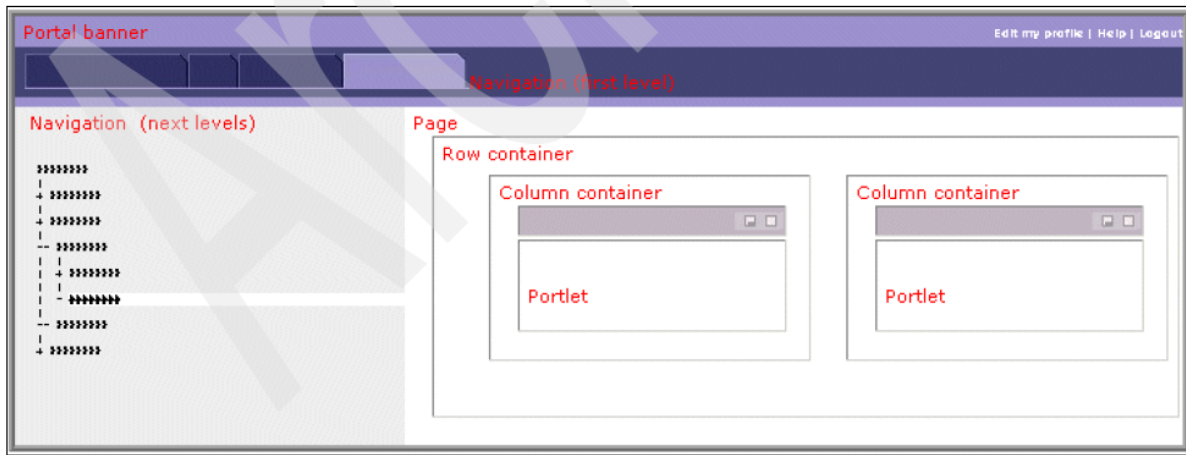


Figure 1-9 Portal page layout

A portal page is made up of the following elements.

EX1004, 28.

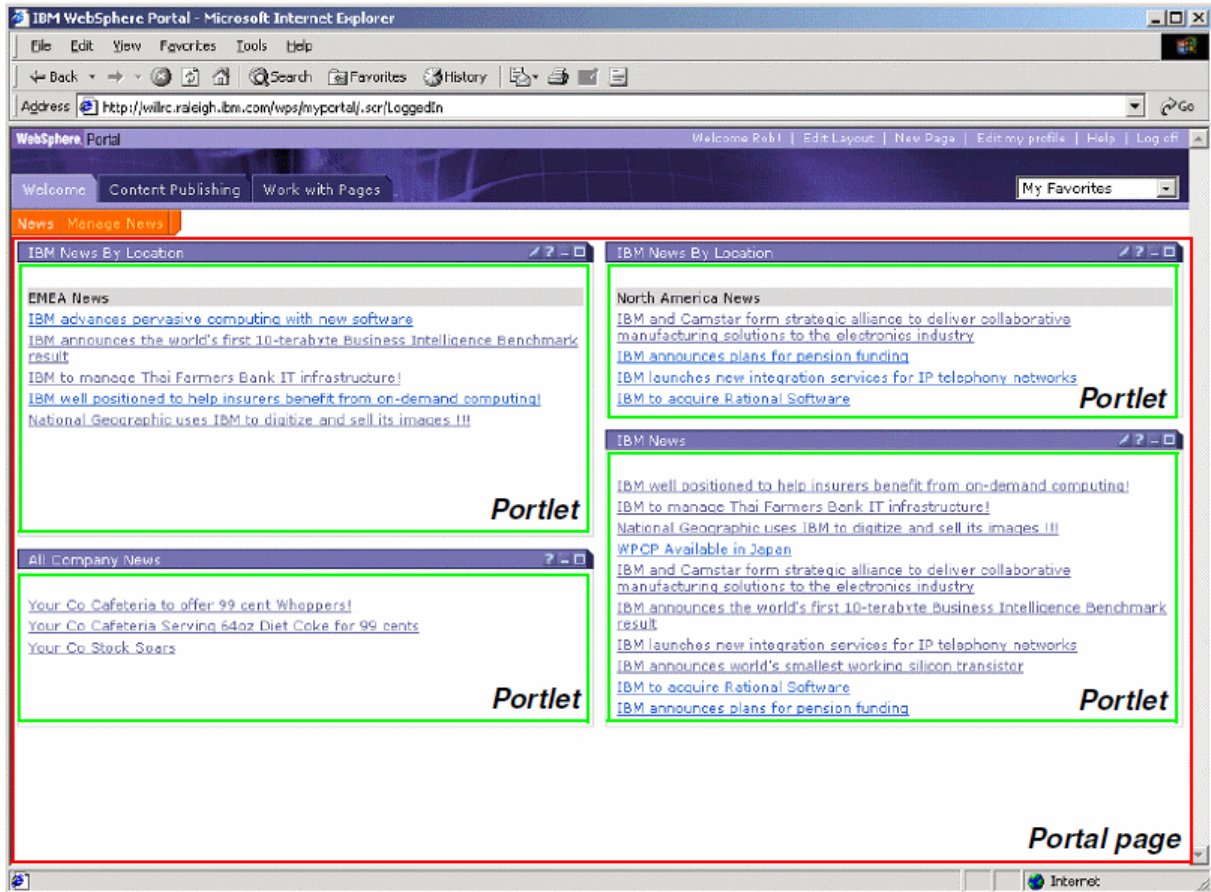


Figure 2-1 Portal page and portlets

EX1004, 49 (red annotation added showing portlets arranged in a channel grid framework including a matrix).

92. WebSphere-Everyplace-1 provides examples of a channel grid of portlets, shown as icons on a mobile device:

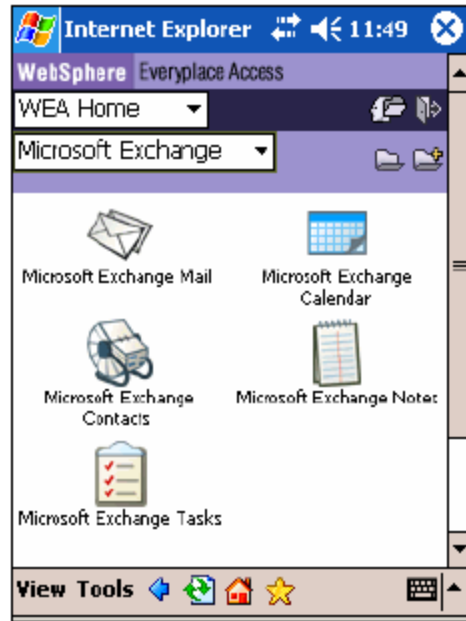


Figure 2-7 Microsoft Exchange PIM portlets

EX1006, 34 (showing a channel grid framework including a matrix); *see also id.*, 30.

93. Indeed, the Portal page developer can add as many rows and columns of portlets as they desire to the Portal page. EX1004, 247; EX1005, 134-139.

“[Y]ou may customize your layout by adding as many containers as you want. For each column container you may set its width, as well as add row containers within it. You may add column containers within a column container, and of course you may add portlets in both.” EX1005, 139. Moreover, it would have been an obvious design choice to present the portlets in a grid, as this was one of a limited number of well-known ways to display widgets, such as portlets. Section V.B.1. A POSITA would have been motivated to implement a grid layout to reduce the

amount of time required to find a desired channel and to provide the user with a choice of channels without requiring searching. Section V.B.1. Further, mobile phone and computer operating systems (MacOS, Windows, X-Windows) had been using a grid format with icons to display applications and data for many years, so users of such devices would already be accustomed and facile with such layouts.

Supra Section V.B.1.

Secure User-Centric Information

94. As an example of channels through which the user receives and/or interacts with portions of the secure user-centric information, a user receives and/or interacts with stock information from a stock portlet and/or a notification message center portlet. EX1004, 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 10; EX1007, 283-293, 308-324; EX1009, 6, 30, 40-50.

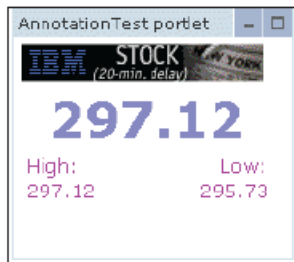


Figure 9-35 Portlet view after applying the annotator

EX1007, 287 (showing stock price information displayed within a stock portlet); *see also* EX1007, 319).



Figure 1-36 Stock notification details

EX1009, 48 (showing stock price information displayed within the notification message center portlet); *see also id.*, 7, 9, 12, 28, 58; EX1006, 10.

95. The portlets are channels at least under Petitioner's proposed construction. *See* Section VI.A.1. Each portlet comprises a visual component (e.g., the stock portlet and message center portlet on the Portal Page) on the user's platforms/devices that provides the user access to and interaction with the user-centric information. *E.g.*, EX1004, 18, 48-49, 152, 989, 1000; EX1005, 241-242, 277; EX1006, 10; EX1007, 283-293, 308-324; EX1009, 6, 30, 40-50. Further, each portlet comprises a component on the one or more servers that delivers the information to the user platforms/devices. EX1004, 4-11, 42-43, 48-49, 116, 152-154, 630, 899-900, 956; EX1005, 4-6, 16, 141, 164, 241, 473-479, 495; EX1006, 5, 41-42, 316; EX1007, 4; EX1009, 2-3, 30, 58, 80.

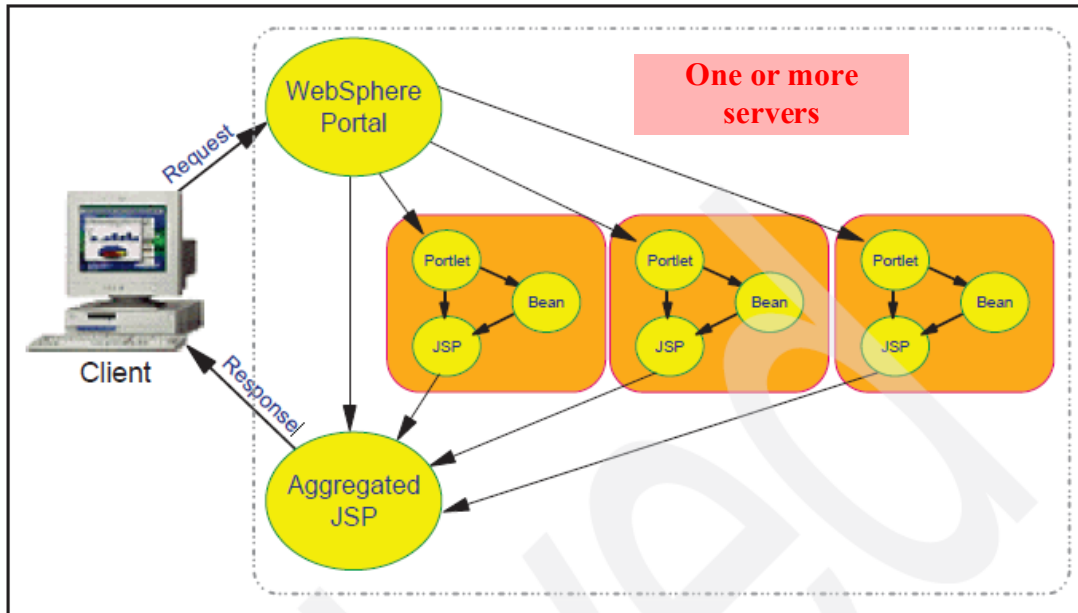


Figure 1-8 Portlet MVC architecture

EX1004, 26 (red annotation added).

96. WebSphere-Portal teaches that users receive and/or interact with secure user-centric information through these portlets, requiring user authentication establishing a user session in Portal: “WebSphere Portal uses a role-based approach to manage user authorization for accessing portal resources such as portlets and pages.” EX1004, 34, 630 (“Portlets running on WebSphere Portal may need to access remote applications that require some form of authentication by using appropriate credentials.”).

97. WebSphere-Portal provides examples of Portal’s “channels” (portlets) implemented for the user to receive and/or interact with secure user-centric information, such as channels for receiving/interacting with information in a user’s

calendar, RSS feed, e-mail, notifications, stocks, and internal corporate communications. EX1004, 3, 7, 30, 152, 620.

98. WebSphere-Everyplace-4 also discloses channels for interaction with secure user-centric information, e.g., e-mail, contacts, journal entries, or calendars, managing and interaction of which require establishing a user session:



Figure 2-76 Microsoft Exchange Mail, Calendar, Contacts, Notes and Tasks

EX1008, 183.

99. A POSITA would have understood that access to e-mail, contacts, journal entries, or calendars would require establishing a user session, during which a user is authenticated. The e-mail, contacts, journal, and calendar are channels through which the user receives and/or interacts respective portions of the secure user-centric information.

[1.5] wherein the at least one processor is configured to synchronize functions and features of one or more of the plurality of channels across two or more of the plurality of user platforms by deploying the secure user-centric information to two or more of the plurality of user platforms;

100. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses the processor is configured to synchronize functions and features of channels across user platforms. EX1004, 1005 (WebSphere-Portal identifying WebSphere-Everyplace-3, e-mail and database synchronization).

101. WebSphere-Combination discloses the at least one processor is configured to synchronize functions and features of channels across user platforms by deploying information to two or more platforms: “The mobile device users share PIM and e-mail data between their devices and their company mail servers using SyncML protocols and messages exchange. ... With this solution we can synchronize PIM (contacts, tasks, calendar, memos, etc.) and e-mail data with the IBM Everyplace client and native SyncML clients. You may synchronize your e-

mail account with several devices, and you may define unique profiles for each of those devices.” EX1008, 2, 29, 133 (Synchronization Server); EX1005, 4, 7, 479-480 (“The main goal of WEA is to extend portal functionality to mobile devices.”; “WEA includes ... synchronization functionality with Microsoft Exchange and Lotus Notes, and support for offline access.”).

102. WebSphere-Portal teaches how Portal synchronizes functions and features across platforms by deploying secure user-centric information: “WebSphere Portal provides an engine whose main responsibility is to aggregate content from different sources and serve the aggregated content to multiple devices.” EX1004, 14; *see also id.*, 9, 39, 995. A POSITA would have understood that, since Portal is referring to use of portlets to serve content, that WebSphere-Portal’s disclosure of serving aggregated content to multiple devices according to user preferences would be synchronizing functions and features of channels across user platforms by deploying secure user-centric information to two or more platforms. *Id.*

103. As explained above, Section VII.A.4, a POSITA would have been motivated to combine WebSphere-Portal’s disclosure of Portal with WebSphere-Everyplace’s teachings on using portlets across mobile devices, including to synchronize functions and features of its channels across mobile devices to permit a user to access user-centric applications and data (email, contacts, tasks, calendar,

memos) across mobile devices. *E.g.*, EX1006, 5 (showing the additions of WEA capabilities for “PIM & e-mail Sync” and “Database Sync” to Portal); EX1008, 2, 29, 133; *see also* EX1005, 479-480.

104. As shown in WebSphere-Everyplace-1, Figure 1-2, WEA services add “PIM & e-mail Sync and “Database Sync” for multiple mobile devices:

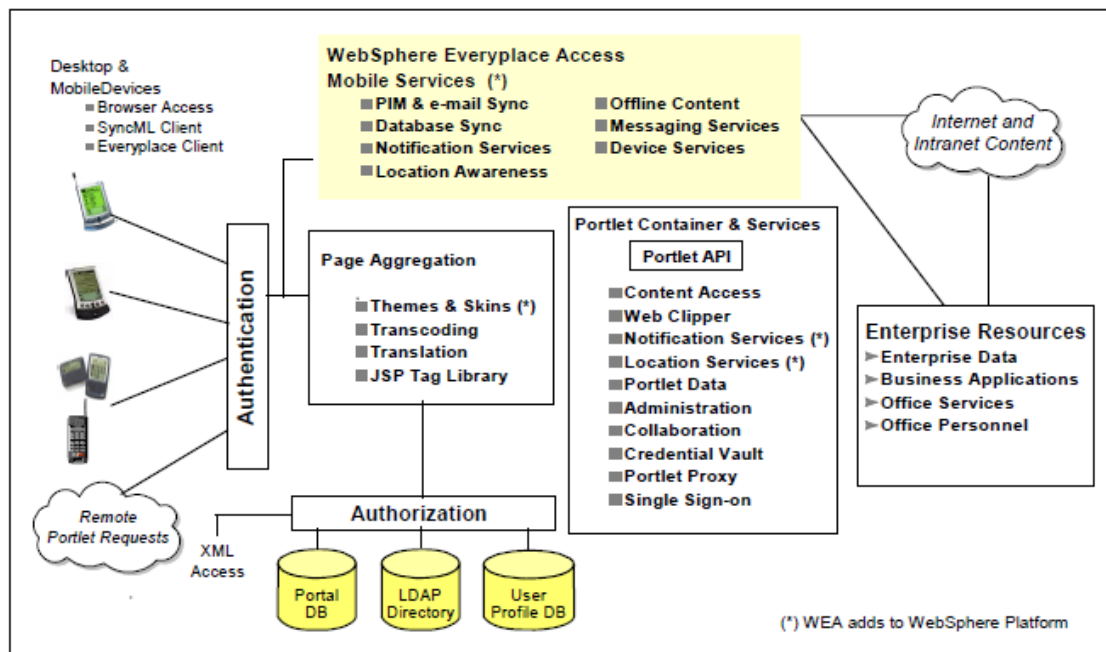


Figure 1-2 WebSphere Everyplace Access server

EX1006, 5 (showing the combination of Portal and WEA).

[1.6] B) establishing a user profile identifying user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on at least one platform of the plurality of user platforms;

105. In my opinion, WebSphere-Combination teaches this element.

106. WebSphere-Combination discloses that the apparatus (one or more servers) establishes a user session to manage provision of and interaction with the

secure user-centric information by establishing a user profile, which Ben-Natan defines as “[t]he collection of all the pieces of information relating to one user.”

EX1005, 164; *see also* EX1004, 6-9, 23, 50, 401-406, 411, 462, 949; EX1005, 11, 14, 164-165, 267, 342, 365-366; EX1006, 5, 7-10, 83, 411-412, 418; EX1007, 87, 115-118, 130, 243-245, 267; EX1008, 2-10, 55, 101, 121-122, 128, 144-145, 157-161; EX1009, 6.

The screenshot shows a web browser window displaying the 'Edit My Profile' page of a WebSphere Portal. The page has a purple header bar with the text 'WebSphere Portal' on the left and navigation links 'My Portal', 'Administration', and 'Log out' on the right. Below the header, there is a search bar and a 'My Favorites' dropdown menu. The main content area is titled 'Edit My Profile' and contains a message: 'Change the information below and click OK to change your profile.' The form includes several fields: 'User ID' (wpsadmin), 'Password' (empty), 'Confirm Password' (empty), 'First Name' (wps), 'Last Name' (wps), 'Email' (empty), and 'Preferred language' (Brazilian Portuguese). Red arrows point to the 'First Name', 'Last Name', and 'Preferred language' fields. At the bottom of the form, there are 'OK' and 'Cancel' buttons. A large, faint watermark 'wps' is visible across the center of the page.

Figure 12-25 User profile

E.g., EX1004, 402 (showing an interface for editing aspects of a user profile).

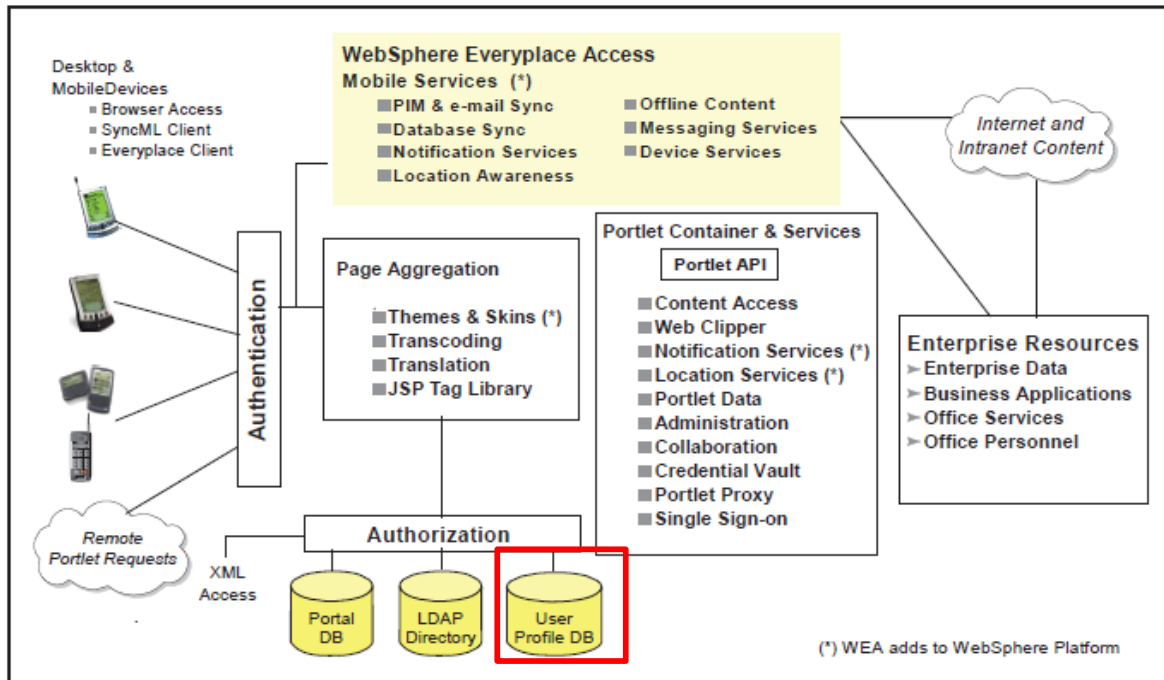


Figure 1-2 WebSphere Everyplace Access server

EX1006, 5 (red annotations added) (showing a user profile database that stores the user profile information); EX1005, 14 (“User profile information can be supported in an LDAP and/or a database.”).

107. Part of this “information relating to [the] user” includes: (1) “user preferences,” (EX1004, 6, 16, 27-28, 274, 430, 466; EX1005, 177, 246-247, 266, 353, 365; EX1006, 5, 10, 13, 94-96; EX1008, 134, 157-162; EX1009, 2, 7), which include the user’s custom alert settings (EX1006, 9-10; EX1009, 1-50) and the user-selected themes, skins, and behavior of the portlets (EX1004, 20, 27, 50-51, 61, 152, 296; EX1005, 4 143-178; EX1006, 42, 94-96); and (2) platform identities like the user’s devices (EX1004, 27, 56, 243-244, 287, 296-297; EX1005, 483-486; EX1006, 340-341, 354; EX1007, 240; EX1008, 2-10, 38, 144).

108. As one example of the user preferences, WebSphere-Combination describes how the user can subscribe to receive an alert/notification when a certain event happens (e.g., when a stock reaches a user-set threshold) and how the apparatus (one or more servers) stores this subscription as part of the user's preferences. EX1006, 9-10; EX1009, 2, 4, 6, 19, 30, 40-50, 80.

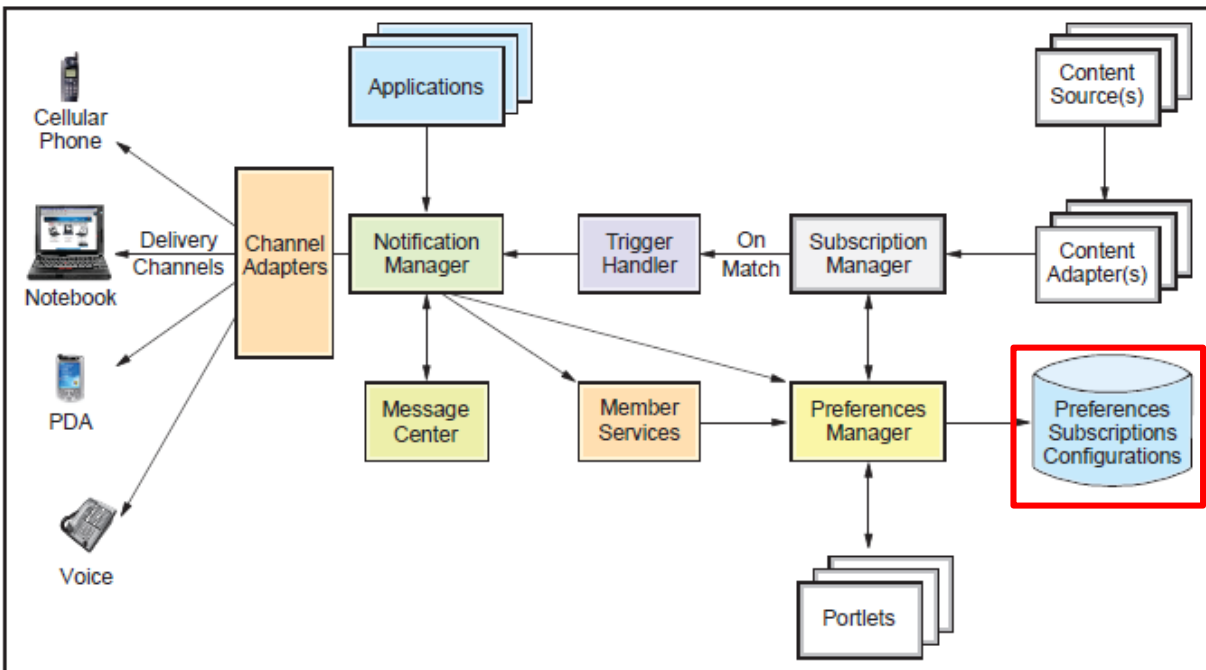


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3 (red annotations added).

109. As another example of user preferences, WebSphere-Combination describes how the user can select themes, which dictate “the overall look and feel of the portal,” and skins, which dictate “the look and feel of each portlet.” EX1004, 20, 61; *see also* EX1004, 58-64, 354, 424, 957-986; EX1005, 143-163, 242-243; EX1006, 5, 42, 48, 64-66; EX1009, 302.

110. The user's device information is collected and stored in at least two instances: during initial device enrollment and/or at the start of a new session. EX1004, 27; EX1005, 484-486; EX1006, 340-341, 354; EX1007, 240; EX1008, 144. "The first time the device connects to the Device Services ... the enrollment server [] enrolls the device with the user." EX1006, 354. "During the collection of user information ... [t]he user's device is determined by information contained in the request header" and "is also stored in the session." EX1004, 27.

111. WebSphere-Combination also teaches that the user profile identifies service support instructions that determine how the secure user-centric information behaves on the plurality of user platforms at least because a POSITA would have understood or found it obvious that such service support instructions are necessary to provide WebSphere-Combination's disclosed functionality allowing a user to "create a personalized device-independent 'desktop' with a consistent look and feel." EX1005, 4; *see also, e.g.*, EX1004, 30, 48 ("Customization allows the user to organize the look and feel of the portal to suit their individual needs and preferences."), 50, 61, 118, 255, 296, 424, 962; EX1005, 7-8, 143-163, 242-243; EX1006, 42.

112. Indeed, WebSphere-Combination discloses that "[p]ortlets may need to behave differently based on the user" (EX1004, 296), *e.g.*, based on "user attributes" (EX1004, 16, 133, 287, 296-297), and that the apparatus "takes []

information [about the user's choices and the user's device] and combines it to create a display that is appropriate for the device" (EX1004, 27). When developing Portal pages, "[r]endering of page components is done using JSPs, images, style sheets, and other resources." EX1004, 27, 512-513. When delivering the Portal pages and their secure user-centric information to the user device(s), the one or more servers use transcoding technologies and markup languages to ensure the Portal page(s) display properly on the user's device(s). EX1004, 16, 37, 56, 125; EX1005, 475-491; EX1006, 5, 13-14, 91-94; EX1007, 243-244. WebSphere-Everyplace describes how header and markup information is sent from a device to the WEA server with the request for access using a user-agent which identifies the platform identity, i.e., device, browser, browser version, so that the server can configure sent data to reflect the characteristics of the device display. EX1006, 94-96. Thus, the instructions needed to deliver information to the user so that the portlet behavior (e.g., look and feel) conforms to the user's preferences and their device(s), as taught by WebSphere-Combination, constitute service support instructions that determine how the secure user-centric information behaves on the plurality of user platforms

113. Moreover, WebSphere-Portal and WebSphere-Everyplace teach at least four ways (via page aggregation, deployment descriptors, transcoding technology, synchronization/notification) to establish a user session (*see* element

[1.3]) by establishing a user profile identifying user preferences, platform identities, and service support instructions.

114. First, WebSphere-Portal teaches element [1.6] at least through Portal's page aggregation, where Portal "collects information about the user's choices [user preferences], the device being used [platform identities] and the selected portlets [user preferences], then takes that information and combines it to create a display that is appropriate for the device [service support instructions that determine how the secure user-centric information behaves]." EX1004, 27. The brackets in the preceding quote indicate which sub-elements of element [1.6] that WebSphere-Portal teaches. WebSphere-Portal teaches establishing a user profile because WebSphere-Portal explains that during the "collecting user information" step, "[t]he user is authenticated at login and the user identification is available throughout the session." *Id.*, 27. WebSphere-Portal teaches a user profile identifying (1) user preferences because WebSphere-Portal explains that Portal "collects information about the user's choices ... and the selected portlets," EX1004, 27-28; (2) a user platform because WebSphere-Portal explains that "[t]he user's device is determined by information contained in the request header. Once determined, this information is also stored in the session" and that "markup is associated with the device category," EX1004, 27; and (3) service support instructions that determine how the secure user-centric information behaves

because WebSphere-Portal explains “the portal user interface is displayed in the preferred language of the user” and that “[r]endering of page components is done using JSPs, images, style sheets, and other resources.” EX1004, 27. WebSphere-Everyplace also describes how header and markup information is sent from a device (or browser) to the WEA server with the request for access. EX1006, 94-96 (“The standard way of communicating with the server about this information is sending it in a header (if using html based browser) known as a *user-agent*. ... [W]hen a device wants to get content from the WebSphere Everyplace Access, it send[s] its user-agent header to the system”). A user-agent is a string which identifies the platform identity, i.e., device, browser, browser version, so that the server can configure sent data to reflect the characteristics of the device display. EX1006, 94.

115. Second, WebSphere-Portal also teaches element [1.6] at least through Portal’s “deployment descriptors” such as “user attributes.” EX1004, 287, 296. WebSphere-Portal teaches that “[p]ortlets may need to behave differently based on the user” through secure “user attributes.” EX1004, 296. Since security is required to access user attributes that control a portlet’s behavior, a POSITA would have understood these user attributes to require establishing a user profile. EX1004, 287, 297 (“Security must be enabled to retrieve most of the user information.”). WebSphere-Portal discloses deployment descriptors for identifiers such as home

phone, home email, business telephone number, fax number, mobile number, pager number, and/or online email attributes—which a POSITA would have understood constituted establishing a user profile identifying the user and the user platform (device). EX1004, 297. WebSphere-Portal teaches deployment descriptors for “custom-portlet-mode,” “language,” “location,” and “portlet-preference” entries, which a POSITA would have understood meant service support instructions that determine how the secure user-centric information behaves. EX1004, 289-296.

116. Third, WebSphere-Combination teaches element [1.6] through transcoding technology used in both Portal and WEA. EX1004, 16 (“WebSphere Transcoding Technology is integrated with WebSphere Portal to transform the portal markup produced by WebSphere Portal to markup for additional devices such as mobile phones and PDAs.”), 56. WebSphere-Everyplace explains that transcoding technology requires establishing a user profile identifying user preferences, platforms, and service support instructions: “Transcoding Technology uses preference profiles to represent the characteristics of a particular device, a group of devices, a user, or user group. ... Preference profiles are used to decide how to treat documents that will be delivered to different devices and different users. ... When Transcoding Technology processes a document, a device profile and a user profile are selected to apply to that document.” EX1007, 243-244. A POSITA would have understood that preference profiles used by transcoding

technology (in both Portal and WEA) constitute user profiles identifying user preferences, user platforms, and service support instructions which allow a user to “specify how to treat documents that will be delivered to different end user devices. *See also* EX1005, 483-488.

117. Fourth, WebSphere-Everyplace teaches element [1.6] through WEA’s synchronization and notification features which uses a “personal profile” to “define preferences” allowing “unique profiles for each of those devices.” EX1008, 2-10. For example, WebSphere-Everyplace-3 teaches that synchronization relies on a user profile for preferences, devices, and service support instructions. EX1008, 38 (“Profiles are used to control how mail, calendar, tasks, etc. are included in the synchronization process. A device profile is a group of settings that limit the scope of synchronized data. It is necessary to create at least one device profile before synchronizing PIM or data.”), 144 (“A device profile is a group of settings (filters) that limit the scope of synchronized data. Device profiles are device-specific.”); *see also* EX1006, 7-10 (“Synchronization is profile driven. The profile defines the mail server the user intends to exchange data with, the user credentials to access that server, details on how conflicts are to be resolved during the synchronization process, data filtering, and any user synchronization preferences.”). Thus WebSphere-Everyplace synchronization requires a user profile identifying user preferences, user platforms, and service support instructions.

[1.7] C) controlling the at least one communication interface to receive, from the at least one user platform of the plurality of user platforms, a user identity for the user and a platform identity for the at least one user platform;

118. WebSphere-Combination teaches this element at least because it discloses the at least one processor establishing a user session to manage provision of and interaction with the secure user-centric information by controlling the communication interface to receive from a platform a user identity and platform identity for that platform.

119. For example, WebSphere-Combination teaches that during page aggregation, Portal collects (receives) user and platform identities. EX1004, 27-28 (“The aggregation process involves ... [c]ollecting user information ... user identification is available throughout the session ... [t]he user’s device is determined by information contained in the request header. Once determined, this information is also stored in the session.”). A POSITA would have understood that a Portal communication interface receives “that [collected] information and combines it to create a display that is appropriate for the device” because the device sends a user and platform identity to the communication interface. *Id.*; see element [1.8]. For example, a synchronization user profile update showing a user identity and platform identity is shown below:

Synchronization User Profiles

Next | OK | Cancel

Choose a server with which to synchronize data. Type your user name and password for that server.

Server name:
domldap.pvclab.com

Server description: ESS Domino Server domldap.pvclab.com

User name:
gianni alesio

Password:

If your Address Book or Journal are located on the same mail server and in the same mail file, then select "same as mail server" and you do not need to specify a folder path.

Address book
Server name :
Same as mail server
Folder path:
mail/.nsf

Journal
Server name :
Same as mail server
Folder path:
mail/.nsf

Next | OK | Cancel

Figure 1-164 Updating device profile

EX1008, 123.

120. Similarly, a POSITA would have understood that WebSphere-Portal's disclosure of Portal's deployment descriptors and transcoding technology show that the user profile (which identifies the user and platform) would necessarily be received by Portal communication interface to determine how that information behaves on that platform.

121. Likewise, WebSphere-Combination teaches that the user identity and platform identity (profiles) required transcoding technology and synchronization processes would also necessarily be received by a communication interface to

determine how that information behaves on that platform. *See* element [1.7]; EX1006, 5-6 (describing authentication and authorization for transcoding technology, synchronization, and notifications). For example, WebSphere-Everyplace-3 explains controlling a communication interface receiving a user and user platform identities because it teaches that a unique profile is created for synchronization: EX1006, 2, 8 (“A user may have multiple unique profiles for each device they wish to synchronize to the mail server.”); EX1008, 28, 133.

122. WebSphere-Everyplace also describes how header and markup information is sent from a device (or browser) to one or more servers with the request for access. EX1006, 94-96 (“The standard way of communicating with the server about this information is sending it in a header (if using html based browser) known as a *user-agent*. ... [W]hen a device wants to get content from the WebSphere Everyplace Access, it send[s] its user-agent header to the system”). A user-agent is a string which identifies the platform identity, i.e., device, browser, browser version, so that the server can configure sent data to reflect the characteristics of the device display. EX1006, 94.

[1.8] D) authenticating the user and the at least one user platform to receive the secure user-centric information based at least in part on the user identity and the platform identity; and

123. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Portal discloses establishing a user session to manage

provision of and interaction with the secure user-centric information by authenticating the user and platform to receive secure user-centric information based in part on user and platform identity.

124. As explained above (*see* elements [1.3] and [1.6]), WebSphere-Portal teaches that Portal establishes a user session by authenticating a user and user platform to receive secure user-centric information based in part on user identity and platform identity—information which would be in the user profile described in element [1.6]. EX1004, 5 (“Authentication provides different mechanisms that can be used to validate the identity of all portal users.”), 27-28 (“User[:] The user is authenticated at login and the user identification is available throughout the session. Client[:] The user’s device is determined by information contained in the request header.”), 23, (“The modes that are available for any particular user depend on the permissions for that user, the device used to access the portlet and the configuration and implementation of the portlet.”); EX1006, 354; EX1007,8.

125. WebSphere-Portal identifies multiple authentication methods, which include single sign-on (SSO), login tickets, and certificates used as part of authenticating users and/or user devices. EX1004, 7, 630. A POSITA would have understood these methods to encompass two-way authentication. *See also* EX1005, 380-381, 393; EX1011, 144; EX1008, 32; EX1009, 360; EX1012, 23; Section V.B.2, V.B.3.

126. WebSphere-Everyplace-1 describes authentication for different devices. EX1006, 354 (“The first time the device connects to the Device Services, the Device Services servlet routes the call to the enrollment server, which enrolls the device with the user.”).

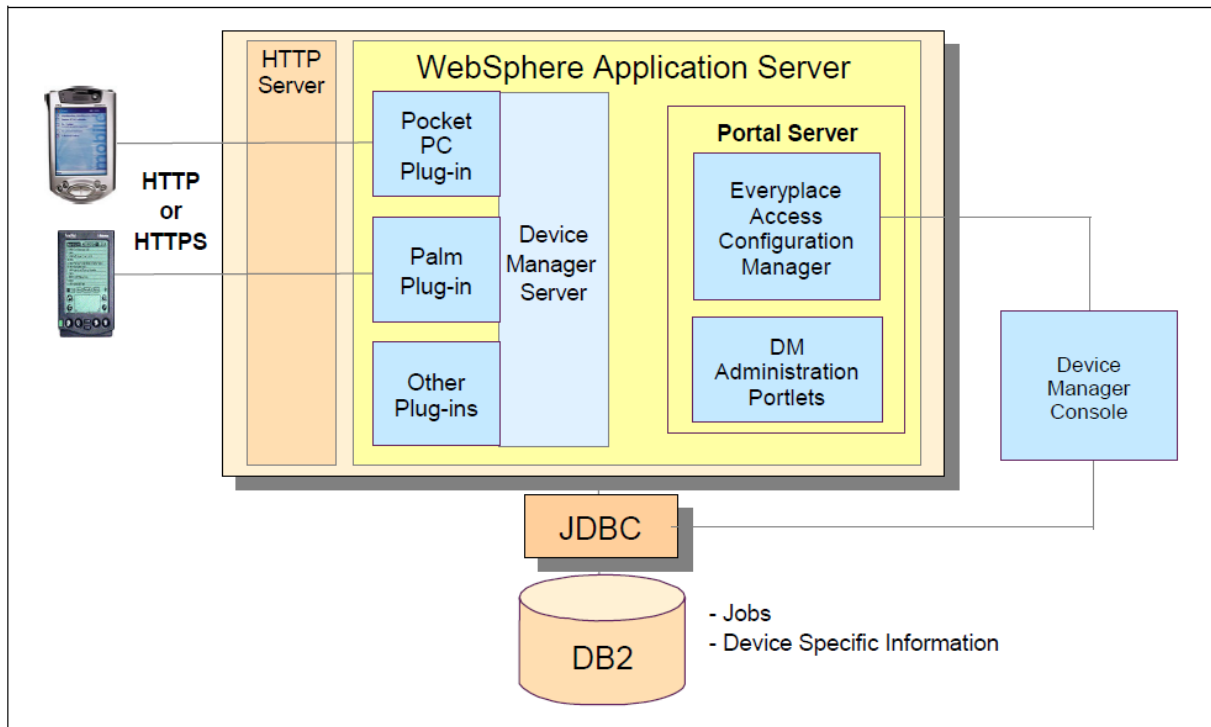


Figure 9-1 WebSphere Everyplace Access Device Services

EX1006, 340.

127. Similarly, WebSphere-Everyplace-3 describes authentication of a user and user platform to receive secure user-centric information. EX1008, 38 (“Profiles are used to control how mail, calendar, tasks, etc. are included in the synchronization process. A device profile is a group of settings that limit the scope

of synchronized data. It is necessary to create at least one device profile before synchronizing PIM or data.”).

128. A POSITA would have understood Portal and WEA authentications as necessary to access secure user-centric information.

[1.9] E) if the user and the at least one user platform are authenticated in C)⁸, controlling the at least one communication interface so as to transmit to the at least one user platform first authenticated channel information relating to at least one authorized channel of the plurality of channels implemented in A), based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform,

129. In my opinion, WebSphere-Combination teaches this element at least because it discloses establishing a user session to manage provision of and interaction with the secure user-centric information such that after a user and a platform are authenticated, then Portal’s communication interface transmits authenticated channel information based on information access rights and/or security protocols associated with the corresponding channels, user, and platform.

130. WebSphere-Combination discloses that, upon user and platform authentication (*see* elements [1.3] and [1.6]), the processor establishes a user session by controlling at least one communication interface to transmit to a user

⁸ Claim 1’s step C) relates to “receiving” while step D) relates to “authenticating.” I assume this element refers to step D).

platform (device) authenticated channel information (e.g., email, notifications) associated with the corresponding authorized channel, user, and platform (device).

EX1004, 2, 8-9, 15 (“Access to portlets is controlled by checking access rights during page aggregation, page customization, and other access points.”), 27-28

EX1004, 27-28 (Portal “collects information about the user’s choices, the device being used and the selected portlets [channels], then takes that information and combines it to create a display that is appropriate for the device.”); *see also*

EX1008, 2 (“[t]o use the e-mail synchronization system ... a user needs a user ID to log in.”); EX1006, 8 (“A user may have multiple unique profiles for each device they wish to synchronize to the mail server.”). A POSITA would have understood

the authenticated channel information related to an authorized channel is based at least in part on information access rights and/or security protocols, such as (e.g., access privileges, permissions, role-based restrictions, and subscription services).

EX1004, 11 (“Directory and Security Services provide support for a directory of users accessible through LDAP. These services are used for authentication and can also control and verify the resource access privileges or permissions granted to

users”), 12 (describing user subscription services to third-party vendors). The authenticated information is thus controlled in part by information access rights and security protocols, including authorizations based on a role-based approach.

Id., 15 (“The Authentication Server is a third-party authentication proxy server that

sits in front of the Portal engine. Access to portlets is controlled by checking access rights during page aggregation, page customization, and other access points.”), 34 (“Portal uses a role-based approach to manage user authorization for accessing portal resources such as portlets”). EX1004, 19 (describing Portal “roles” for access rights and security protocols” through “Resource Permission”), 34 (“Portal uses a role-based approach to manage user authorization for accessing portal resources such as portlets and pages.”).

131. WebSphere-Combination teaches that authenticated channel information relating to at least one authorized channel is based at least in part on information access rights and/or security protocols (roles, permissions, privileges encryption protocols (e.g., SSL) and/or user authorization protocols (e.g., SSO)) respectively associated with the plurality of authorized channels. EX1004, 5, 7, 11 (“Directory and Security Services ... are used for authentication and can also control and verify the resource access privileges or permissions granted to users.”) 12, (describing user subscription services), 15 (“Access to portlets is controlled by checking access rights during page aggregation, page customization, and other access points.”), 19-20 (describing Portal “roles” for access rights and security protocols” through “Resource Permissions”, 27, 33-34 (“Portal uses a role-based approach to manage user authorization for accessing portal resources such as portlets”), 39, 51, 76, 134-137, 630, 642, 665, 899-900; EX1005, 5, 8, 15, 191-196,

225-226, 270, 380-401; EX1006, 5, 7, 22, 30-33, 310-311, 315-337, 378-383;
EX1007, 28, 182-187, 320-322, 332, 342; EX1008, 70, 162, 182-184, 234;
EX1009, 277, 289-290, 314, 324-355.

132. For example, the user must sign into their account with their username and password to access the secure user-centric information and, e.g., match with the roles and/or permissions assigned to them:

The screenshot displays a WebSphere Portal interface. At the top, the 'WebSphere Portal' logo is visible. Below it, a navigation bar contains links for 'New Page', 'Edit Page', and 'As'. A breadcrumb trail shows the user's path: 'Test Environment > Welcome > My Workplace > Documents'. The main content area is titled 'CredentialJSR' and 'CredentialJSR portlet'. The central form is titled 'Single sign-on settings' and includes the instruction 'Set user credentials to be stored in the credential vault.' The form contains two input fields: 'Enter user id:' with the value 'user1' and 'Enter password:' with masked characters. Below these fields is a 'Save' button. At the bottom of the form is a 'Back to view mode' button.

Figure 21-16 Running Edit mode of the portlet

EX1004, 665.

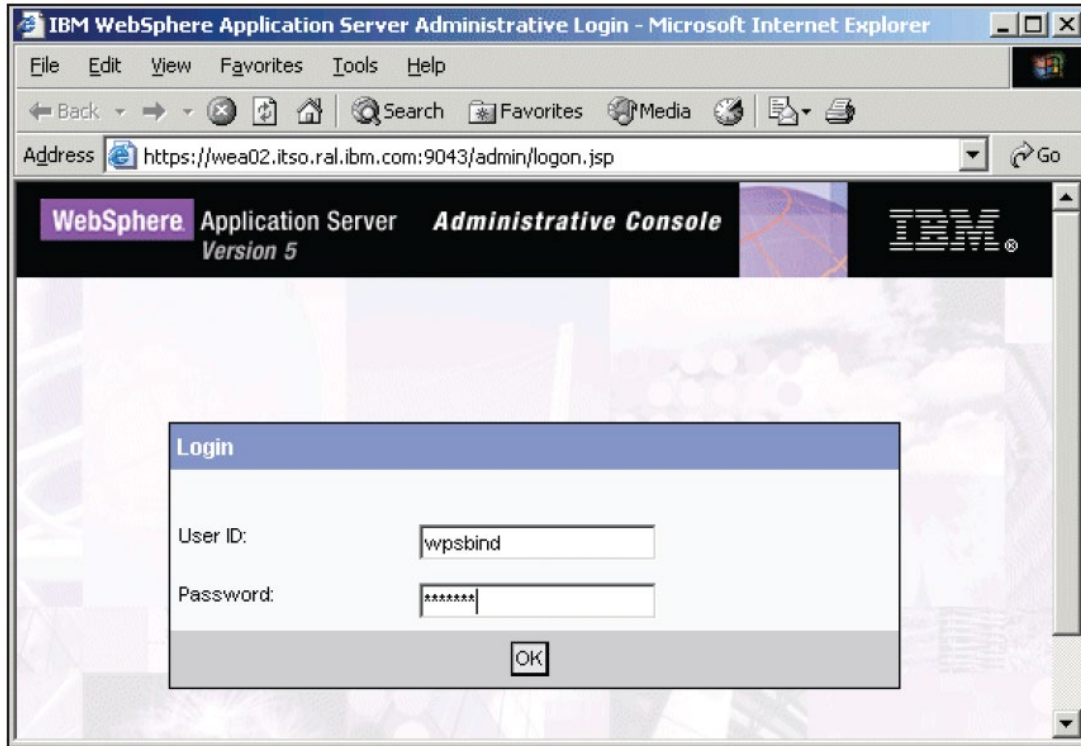


Figure 10-16 WebSphere Everyplace Access Login

EX1009, 347.



Figure 10-19 Login to WebSphere Everyplace Access

EX1007, 321.

133. In at least some instances, the user's access rights are portlet-specific in that at least one portlet (the Sametime messaging portlet) requires the user to sign in with the user's login information for that specific portlet. EX1006, 378-383.

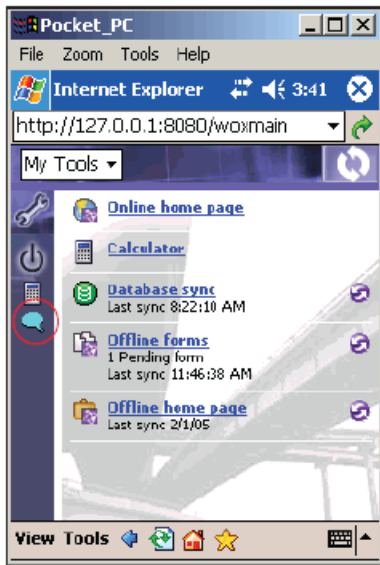


Figure 10-3 Starting Sametime from Everyplace Client on Pocket PC

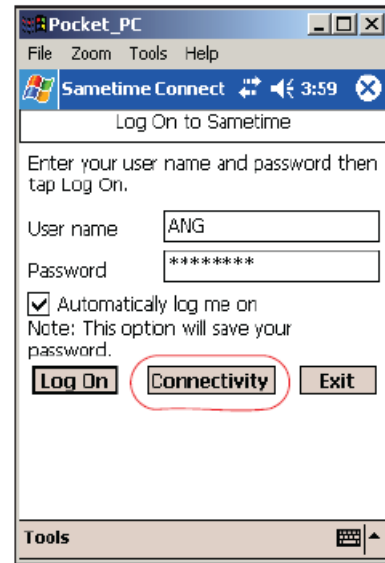


Figure 10-4 Startup window on Pocket PC

EX1006, 378.

134. The user's access to the secure user-centric information is limited by their role and permissions:

Table 10-2 Role Definitions

ROLE	DESCRIPTION
Administrator	Super-user. Can do everything including creating, configuring, and deleting resources. Administrator can also change the access control configuration
Security Administrator	Can create and delete role assignments for roles tied to specific resources
Delegator	Can assign users or user groups to roles
Manager	Creates, configures, and deletes new or existing resources for use by one or more users
Editor	Creates, and configures new or existing resources for use by one or more users
Privileged User	Can create new private pages, view portal content, and personalize portlets/pages
User	Can view portal content
No Access	Can do nothing

EX1005, 193.

135. Similarly, WEA controls its communication interface to transmits authenticated channel information based on information access rights and/or security protocols (group membership) associated with the corresponding channels, user, and platform. EX1006, 7 (“User profile information includes a users’s [sic] name and user ID, preference information such as news topics of interest, preferred language, and so on. A user may be a member of one or more groups. Group membership is used to determine the access rights to underlying services. For example, a user must belong to a group with permission to perform data

synchronization in order to be authorized to use data synchronization on their PDA. ... the information is tailored for the target device.”).

[1.10] wherein at least a portion of the first authenticated channel information to be transmitted to the at least one user platform is selected by the processor based at least in part on the user profile and is transmitted to the at least one user platform without being requested by the user,

136. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination disclose how Portal transmits channel information to a user platform based on a user profile without being requested by the user.

137. For example, WebSphere- Combination discloses how Portal authenticated channel information to be transmitted to a user platform is selected by a processor based in part on a user profile without being requested by the user. For example, WebSphere-Everyplace-1 teaches notification based on user profiles (element [1.6]), and that transmitting such authenticated channel information to a user platform does not require a user request. *E.g.*, EX1006, 9-10 (“The Intelligent Notification Services are used to deliver information to users through different delivery channels (defined by the users) based on their preferences. This service allows the enterprise to proactively notify mobile workers (based on their subscription to particular notification applications) of important information and events. The notifications can be generated (when criteria is met) from a wide

variety of sources, such as e-mail, news feeds, data management events, and directly from business applications.”). Similarly, WebSphere-Everyplace-4 discloses that “the user receives notifications [] based on user preferences (such as the weather forecast, news, e-mail notification based on subject, and so on),” EX1009, 2, and pushing channel information based on subscriptions (without being requested by the user), *id.*, 5, 19; *see also* EX1006, 10 (“a subscriber could be notified when their favorite stock shifted five points”). A POSITA would have understood such pushed notifications as being based on user profiles (e.g., preferences, subscriptions), thus transmitting notifications and updates without request from the user.

138. WebSphere-Everyplace-4’s Figure 1-3 illustrates a content “push” to subscription manager (via the content adapter, which presents it in the proper form depending on the device capabilities):

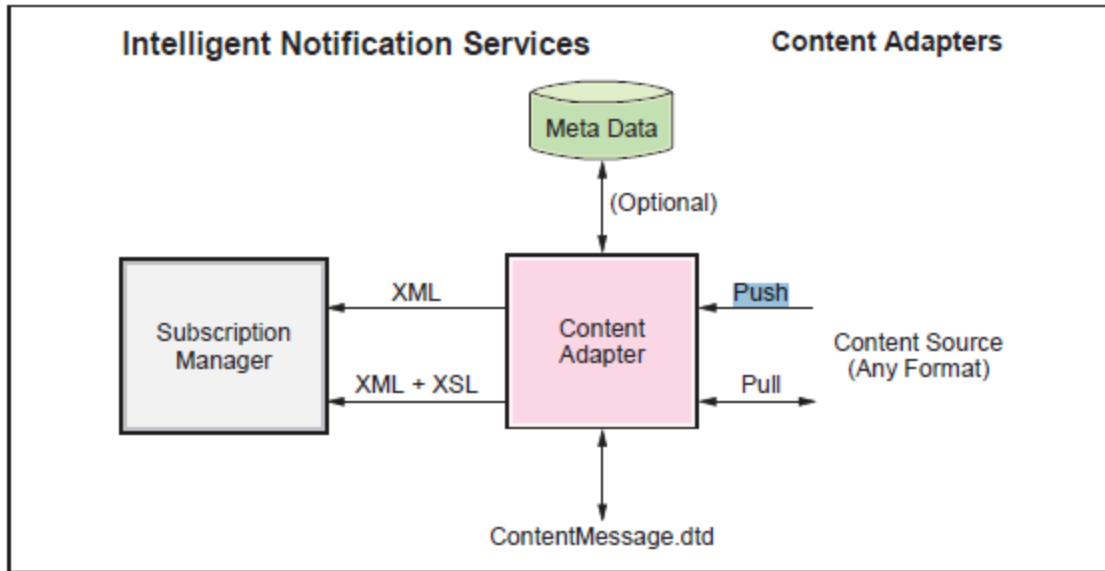


Figure 1-3 Components of a content adapter

EX1009, 5, 10 (describing “message push”, blue highlighting added).

139. WebSphere-Everyplace-3 describes how synchronization process is based on “a personal profile” without being requested by a user because a user’s email and calendar is synchronized and updated as new emails are received, or calendar entries have passed. Similarly, stock tickers and weather portlets update automatically without being requested by the user based on preferences in the user profile. EX1008, ix, 2 (“[W]e can synchronize PIM (contacts, tasks, calendar, memos, etc.) and e-mail data with the IBM Everyplace client and native SyncML clients.”). A POSITA would have understood that WEA’s synchronization is transmitting authenticated channel information based on a profile without being requested by a user.

140. WebSphere-Portal also describes stocks tickers and exchange rates which a POSITA would have understood as transmittal of authenticated channel information (particular stocks or currencies of interest to a particular user) based on a user profile without being requested by the user. *E.g.*, EX1004, 18 (describing portlets with stock tickers and exchange rates), 48 (describing personalization and page aggregation, which are based on user profiles, and describing stock tickers), 54 (describing modes available for a user depending on permissions for that user), 152 (describing “live” portlets), 900 (describing client authentication token used throughout session).

141. WebSphere-Portal also explains how Portal’s “cooperative portlets” also transmit authenticated channel information without being requested by a user by “remembering the user choice for each step (so that only that choice is presented or automatically executed during subsequent interactions), supporting cross-page data transfer, so that the next step in the task is automatically surfaced to the user, ...” EX1004, 39, 226, 741; EX1005, 269. A POSITA would have understood WebSphere-Portal’s disclosure of Portal’s cooperative portlets to be the transmission of authenticated channel information based on the user profile without being requested by the user.

[1.11] wherein the transmission of the first authenticated channel information to the at least one user platform is based in part on a bi-directional interrogation of the at least one authorized channel, wherein the bi-directional interrogation
--

comprises the at least one authorized channel interrogating an identity management server, and

142. In my opinion, WebSphere-Combination teaches this element at least because both WebSphere-Portal and WebSphere-Everyplace teach that transmission of authenticated channel information based in part on queries and answers in two directions (“bi-directional interrogation”) between authorized channels (portlets) and an identity management server⁹.

WebSphere-Portal

143. WebSphere-Portal teaches Portal’s portlets use an identity management server through Portal’s Authentication Server, Authorization Server, Application Server (which uses an LDAP server), and/or Credential Vault.

144. WebSphere-Portal teaches portlets bi-directionally interrogate Portal’s Authentication Server to confirm user rights, which requires establishing a user identity. EX1004, 15 (“The Authentication Server is a third-party authentication proxy server that sits in front of the Portal engine. Access to portlets is controlled by checking access rights during page aggregation, page customization, and other access points.”), 16 (“A user’s authorization for a particular resource such as page

⁹ The ’285 patent states that “[t]he identity management server 208 may be a hardware device or software application that may provide user, application, device, location, equipment and information authentication.” EX1001, 8:26-29.

or a portlet is handled by the portal engine.”). WebSphere-Portal illustrates an authentication and authorization server in Figure 1-3 below:

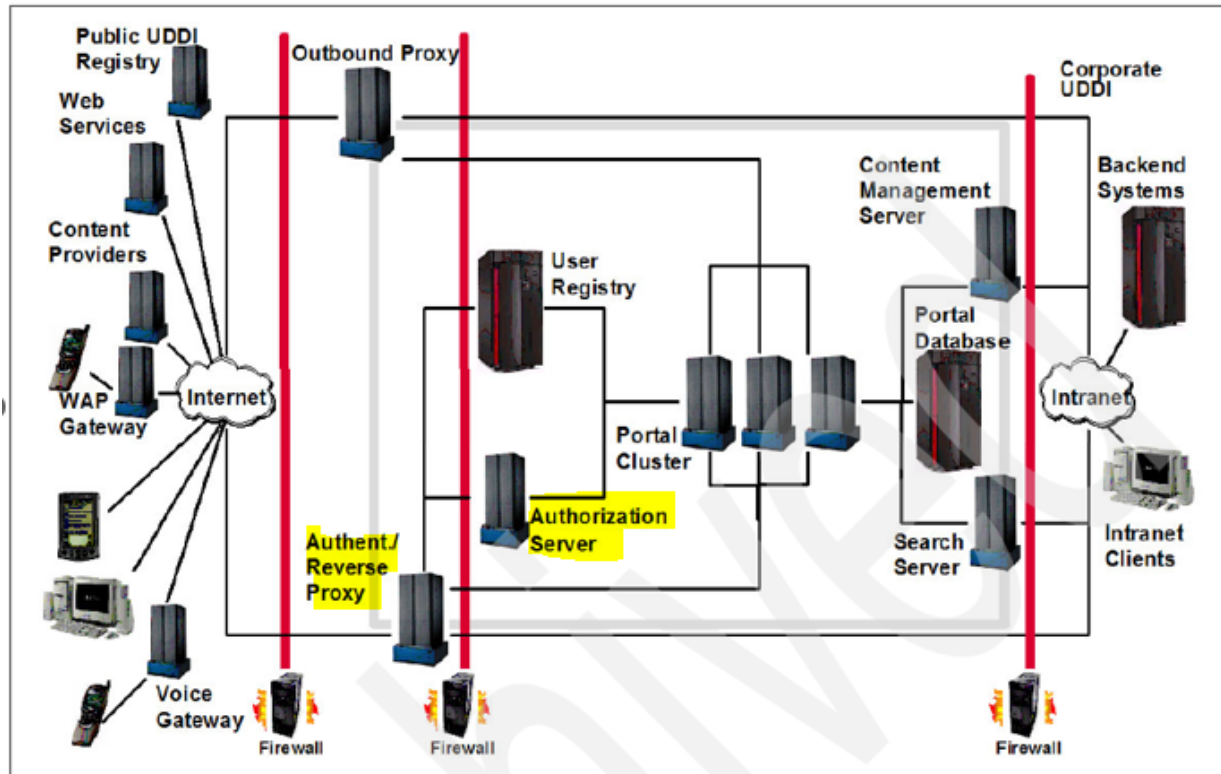


Figure 1-3 Distributed Portal system

EX1004, 10 (highlighting added).

145. WebSphere-Portal also teaches portlets bi-directionally interrogating an LDAP server via Portal’s WebSphere Application Server for user and portlet authentication. EX1004, 5 (“The Lightweight Directory Access Protocol (LDAP) infrastructure provides a foundation for deploying comprehensive identity management and advanced software architectures such as Web services.”), 11 (“The Directory and Security Services provide support for a directory of users

accessible through LDAP. These services are used for authentication and can also control and verify the resource access privileges or permissions granted to users.

... WebSphere Application Server uses LDAP to perform authentication. The client ID and password are passed from WebSphere Application Server to the LDAP server.”). WebSphere-Portal illustrates the LDAP server in Figure 1-6 below:

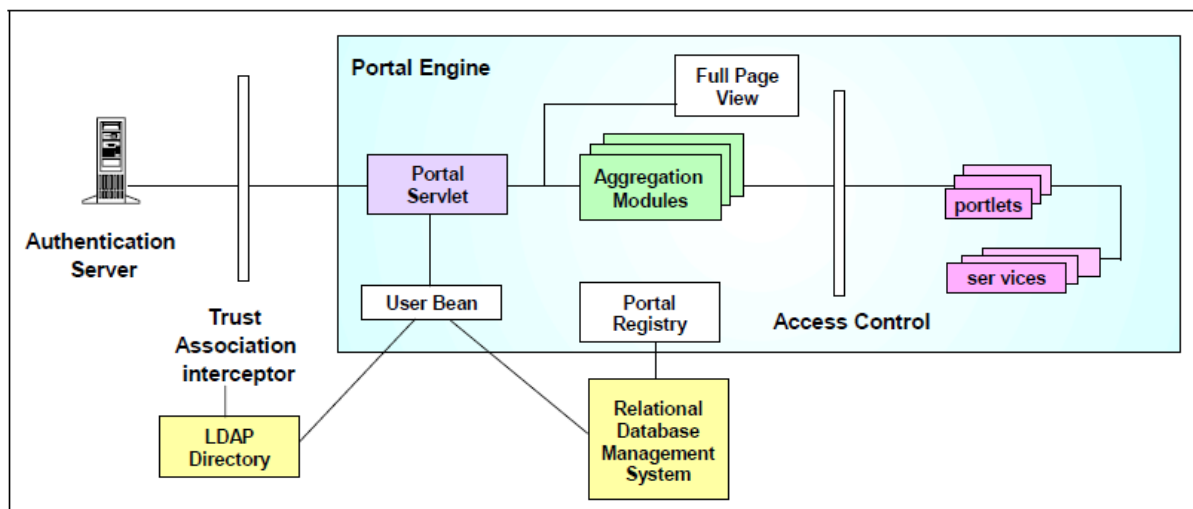


Figure 1-6 WebSphere Portal engine

EX1004, 15 (showing a third party authorization server LDAP Directory and explaining “The Authentication Server is a third-party authentication proxy server that sits in front of the Portal engine. Access to portlets is controlled by checking access rights during page aggregation, page customization, and other access points.”). Page customization is user profile information.

146. WebSphere-Portal also teaches portlets bi-directionally interrogating Portal’s Credential Vault for portlet authentication. EX1004, 76 (“Use the Single

Sign-On screen to add sample code to support credential vault handling which is used to safely store credentials that are used in portlet authentication.”).

WebSphere-Portal explains that portlets using Portal’s Credential Vault can access remote applications that require authentication through credentials such as “user IDs and passwords, SSL client certificates and private keys.” EX1004, 630, 637-640 (describing forms of bi-directional credentials for portlets such as HTTP Basic Authentication, HTTP Form-Based Authentication, and tokens). A POSITA would have understood these credentials were a form of bi-directional interrogation between the portlet and the identity management server. WebSphere-Portal illustrates bi-directional use of a Credential Vault in Figure 20-1 below:

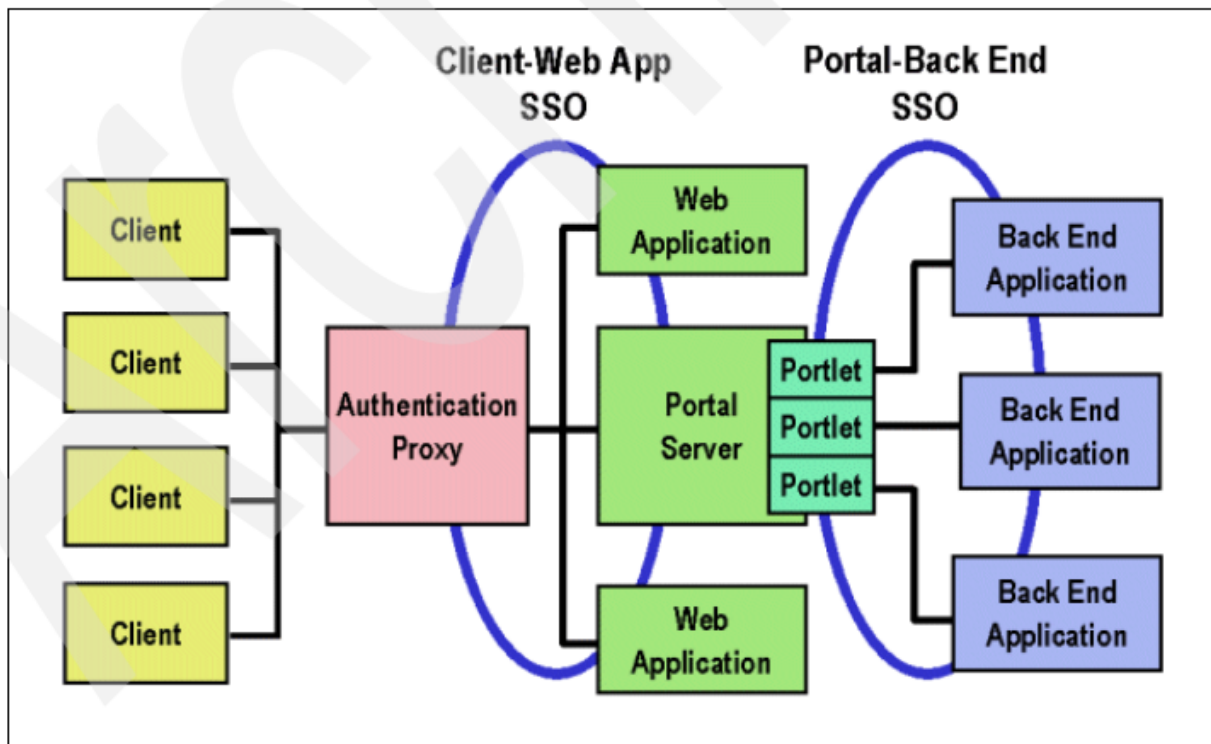


Figure 20-1 Credential Vault in action

EX1004, 630.

147. Thus, at least the Authentication Server, LDAP server, and/or Credential Vault service thus act as an identity management server in Portal. A POSITA would have understood that portlets seeking to authenticate with these identity management server would do by sending and answering queries (bi-directional interrogation). *See also* EX1004, 899-900 (describing SSL and LTPA token authentication).

148. WebSphere-Portal illustrates the Authentication Server, LDAP server and Credential Vault service in Portal architecture below:

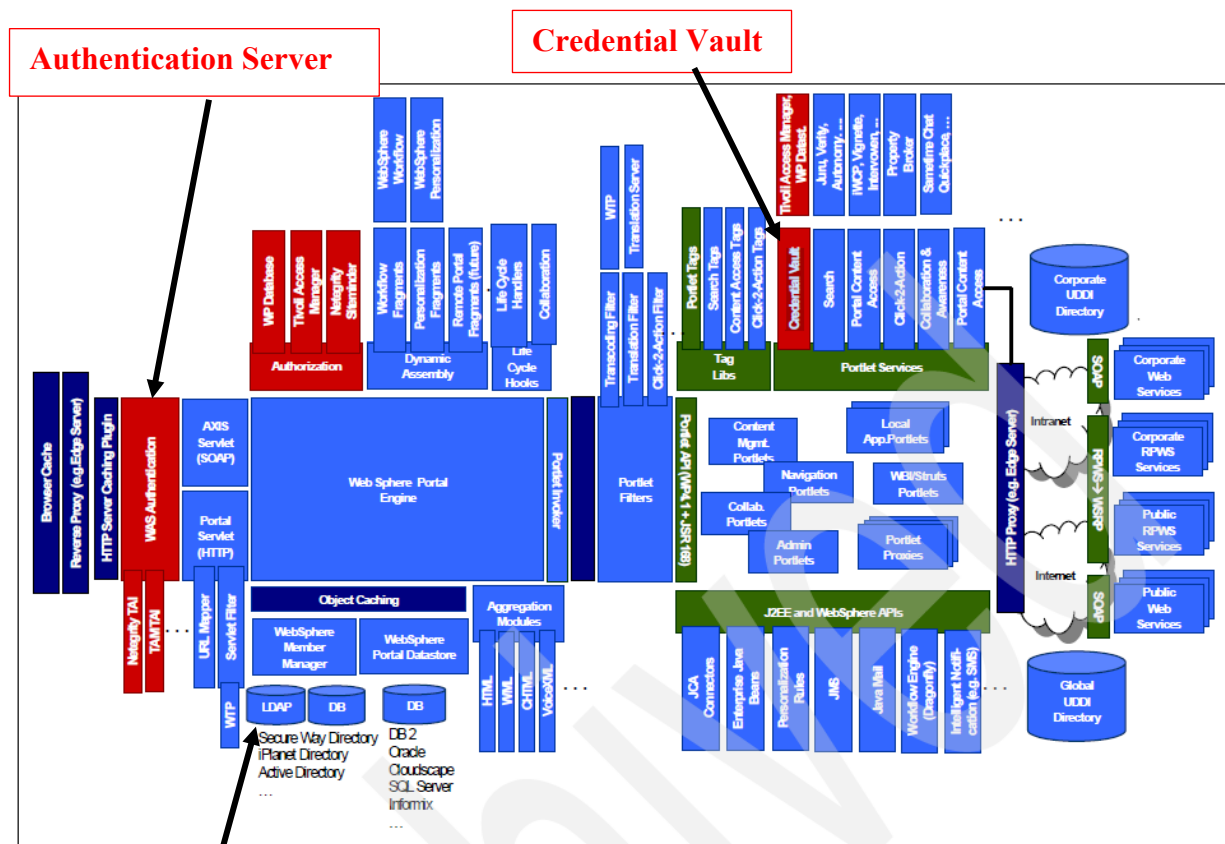


Figure 1-5 WebSphere Portal architecture

LDAP Server

EX1004, 14 (annotations added). WebSphere-Portal's Figure 1-5 shows an Authentication Server (WAS [WebSphere Application Server] Authentication), LDAP server, and Credential Vault leading to the portlets. *Id.* A skilled artisan would have understood that these servers use bi-directional interrogation with the portlets. EX1006, 24 ("WebSphere Everyplace Connection Manager also protects the data with bi-directional user and server authentication and data encryption, ensuring that the mobile data is protected and secure."); *see, e.g.*, EX1011, 144 (extrinsic evidence showing knowledge of POSITA on "Server and client authentication[:] This type of authentication provides for two-way authentication between the LDAP client and the LDAP server."); *see also* EX1012, 23 (extrinsic evidence showing knowledge of POSITA on "WebSphere Everyplace Connection Manager also protects the data with bi-directional user and server authentication and data encryption, ensuring that the mobile data is protected and secure."); Section VII.B.2.

149. WebSphere-Portal discloses bi-directional interrogation with Portal's identity management servers because it teaches "SSL authentication" where "the server exchanges the server certificate with the client, and optionally, the client exchanges the client certificate with the server. This certificate exchange is for purposes of verify[ing] both server and client (optional) identities." EX1004, 899.

WebSphere-Portal provides an illustration of the bi-directional nature of authentication in Figure 29-17:

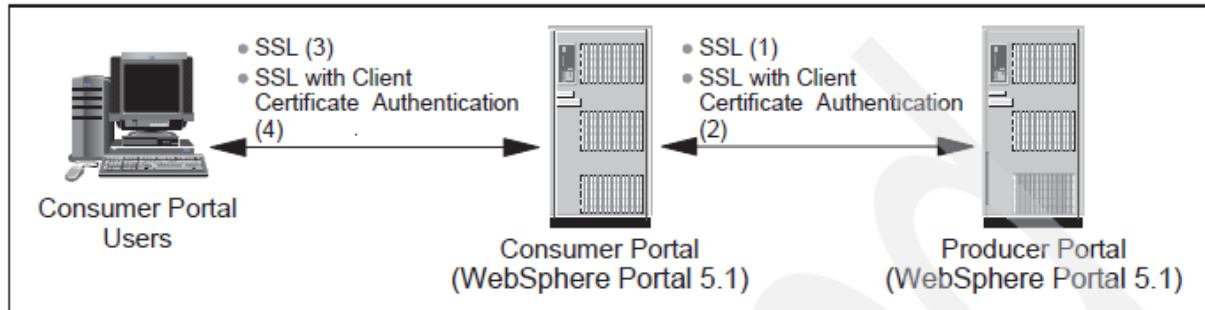


Figure 29-17 SSL scenarios for WSRP with WebSphere Portal

Id., 900 (showing bi-directional interrogation); EX1005, 380, 388.

150. WebSphere-Portal also discloses portlets bi-directionally interrogating through evaluating content from the identity management server (e.g., Authentication Server, LDAP Server and/or Credential Vault service) and the identity management server interrogating and/or evaluating contents of the portlet via SSL and certificate exchange. EX1005, 380 (“A method to ensure privacy is to enable WebSphere Application Server and WebSphere Portal to access the LDAP server with SSL enabled. ... SSL is a security protocol that supports data encryption, authentication, and data integrity verification. An SSL operation consists of an initiation and a data transfer. At the initiation stage, the client/server and the server try to set up the session and connection state by coming to an agreement on encryption and authentication. Agreement is made once the protocol version is chosen, the encryption algorithm chosen, and both parties have

authenticated each other (optional). Upon successful initiation stage, data will be transferred using public-key encryption. Data required for the public key encryption (including keys) is done through certificates. Certificates need to be created for each component and stored on each counterparts' key database.”), EX1004, 630 (“By using Credential Vault portlets, you can provide a single sign-on experience to the user, hiding the login challenge from the user. ... Portlets running on WebSphere Portal may need to access remote applications that require some form of authentication by using appropriate credentials. Examples of credentials are user IDs and passwords, SSL client certificates and private keys.”); *see also* EX1011, 144 (“Server Authentication: This type of authentication provides for two-way authentication between the LDAP client and the LDAP server. With client authentication, the LDAP client must have a digital certificate (based on the X.509 standard). This digital certificate is used to authenticate the LDAP client to the server. Server and client authentication: This type of authentication provides for two-way authentication between the LDAP client and the LDAP server. With client authentication, the LDAP client must have a digital certificate (based on the X.509 standard). This digital certificate is used to authenticate the LDAP client to the server.”). A POSITA thus would have understood that SSL is a form of bi-directional interrogation.

WebSphere-Everyplace

151. WebSphere-Everyplace also teaches this element. For example, WebSphere-Everyplace-1. explains bi-directional user and server authentication (i.e., through an identity management server) and data encryption for mobile data, a form of bi-directional interrogation to evaluate channel content. EX1006, 24 (“WebSphere Everyplace Connection Manager also protects the data with bi-directional user and server authentication and data encryption, ensuring that the mobile data is protected and secure.”).

152. Similarly, WebSphere-Everyplace-3 explains how database synchronization requires portlets to bi-directionally interrogate an identity management server. EX1008, 2 (“it is possible to choose a personal profile and define preferences and how conflicts are to be resolved during the synchronization process. You may synchronize your e-mail account with several devices, and you may define unique profiles for each of those devices”), 209 (“DB2 Everyplace Synchronization Server carries out bi-directional synchronization of data between the database on the mobile device and the source database on the server.”). A POSITA would have understood the unique profiles would be stored on an identity management server. EX1008, 4.

153. Further, WebSphere-Everyplace-4 discloses bi-directional interrogation between an identity management server (storing a profile with

preferences, subscriptions, configurations) and a channel regarding when to transmit updated content provided by the computer application on the channel (e.g., user preferences of stocks, notifications, and subscriptions). EX1009, 2-3, 7, 19-20 (Intelligent Notification Services), 4-6, 43-44 (Subscription Manager), 41-48 (Stock example – “After that, we configure the stock subscription by specifying which stock should be monitored and at which price the user should be informed.”).

[1.12] wherein the bi-directional interrogation further comprises the identity management server and a web services gateway interrogating the at least one authorized channel, wherein the web services gateway is a tool through which the channel grid framework interacts with the identity management server.

154. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses how Portal’s identity management server (e.g., Authentication Server, LDAP Server and/or Credential Vault) and web services gateway interrogates Portal’s portlets. As explained above, WebSphere-Portal discloses bi-directional interrogation between an authorized channel and identity management server. *See* element [1.11].

155. WebSphere-Portal also discloses a web services gateway interrogating portlets, where the web services gateway is a tool for Portal to interact with its identity management services. Portal’s WebSEAL, Wireless Access Point (WAP) Gateway, HTTP proxy edge server, and Network Dispatcher each constitute a

“web services¹⁰ gateway” in Portal. EX1004, 10 (Figure 1-3), 13 (Figure 1-4), 14 (Figure 1-5), 15 (Figure 1-6), 630 (Figure 20-1). WebSphere-Portal teaches that Portal uses web services gateways as a tool to access the at least remote portlets using the Internet via standard Internet protocols. EX1004, 11 (“The reverse proxy acts as an authentication gateway node and sits between the browser and the Web servers it protects.”), 17 (“WebSphere Portal provides services for exposing and integrating portlets as remote portlets hosted on another portal platform via Web Services technology.”). WebSphere-Portal also explains that Secure Socket Layer (SSL) is a protocol used by Portal’s Web Services for Remote Portlets (“WSRP”) standard. EX1004, 899; *see also* EX1037 (WSRP standard 1.0 specification); EX1038 (WSRP standard 2.0 specification).

156. WebSphere-Portal explains how “Portal is configured so that incoming [authentication] requests pass through an authentication component such as WebSphere Application Server, WebSEAL or other proxy servers.” EX1004,

¹⁰ “Web services” means a “collection of Web protocol-based applications” that “provide[s] business functionality through an Internet connection” and “use standard Internet protocols such as HTTP, XML, and SOAP.” EX1017, 564; EX1004, 12 (describing open standard of Web Services for Remote Portals); Section V.B.3.

16. WebSphere-Portal explains these gateways apply to “Web services.” EX1004, 5 (“[LDAP] infrastructure provides a foundation for deploying comprehensive identity management and advanced software architectures such as Web services.”).

157. WebSphere-Portal’s Figure 1-5 shows examples of a Web Services Gateway because it shows Corporate Web Services and Public Web Services connect via SOAP to the internet to HTTP Proxy (Edge Server) and then Portal Content Access and Credential Vault in Figure 1-5 below. EX1004, 14.

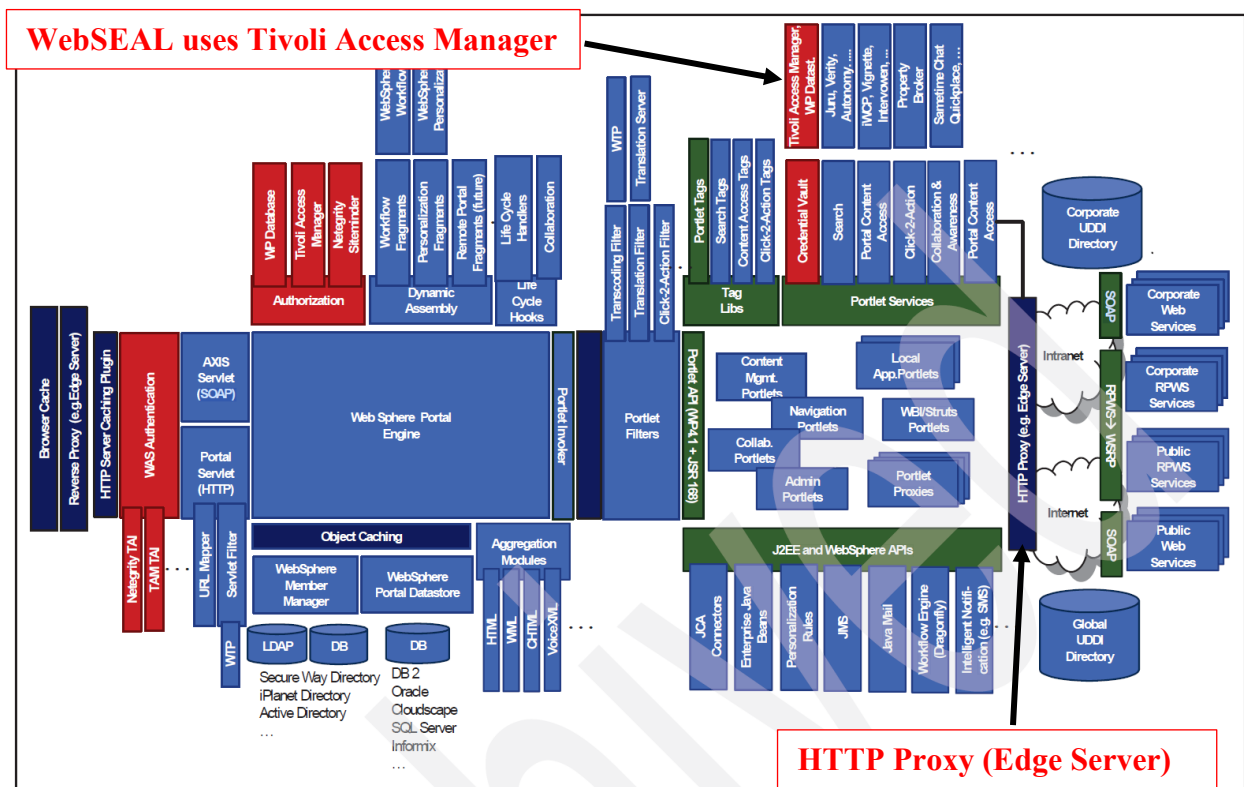


Figure 1-5 WebSphere Portal architecture

EX1004, 14 (annotations added showing web services gateways). WebSphere-Portal's Figure 1-5 also shows WAS Authentication connected to an AXIS Servlet (SOAP) to the Web Sphere Portal Engine which leads to Portlet API. *Id.*

158. WebSphere-Everyplace also teaches a “web services gateway” such as Portal's Edge Server. *E.g.*, EX1006, 2, 25 (“WebSphere Edge Server: Can be used with Everyplace Access to distribute the application processing to the edge of the network while at the same time ensuring centralized administration and application control.”); EX1009, 275 (“a reverse proxy such as IBM WebSphere Edge Server includes a reverse proxy component and passes HTTP traffic to one of several servers based on the URL received from the Everyplace Connection Manager machine.”), 308, 330; *see generally* EX1007, 207-236 (Chapter 7 – “Accessing Web Services”); *see also* EX1005, 387-388 (reverse proxy) 483-484 (“[T]he WebSphere Wireless Gateway (another component within WebSphere Everyplace) abstracts all the networks to an IP network resolving all the complexities.”), 495; *see also* EX1026, 7.

2. Claim 2

2. The apparatus of claim 1, wherein the secure user-centric information includes at least one of: text information; graphic information; one or more pictures; one or more videos; audio or digital sound; streaming data, audio or video; content associated with an executing computer application; voice-over-IP communication; instant messaging/SMS information; video-conferencing information; environmental monitoring information; financial services information; enterprise resource planning information; enterprise content

management information; building information; project management information; product lifecycle management information; RSS (Really Simple Syndication) reader information; remote device control/interaction information; a three-dimensional graphic visualization of one or more objects and/or immersive environments; one or more word processing documents; one or more spreadsheets; one or more presentation/slide shows; email; and address book information.

159. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses that Portal “[o]ffers numerous portlets for e-mail, calendars, syndicated news, industry applications and many other functions.” EX1004, 8. WebSphere-Combination discloses that Portal’s secure user-centric information includes at least text, graphics, enterprise content, RSS, word documents, weather, email, and address book information. EX1004, 8, 12-13 (RSS), 16, 18 (stocks), 41-42 (enterprise resource planning information, enterprise content management information), 632 (word processing, personnel records, bank accounts); EX1005, 8 (financial services), 9 (RSS), 241 (email), 245, 275 (graphic poll results), 474 (human resources content); EX1009, 2 (messaging/SMS, voice), 6 (news, weather and stocks). An example of text and graphic information displayed in a portlet is shown below:

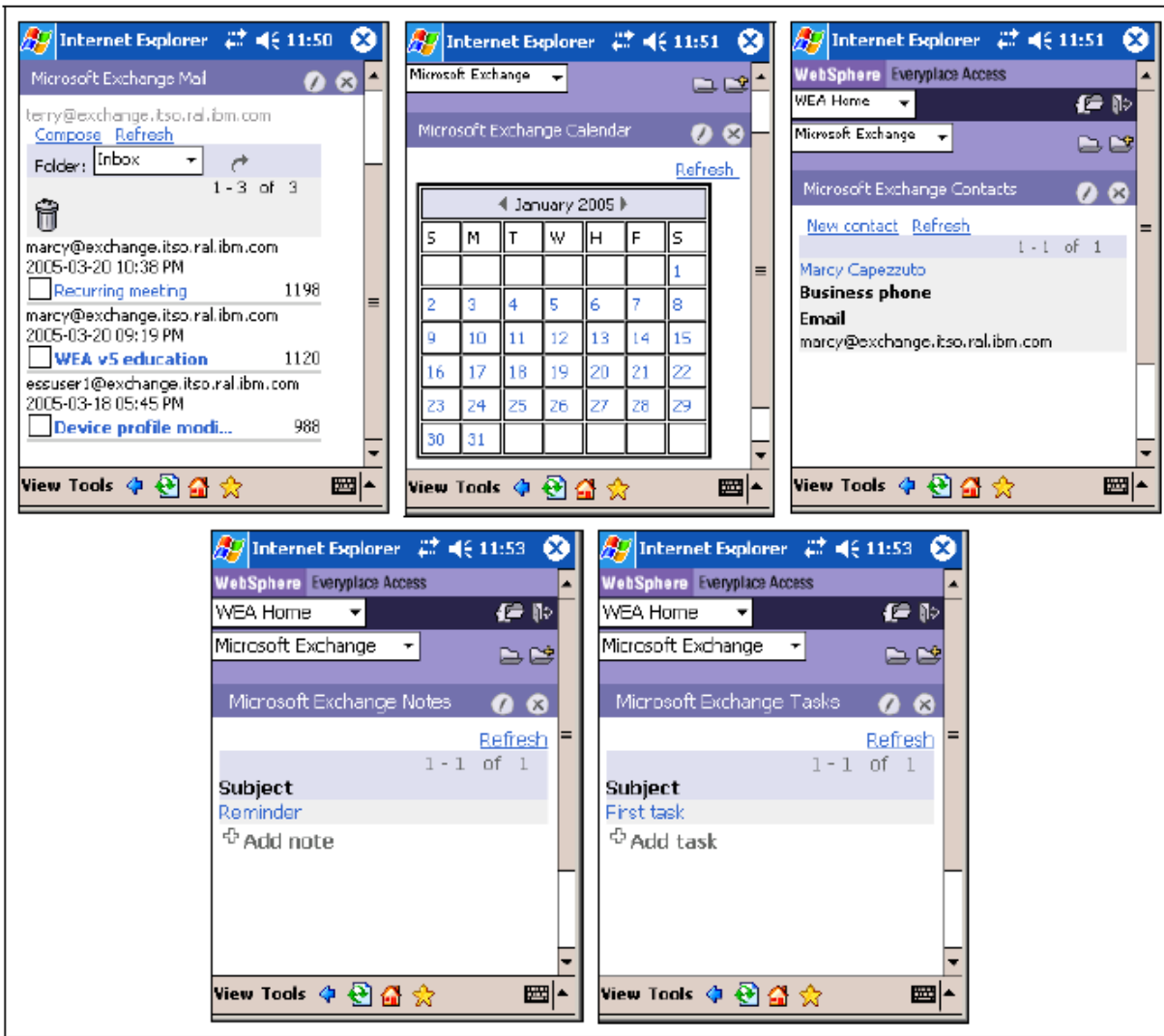


Figure 2-76 Microsoft Exchange Mail, Calendar, Contacts, Notes and Tasks

EX1008, 183.

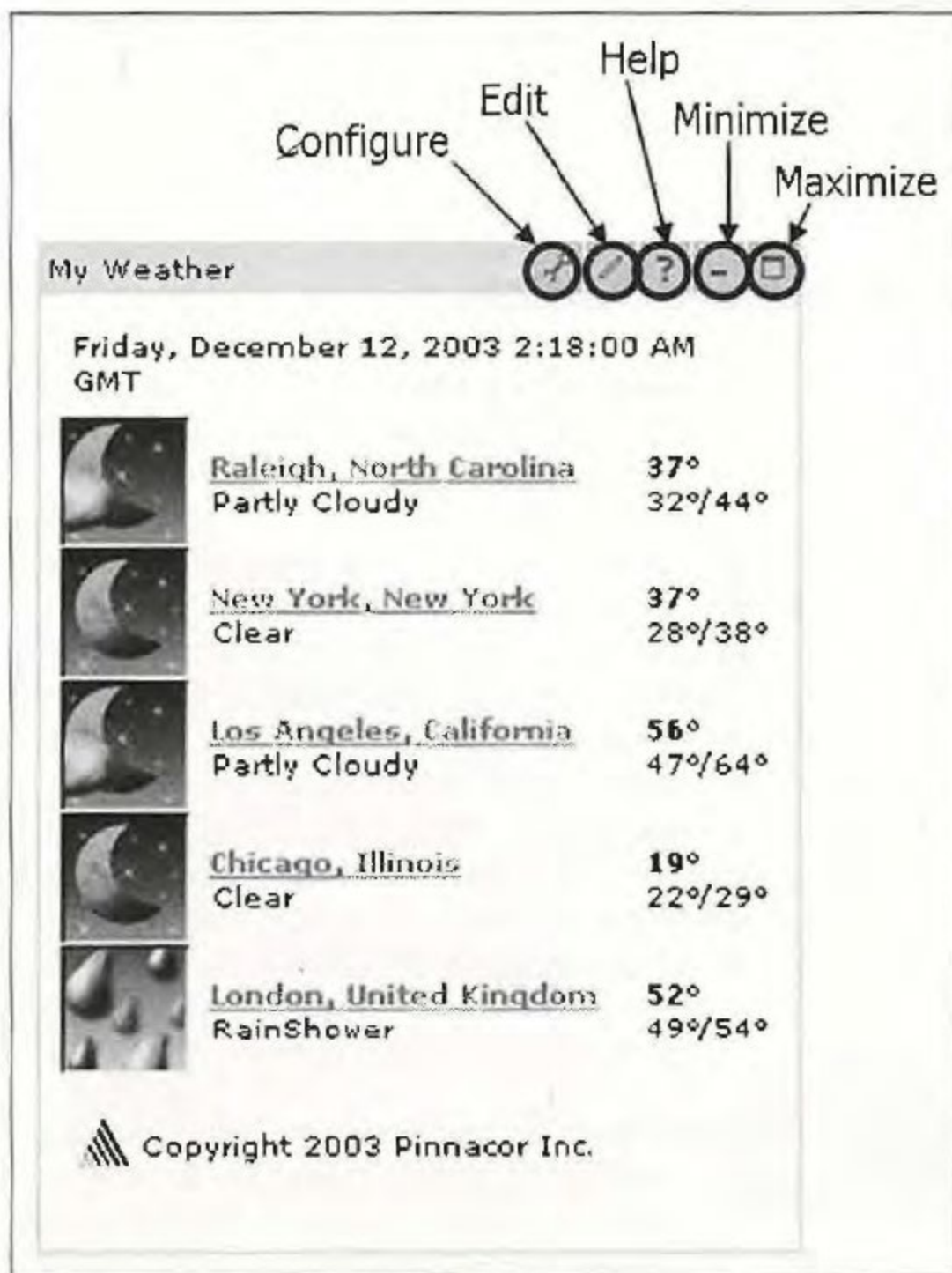


Figure 13-3 Sample portlet.

EX1005, 245.

3. Claim 3

3. The apparatus of claim 1, wherein the first authenticated channel information is provided by at least one authenticated channel application and/or at least one authenticated service.

160. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses authenticated channel information provided by authenticated channel applications: “Portlets running on WebSphere Portal may need to access remote applications that require some form of authentication by using appropriate credentials.” EX1004, 630-632 (examples of authenticated channel applications “include Lotus Notes, personnel records, or a bank account”); EX1005, 10, 225; *see* element [1.1] (secure user-centric information such as email, contacts, notes).

161. As I explain for claim 1, the portlets are authenticated (e.g., via LDAP, etc.) thus any data or information from those portlets would constitute authenticated channel information provided by an authenticated channel application and/or authenticated service.

162. WebSphere-Combination also discloses authenticated channel information provided by authenticated services through at least subscriptions. EX1004, 12 (“IBM WebSphere Portal provides a framework for pre-built, real-time news and syndicated content portlets from third-party vendors such as Financial Times, Pinnacor, YellowBrix, Factiva (Dow Jones and Reuters

Company), Moreover, CoreMedia, divine, FatWire, Autonomy, ScreamingMedia, X-Fetch, Atomica, Knowmadic and Quiver, just to name a few. The integration is pre-built and seamless. End users and administrators can easily subscribe to the portlets and customize the preference personally to enhance the user experience.”)

EX1005, 9; EX1008, 38, 144.

4. Claim 4

4. The apparatus of claim 1, wherein the at least one communication interface includes a web services gateway communicatively coupled to the at least one user platform server via the one or more transmission media.

163. In my opinion, WebSphere-Combination teaches this element. *See* elements [1.11]-[1.12]. A POSITA would have understood WebSphere-Portal disclosure of Portal’s web services gateways (at least Portal’s WebSEAL, WAP gateway, HTTP proxy edge server, and Network Dispatcher) is communicatively coupled to at least one user platform server (*e.g.*, Application Server) via transmission media. *See* EX1004, 10 (Figure 1-3), 11, 13 ((Figure 1-4), 14 (Figure 1-5), 15 (Figure 1-6), 630 (Figure 20-1); EX1005, 387, 410. WebSphere-Everyplace also teaches that WEA uses a “web services gateway” such as Portal’s Edge Server. *E.g.*, EX1006, 2, 25; EX1009, 275; *see also* EX1026, 7.

5. Claim 5

5. The apparatus of claim 1, wherein: C) comprises authenticating the user and the user platform based at least in part on the user profile; and D) comprises

transmitting the first authenticated channel information to the at least one user platform based at least in part on the user profile.¹¹

164. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses that Portal authenticates a user and platform based on user profiles and transmits information to users based on the user profile.

165. I described the authentication of a user and user platform based on a user profile above in claim 1. *See, e.g.*, elements [1.6]-[1.8] (describing authentication of user and platform based in part on the user profile and transmitting secure user-centric information or authenticated channel information based on in part on the user profile); EX1004, 5, 27 (“User[:] The user is authenticated at login and the user identification is available throughout the session. Client[:] The user’s device is determined by information contained in the request header.”); EX1008, 38.

166. WebSphere-Portal teaches that transmitting authenticated channel information to a user platform based in part on that user profile. EX1004, 2, 27; EX1005, 164 (“[R]ules-based personalization requires three kinds of resources: users, contents, and rules to map users to content. ... The collection of all the

¹¹ *Supra* n.8.

pieces of information relating to one user is referred to as a user profile.”), 485-86 (“When a request comes in, the portal determines what the user agent is. ... This value captures which device the user is using. [] The portal matches the user agent with the preference profiles installed.”).

167. WebSphere-Combination also teaches this element because WebSphere-Everyplace-3 describes that synchronization users have a user profile and device profiles, which a POSITA would have understood implies authentication of a user and a user platform based on a user profile. EX1008, 38, 144 (“Each Everyplace Synchronization user will have a user profile for the targeted synchronization device.”). WebSphere-Everyplace-3 explains that user and device profiles are linked to transmission of authenticated channel information: “Profiles are used to control how mail, calendar, tasks, etc. are included in the synchronization process. A device profile is a group of settings that limit the scope of synchronized data. It is necessary to create at least one device profile before synchronizing PIM or data. For user-specific device profiles, it also stores information about: The Domino Server the user wants to connect to. The user name and password of the Lotus Notes whose PIM and e-mail data the user wants to synchronize.” *Id.* (“End users work with device profiles using the Synchronization User Profiles portlet in the Mobile Setup page. End users can link to administrator profiles, which enables them to automatically inherit changes

made to the profile by an administrator, or create or edit their own device profiles.”). *Id.*

168. WebSphere-Everyplace-3 shows how device profiles are part of a user profile through at least Figure 1-164:

Figure 1-164 Updating device profile

EX1008, 123 (user name and password when updating device profile), 106 (“This portlet lets the Everyplace Synchronization Server administrators import multiple new users from Lotus Domino into WebSphere Portal, create and assign them a default device profile, and then notify each user of their new username and

password by e-mail. Administrators can also create and assign a default device profile to groups of existing users.”).

6. Claim 6

6. The apparatus of claim 1, wherein: the at least one memory stores an authentication directory to provide the information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform; the authentication directory includes a plurality of user accounts, a plurality of device accounts, and a plurality of application accounts; and C)¹² comprises authenticating the user and the at least one user platform based at least in part on the plurality of user accounts and the plurality of device accounts included in the authentication directory.

169. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses a memory storing an authentication directory, e.g., Light Authentication Directory Access Protocol (LDAP), that provides information access rights and/or security protocols, which includes user, device, and application accounts, and authentication is based in part on user and device accounts. *See* elements [1.6]-[1.8]; EX1004, 11 (“The Directory and Security Services provide support for a directory of users accessible through LDAP. These services are used for authentication and can also control and verify the resource access privileges or permissions granted to users.”), 76 (“Use the Single Sign-On screen to add sample code to support credential vault handling

¹² *Supra* n.8.

which is used to safely store credentials that are used in portlet authentication. ...

A portlet private credential vault [s]lot stores user credentials that are not shared among portlets. A shared credential vault slot shares user credentials among all a user's portlets. The administrative credential vault slot allows each user to store their confidential information for accessing administrator-defined resources such as Lotus Notes® databases. A system credential vault slot stores system credentials where the actual confidential information is shared among all users and portlets.”); EX1005, 14 (“User profile information can be supported in an LDAP and/or a database.”), 195, 385-386; EX1017, 310 (LDAP definition). A POSITA would have understood that a memory stores the directories described above.

170. The Microsoft Dictionary defines LDAP as “A network protocol designed to work on TCP/IP stacks to extract information from a hierarchical directory such as X.500. This gives users a single tool to comb through data to find a particular piece of information, such as a user name, an e-mail address, a security certificate, or other contact information.” EX1017, 310. The Microsoft Dictionary describes X.500 as covering “protocols for client/server systems that maintain and access directors of users and resources in X.400 form. *Id.*, 580. A POSITA would have understood the disclosure of LDAP implies a memory to store authentication information. In my opinion, WebSphere-Combination's LDAP authentication scheme meets claim 6's added limitations.

171. WebSphere-Portal provides examples of application accounts in the authentication directory, such as Lotus Notes, personnel records, or a bank account. EX1004, 632 (“The resource within the vault implementation corresponds to an application or backend system that requires its own authentication. Examples of resources include Lotus Notes, personnel records, or a bank account.”).

172. WebSphere-Combination also teaches this element because WebSphere-Everyplace-1 discloses authentication for multiple devices (platforms), users, and applications (portlets):

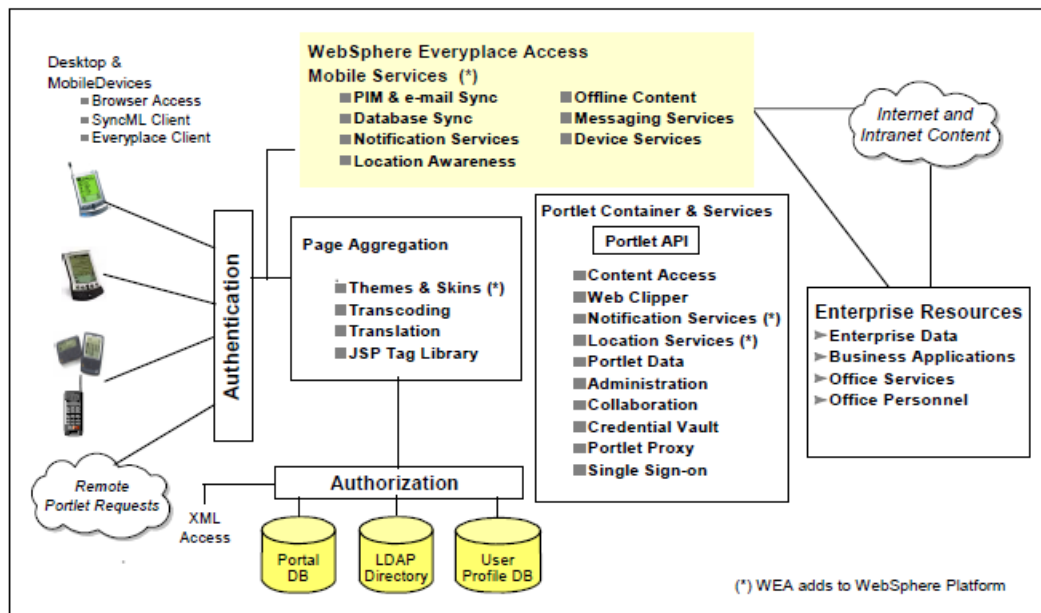


Figure 1-2 WebSphere Everyplace Access server

EX1006, 5.

173. WebSphere-Everyplace-2 describes how credentials are required for application accounts: “[Portlets] must be able to store and retrieve user credentials for their particular associated application and use those credentials to log in on

behalf of the user.” EX1007, 182. WebSphere-Portal provides examples of application accounts in the authentication directory, such as Lotus Notes, personnel records, or a bank account. EX1004, 632 (“The resource within the vault implementation corresponds to an application or backend system that requires its own authentication. Examples of resources include Lotus Notes, personnel records, or a bank account.”).

174. WebSphere-Portal also describes how objects in the portal environment store attributes including portlet application settings, which a POSITA would have understood constitutes an “application account.” EX1004, 145, 168. Similarly, Ben-Natan describes application settings for portlets. EX1005, 252, 258.

175. WebSphere-Everyplace-3 explains how to create a “device profile” and explains that “it is necessary to create at least one device profile before synchronizing PIM or data.” EX1008, 38. WebSphere-Everyplace-3 explains that the device account is stored on WEA server. *Id.*, 65. A POSITA would have understood that the device profile constitutes a device account.

7. Claim 7

7. The apparatus of claim 6, wherein: at least one user account of the plurality of user accounts includes at least one entry comprising at least one of: a user name; a user password; a user email; a user mailstop; a user telephone number; a user mobile number; a user building; a user campus; and at least one user

group; and C)¹³ comprises authenticating the user if the user identity matches the at least one entry.

176. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses user accounts with entries including at least user name, password, email, telephone, and location where authentication occurs if the user identity matches at least one entry. *See* elements [1.6]-[1.8]; EX1004, 11, 33, 76, 297; EX1005, 217, 454 (user name and password for authentication); Section V.B.2.

¹³ *Supra* n.8.

Table 8-1 Supported user attributes

User attribute name	Member Manager equivalent
user.gender	ibm-gender
user.employer	o
user.department	ou
user.jobtitle	ibm-jobTitle
user.name.prefix	ibm-personalTitle
user.name.given	givenName
user.name.family	sn
user.name.middle	ibm-middleName
user.home-info.telecom.telephone.number	homePhone
ser.home-info.online.email	u ibm-otherEmail
user.business-info.postal.street	street
user.business-info.postal.stateprov	stateOrProvinceName
user.business-info.postal.postalcode	postalCode
user.business-info.postal.country	countryName
user.business-info.telecom.telephone.number	telephoneNumber
user.business-info.telecom.fax.number	facsimileTelephoneNumber
user.business-info.telecom.mobile.number	mobile
user.business-info.telecom.pager.number	pager
user.business-info.telecom.online.email	ibm-primaryEmail

EX1004, 297, 729.

8. Claim 8

8. The apparatus of claim 6, wherein: at least one device account of the plurality of device accounts includes at least one entry comprising at least one of: a device name; a device type; a device manufacturer; a device model number; a device serial number; a device IP address; a device location; a device user; and a device password; and C)¹⁴ comprises authenticating the user platform if the platform identity matches the at least one entry.

¹⁴ *Supra* n.8.

177. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Portal discloses device accounts with entries including at least name, manufacturer, type, model, and authentication occurs if the device matches at least one entry. *See* elements [1.6]-[1.8]; EX1004, 125-126 (“The Client object can be retrieved from the PortletRequest object as illustrated in Example 4-5.”).

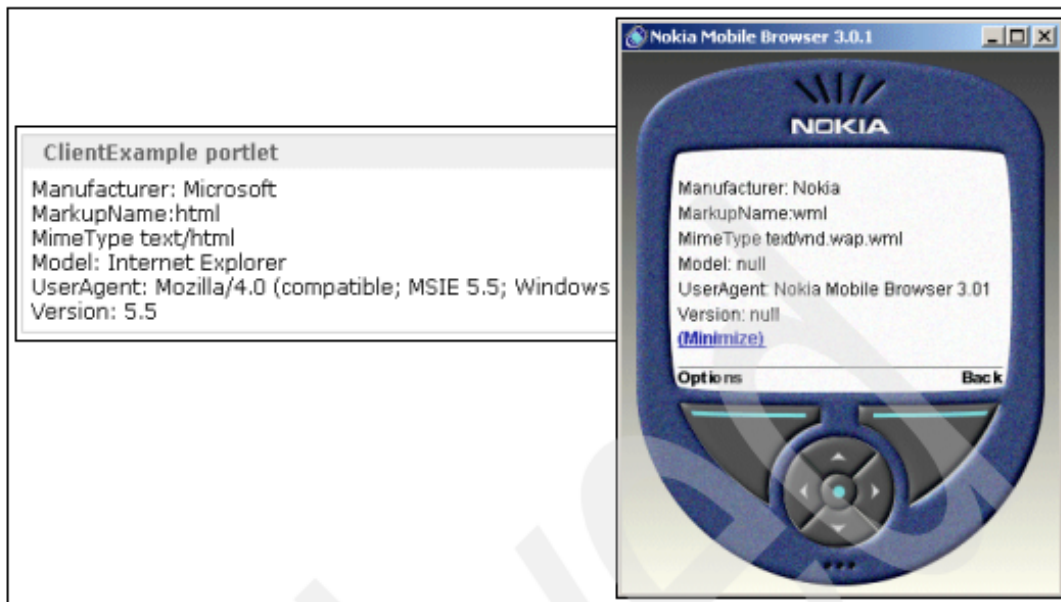


Figure 4-4 Client Information displayed on various clients

Id.

Example 4-5 Working with the client object

```
Client client = request.getClient();
out.print("<P>Manufacturer: " + client.getManufacturer() + "<br/>");
out.print("MarkupName:" + client.getMarkupName() + "<br/>");
out.print("MimeType   " + client.getMimeType() + "<br/>");
out.print("Model:     " + client.getModel() + "<br/>");
out.print("UserAgent:  " + client.getUserAgent() + "<br/>");
out.print("Version:   " + client.getVersion() + "</P>");
```

Id. As shown above for claim 5, this device information is paired with user identity in WEA as a requirement for at least some services. *See* claim 5. The user (the

recited “device user”) is an aspect of the device account, and users are routinely authenticated; this also authenticates the device.

178. WebSphere-Combination also teaches this element because WebSphere-Everyplace-3 describes that synchronization users have a user profile and device profiles, which a POSITA would have understood implies authentication of the user platform if the platform identity matches the at least one entry. EX1008, 38, 144 (“Each Everyplace Synchronization user will have a user profile for the targeted synchronization device.”). WebSphere-Everyplace-3 explains that user and device profiles are linked to transmission of authenticated channel information: “Profiles are used to control how mail, calendar, tasks, etc. are included in the synchronization process. A device profile is a group of settings that limit the scope of synchronized data. It is necessary to create at least one device profile before synchronizing PIM or data. For user-specific device profiles, it also stores information about: The Domino Server the user wants to connect to. The user name and password of the Lotus Notes whose PIM and e-mail data the user wants to synchronize.” *Id.* (“End users work with device profiles using the Synchronization User Profiles portlet in the Mobile Setup page. End users can link to administrator profiles, which enables them to automatically inherit changes made to the profile by an administrator, or create or edit their own device profiles.”) *Id.*; *see also* Section V.B.2.

9. Claim 9

9. The apparatus of claim 8, wherein C)¹⁵ comprises authenticating the at least one user platform based at least in part on a location of the at least one user platform.

179. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Everyplace discloses device authentication by location, through WEA's Location Aware Services, which utilize "access [to] the location-based services provided by many cellular service providers." EX1009, 155-186 (Chapter 5-Location Aware Services), 159 ("[Location Aware Services adapters] have to handle the authentication mechanism as required by the service provider.").

180. For example, WebSphere-Everyplace-4 discloses that Location Aware Services provide authentication of the user platform based in part on location of the user platform: "Location Aware Services provide: ... authentication of the application or user to the service provider. In general, service providers require an application to authenticate before invoking a service. ... Location Aware Services and the service adapters cooperate to manage the authentication process transparently to the application programmers." EX1009, 156-159, FIG. 5-1. "Location service providers often make their services available both over the Internet and as software to be installed at the application provider's site. If installed

¹⁵ *Supra* n.8.

locally, there will be no need to authenticate, and a different invocation mechanism can be used.” *Id.* WebSphere-Everyplace-4 discloses that authentication can be voided if a user moves to another area. *Id.* (“Therefore, a location-based service that is valid for one location might not be valid for another. If a user of a location-based service moves to another area, that service might eventually become invalid.”) *Id.* A POSITA would have understood WebSphere-Everyplace-4’s disclosure on Location Aware Services indicates authentication can be voided if a user moves to another area.

181. WebSphere-Everyplace 4 discloses that “[Location Aware Services adapters] have to handle the authentication mechanism as required by the service provider” in the context of Fig. 5-1, shown below. EX1009, 157. Fig. 5-1 positions the service adapters associated with the location service (pluggable adapters: positioning, mapping, geocoding, routing, etc.), indicating that the location service is part of the authentication of the user platform.

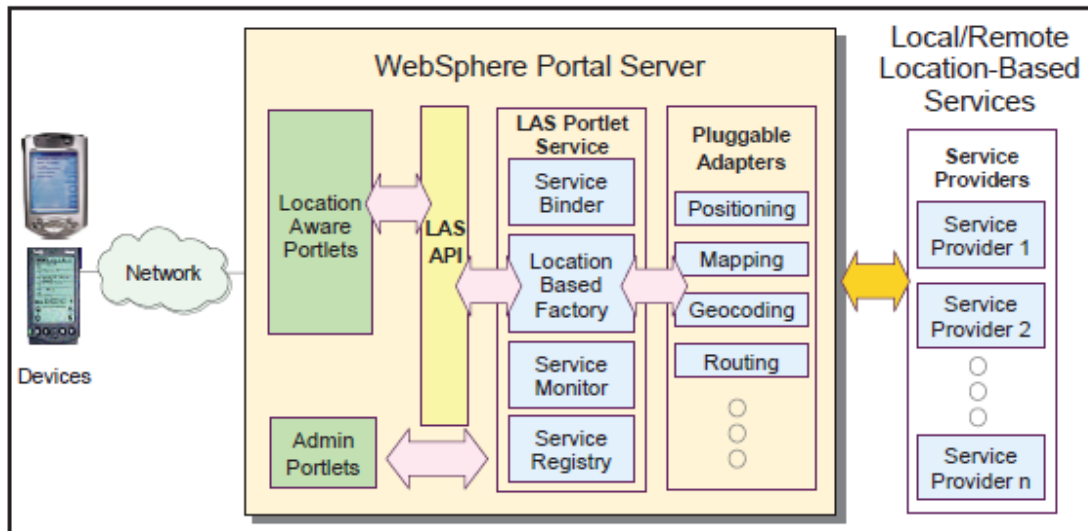


Figure 5-1 Location Aware Services architecture

Id., 158.

10. Claim 10

10. The apparatus of claim 6, wherein D)¹⁶ comprises: transmitting to the at least one user platform the first authenticated channel information based at least in part on the plurality of application accounts included in the authentication directory.

182. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses transmitting to a device authenticated channel information is based on application accounts in an authentication directory: “End users and administrators can easily subscribe to the portlets and customize the preference personally to enhance the user experience.” EX1004, 11-12, 42-43, 632 (examples of application accounts in the authentication vault

¹⁶ *Supra* n.8.

“include Lotus Notes, personnel records, or a bank account”. A POSITA would have understood that application preferences, parameters, displays for the subscribed portlets would be stored in an application account in an authentication directory. EX1004, 5, 7-8, 11-12; EX1005, 192, 442.

183. WebSphere-Portal provides examples of application accounts in the authentication directory, such as Lotus Notes, personnel records, or a bank account. EX1004, 631 (“The resource within the vault implementation corresponds to an application or backend system that requires its own authentication. Examples of resources include Lotus Notes, personnel records, or a bank account.”).

184. WebSphere-Portal also describes how objects in the portal environment store attributes including portlet application settings, which a POSITA would have understood constitutes an “application account.” EX1004, 145, 168. Similarly, Ben-Natan describes application settings for portlets. EX1005, 252, 258.

185. WebSphere-Portal discloses that Portal’s server side has a catalog (directory) of portlets it supports and authenticates. EX1004, 5, 7-8 (“WebSphere Portal ... offers numbers of portlets for e-mail, calendars, syndicated news, industry applications, and many other functions.”), 11-12.

186. In addition to LDAP, WebSphere-Everyplace-2 describes how credentials stored in Portal’s Credential Vault are required for application

accounts: “[Portlets] must be able to store and retrieve user credentials for their particular associated application and use those credentials to log in on behalf of the user.” EX1007, 182. A POSITA would have understood WebSphere-Everyplace-2 as disclosing how Portal is storing user credentials to access third party services, such as email providers.

11. Claim 13

13. The apparatus of claim 1, wherein in D), the at least one processor further manages the provision of and interaction with the secure user-centric information by: D 1) controlling the at least one communication interface to transmit channel information corresponding to at least some of the plurality of channels implemented in A), including the first authenticated channel information, to the at least one user platform so as to facilitate display of a desktop for the at least one user platform as a channel grid framework, the channel grid framework including a plurality of user-selectable items representing the at least some of the plurality of channels implemented in A), wherein, in D 1), the plurality of user-selectable items included in the channel grid framework is based at least in part on the information access rights and/or the security protocols respectively associated with the corresponding plurality of channels, the user, and the user platform.

187. In my opinion, WebSphere-Combination teaches this element at least because WebSphere-Combination discloses that the processor manages the provision of and interaction with the secure user-centric information (*see* element [1.3]) by controlling at least one communication interface to transmit authenticated channel information, corresponding to the channels implemented in A) (*see* element [1.9]), so as to facilitate display of a desktop for the channel grid framework (*see* element [1.4]) with user-selectable items based in part on

information access rights and/or security protocols associated with the channels, user, and user platform (*see* element [1.9]). A POSITA would have understood that Portal uses a desktop user interface which makes the screen analogous to a user's desktop, where various items on the desktop are replaced by graphic icons on the screen. EX1005, 4 (“[Portal users] can create a personalized device-independent ‘desktop’ with a consistent look and feel ...”), 7 (“Portal allows users to create their own virtual desktops that are machine independent.”). The channel grid services this purpose by laying out portlet applications (channels) across the surface of the screen. EX1017, 154 (definition of desktop).

188. Microsoft Dictionary defines “desktop” as “An on-screen work area that uses icons and menus to simulate the top of a desk. A desktop is characteristic of the Apple Macintosh and of windowing programs such as Microsoft Windows. Its intent is to make a computer easier to use by enabling users to move pictures of objects and to start and stop tasks in much the same way as they would if they were working on a physical desktop.” EX1017, 154. A POSITA would have understood that WebSphere-Combination's disclosures meet claim 13.

189. WebSphere-Portal teaches that Portal's transmission of authenticated channel information facilitates display of Portal's desktop with user-selectable items. *See* element [1.4]; EX1004, 152 (describing “live” portlets and selecting a stock portlet).

12. Claim 17

17. The apparatus of claim 1, wherein the first authenticated channel information includes at least one of: text information; graphic information; one or more pictures; one or more videos; audio or digital sound; streaming data, audio or video; content associated with an executing computer application; voice-over-IP communication; instant messaging/SMS information; video-conferencing information; environmental monitoring information; financial services information; enterprise resource planning information; enterprise content management information; building information; project management information; product lifecycle management information; RSS (Really Simple Syndication) reader information; remote device control/interaction information; a three-dimensional graphic visualization of one or more objects and/or immersive environments; one or more word processing documents; one or more spreadsheets; one or more presentation/slide shows; email; and address book information.

190. In my opinion, WebSphere-Combination teaches this element because WebSphere-Combination discloses at least text, weather, graphic, SMS, RSS information, and email. *See* claims 1, 2.

13. Claim 18

18. The apparatus of claim 1, wherein: in A), the at least one processor implements a channel server that defines one or more visual characterizations, one or more functions or features, and/or one or more information types provided by respective channels of the plurality of channels; the channel server implements at least the at least one authorized channel; and the at least one memory further stores at least one database including registries to one or more services and/or applications used by the channel server to implement the at least one authorized channel and provide the first authenticated channel information.

191. In my opinion, WebSphere-Combination teaches this element because WebSphere-Combination discloses a channel server (WebSphere Application Server) that defines visual characterizations, functions and features, and

information types, and implements the channel and a database registry to one or more services and/or applications. EX1004, 11 (“WebSphere Application Server to use the LDAP user registry”), 18 (“WebSphere Portal takes the advantage of the WebSphere Application Server, making use of its J2EE services. WebSphere Portal itself installs as an Enterprise application in WebSphere Application Server.”), 42; *see* claims 1-3.

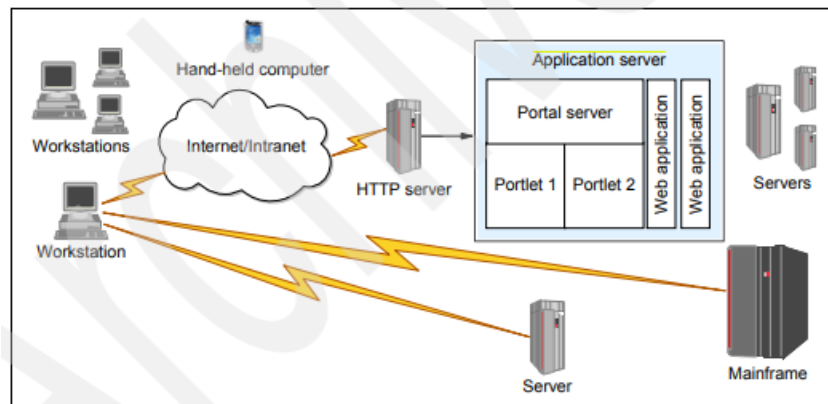


Figure 1-12 Portal Solutions - client to remote application

EX1004, 42 (showing Portal server and Portlet 1 and 2 on the WebSphere Application Server).

192. WebSphere-Combination also describes a “portlet server” which controls access to the channel. EX1004, 41 (“a portlet is provided which can be installed in Portlet Server and, after a configuration effort, the system or application in question can be accessed through the portal”).

193. Examples of visual characterization of a portlet (channel):

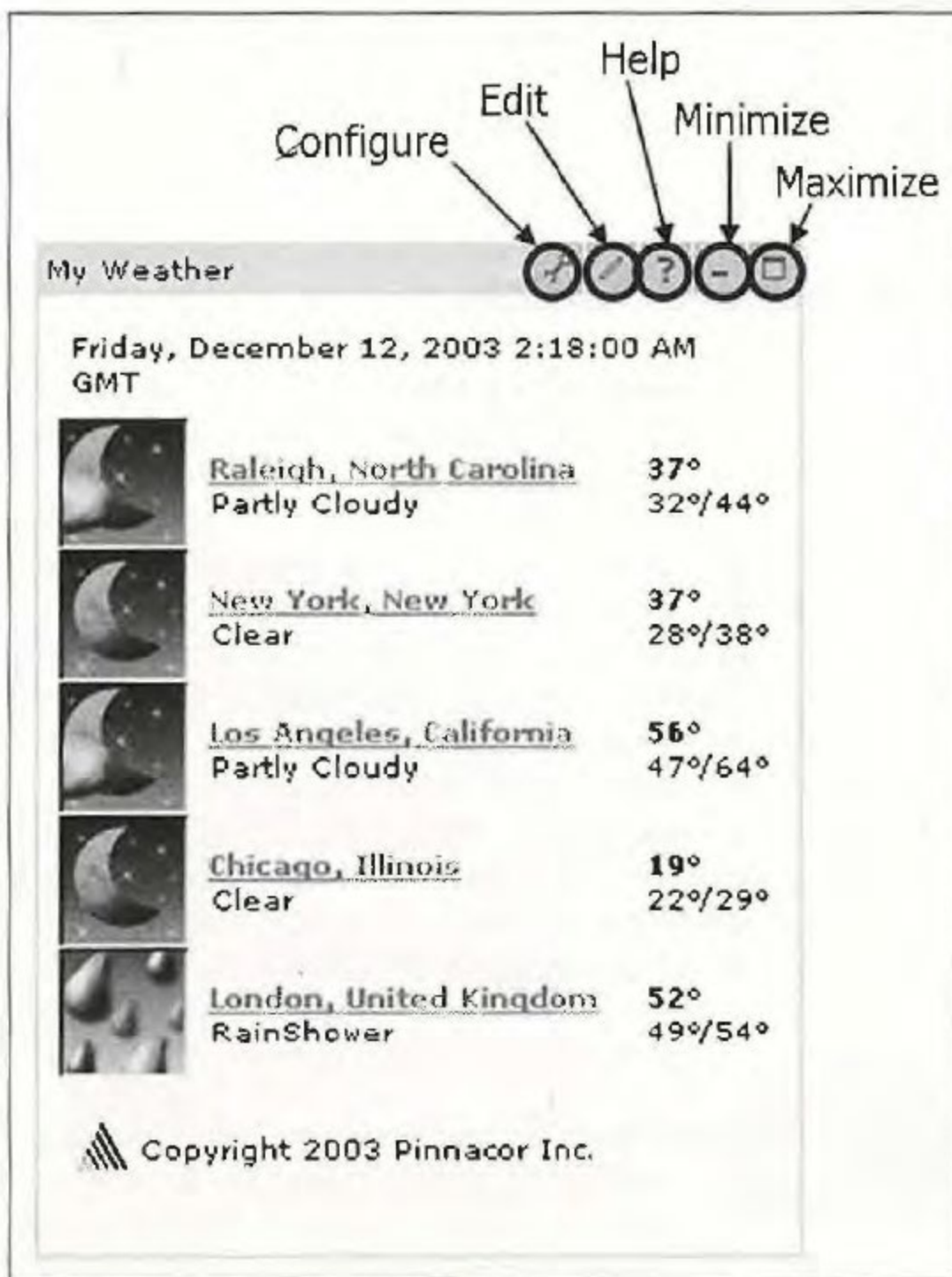


Figure 13-3 Sample portlet.

EX1005, 245; *see also* element [1.4].

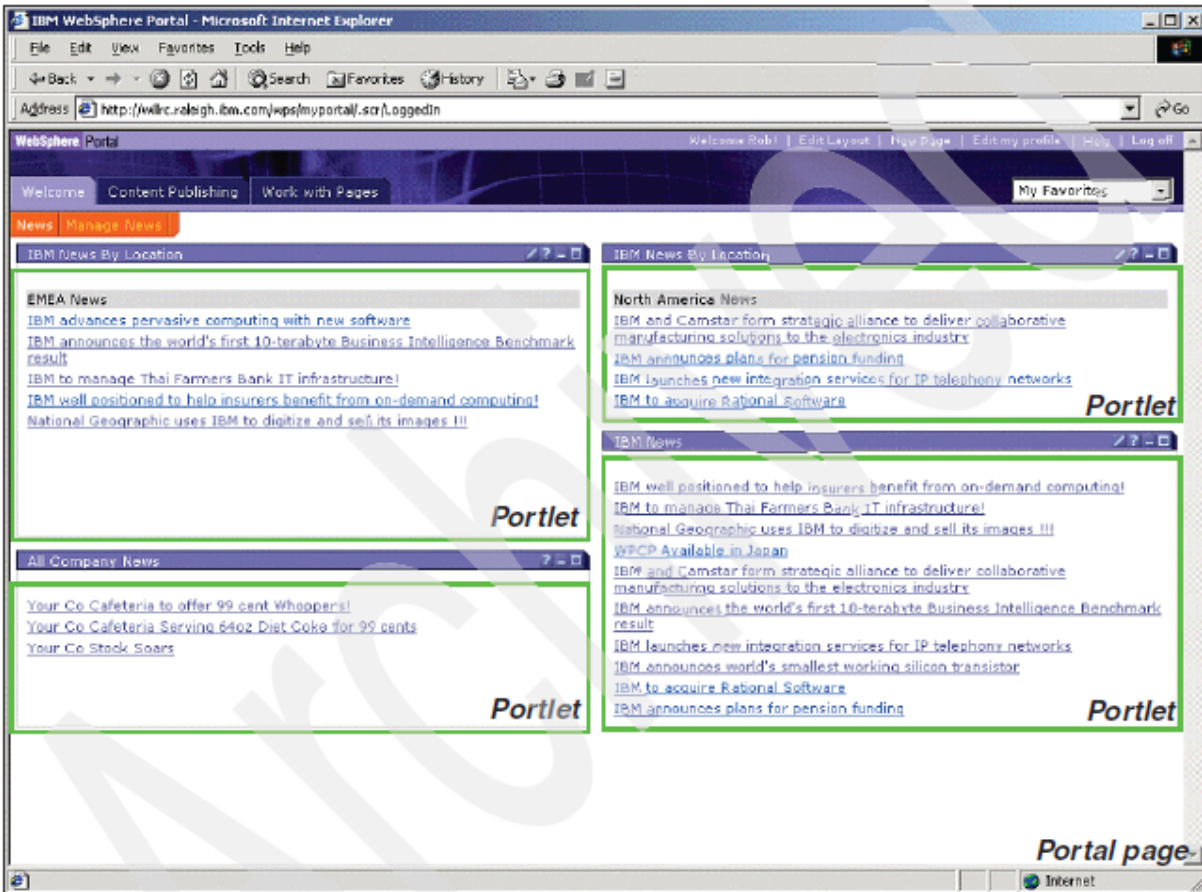


Figure 2-1 Portal page and portlets

EX1004, 49.

194. A POSITA would have understood that Portal's WebSphere Application Server Portal includes a channel server and registry for authorized channels, as confirmed by Ben-Natan. EX1005, 248, 365 ("Information required for authentication is stored in user registries while information relating to the user's profile and preferences is stored in the user repository. ... WebSphere Portal supports four types of identity management configurations, as seen in Figure 19-1. The first is where the user registry and profile information for WebSphere Portal

and WebSphere Application Server is stored on the same LDAP server, which is usually remote.”), 426 (“UDDI registries allow you to publish businesses and services. Once you publish your Web services to a UDDI registry, they can be discovered and used by potential customers. UDDI registries can be partitioned into private and public registries.”).

14. Claim 36

36. The apparatus of claim 1, wherein the one or more of the plurality of channels interrogating the identity management server comprises the one or more of the plurality of channels evaluating content provided by the identity management server and determining if services of the one or more of the plurality of channels are available, and wherein the identity management server and the web services gateway interrogating the one or more of the plurality of channels comprises the identity management server evaluating content provided by the one or more of the plurality of channels.

195. In my opinion, WebSphere-Combination teaches this element because WebSphere-Combination discloses portlets via Portal Engine evaluating content from the identity management server (e.g., Authentication Server, LDAP Server and/or Credential Vault) and the identity management server evaluating contents of the portlet via SSL and certificate exchange. *See* claim 1; EX1005, 380 (“A method to ensure privacy is to enable WebSphere Application Server and WebSphere Portal to access the LDAP server with SSL enabled. SSL is a security protocol that supports data encryption, authentication, and data integrity verification. An SSL operation consists of an initiation and a data transfer. At the

initiation stage, the client/server and the server try to set up the session and connection state by coming to an agreement on encryption and authentication. Agreement is made once the protocol version is chosen, the encryption algorithm chosen, and both parties have authenticated each other (optional). Upon successful initiation stage, data will be transferred using public-key encryption. Data required for the public key encryption (including keys) is done through certificates. EX1005, 380 (“Certificates need to be created for each component and stored on each counterparts’ key database. Certificates can be obtained from a certificate authority (CA) such as Verisign or they can be self-signed.”).

196. WebSphere-Portal also teaches use of Credential Vault portlets which exchange SSL certificates and keys. EX1004, 630 (“By using Credential Vault portlets, you can provide a single sign-on experience to the user, hiding the login challenge from the user. ... Portlets running on WebSphere Portal may need to access remote applications that require some form of authentication by using appropriate credentials. Examples of credentials are user IDs and passwords, SSL client certificates and private keys.”).

197. WebSphere-Everyplace-1 also explains bi-directional user and server authentication and data encryption for mobile data, another form of interrogating to evaluate channel content. EX1006, 24 (“WebSphere Everyplace Connection

Manager also protects the data with bi-directional user and server authentication and data encryption, ensuring that the mobile data is protected and secure.”).

198. Additionally, WebSphere-Everyplace-4 disclose bi-directional interrogation between an identity management server and a channel through its disclosure of monitoring (evaluating) the actual content provided by the computer application on the channel (e.g., stocks, notifications, and subscriptions). EX1009, 2-3, 7, 19-20 (Intelligent Notification Services), 4-6, 43-44 (Subscription Manager), 41-48 (Stock example – “After that, we configure the stock subscription by specifying which stock should be monitored and at which price the user should be informed.”).

199. Figures from WebSphere-Everyplace-4 are provided below:

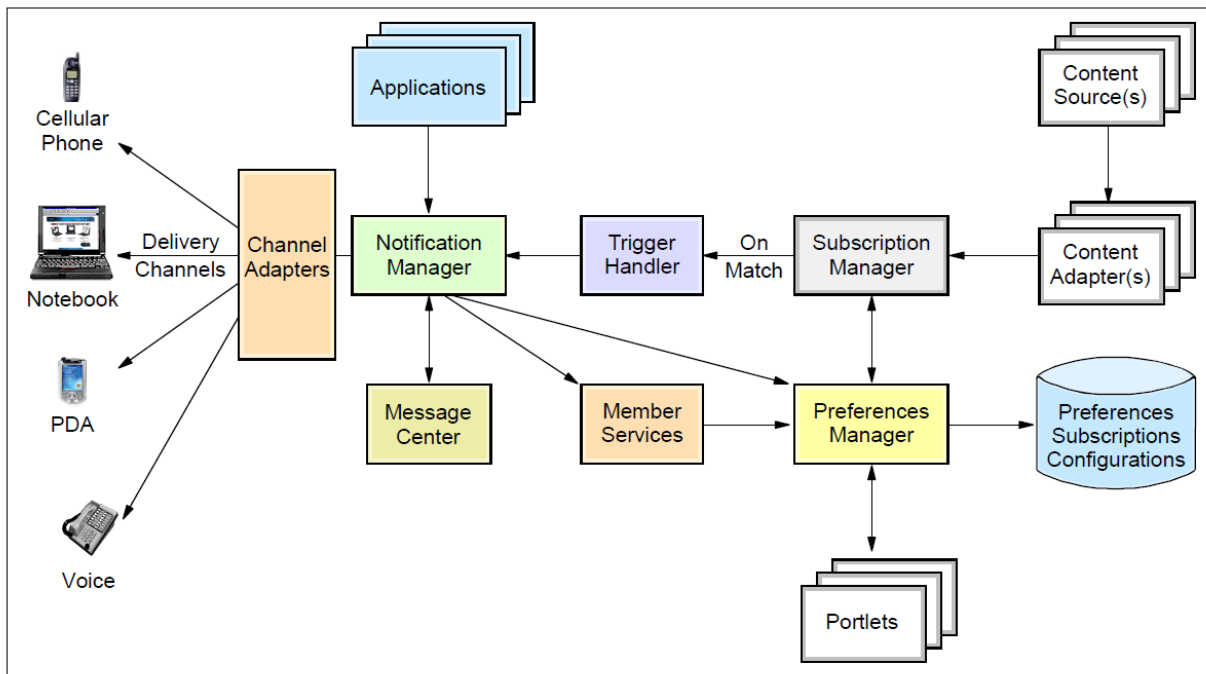


Figure 1-1 Intelligent Notification Services architecture

EX1009, 3.

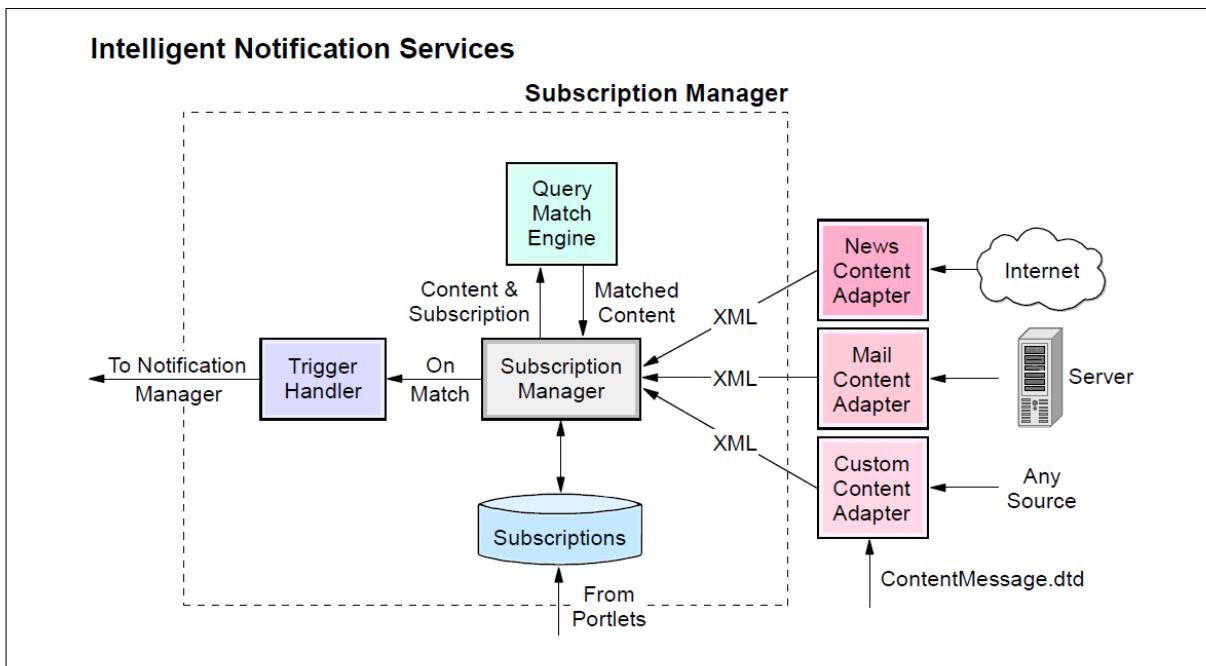


Figure 1-2 Components of Subscription Manager

EX1009, 4.

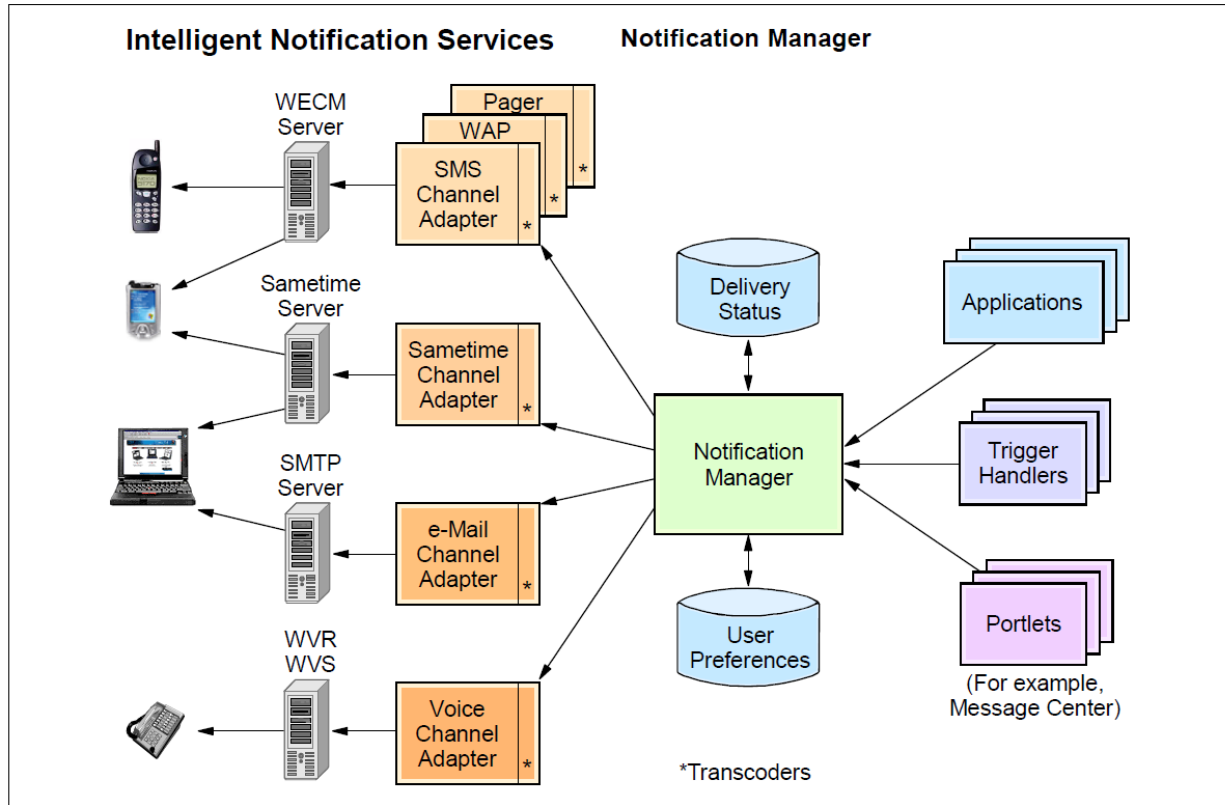


Figure 1-4 Components of the Notification Manager

EX1009 7.

15. Claim 37

[37.1] A method for providing secure user-centric information via a plurality of user platforms operated by a user, the method comprising:

200. In my opinion, WebSphere-Combination teaches this element because WebSphere-Combination discloses Portal as a method of providing secure user-centric information on many platforms operated by a user. See element [1.1].

[37.2] A) implementing a channel grid framework including a matrix of a plurality of channels through which the user receives and/or interacts with, via the plurality of user platforms, respective portions of the secure user-centric information,

201. In my opinion, WebSphere-Combination teaches this element. *See* element [1.4].

[37.3] wherein implementing the plurality of channels comprises synchronizing functions and features of one or more of the plurality of channels across two or more of the plurality of user platforms deploying the secure user-centric information to two or more of the plurality of user platforms;

202. In my opinion, WebSphere-Combination teaches this element. *See* element [1.5].

[37.4] B) establishing a user profile identifying user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on at least one platform of the plurality of user platforms;

203. In my opinion, WebSphere-Combination teaches this element. *See* element [1.6].

[37.5] C) receiving, from at least one user platform of the plurality of user platforms, a user identity for the user and a platform identity for the at least one user platform;

204. In my opinion, WebSphere-Combination teaches this element. *See* element [1.7].

[37.6] D) authenticating the user and the at least one user platform to receive the secure user-centric information based at least in part on the user identity and the platform identity; and

205. In my opinion, WebSphere-Combination teaches this element. *See* element [1.8].

[37.7] E) if the user and the at least one user platform are authenticated in C)¹⁷, transmitting to the at least one user platform first authenticated channel information relating to at least one authorized channel of the plurality of channels implemented in A), based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform,

206. In my opinion, WebSphere-Combination teaches this element. *See* element [1.9].

[37.8] wherein at least a portion of the first authenticated channel information to be transmitted to the at least one user platform is selected based at least in part on the user profile and is transmitted to the at least one user platform without being requested by the user,

207. In my opinion, WebSphere-Combination teaches this element. *See* element [1.10].

[37.9] wherein the transmission of the first authenticated channel information to the at least one user platform is based in part on a bidirectional interrogation of the at least one authorized channel, wherein the bi-directional interrogation comprises the at least one authorized channel interrogating an identity management server, and

208. In my opinion, WebSphere-Combination teaches this element. *See* element [1.11].

[37.10] wherein the bi-directional interrogation further comprises the identity management server and a web services gateway interrogating the at least one

¹⁷ Claim 37's step C) relates to a "receiving" step while step D) relates to an "authenticating" step. *See* n.8.

authorized channel, wherein the web services gateway is a tool through which the channel grid framework interacts with the identity management server.

209. In my opinion, WebSphere-Combination teaches this element. *See* element [1.12].

16. **Claim 38**

38. The method of claim 37, wherein: the method further comprises establishing the user profile as part of an authentication directory including a plurality of user accounts, a plurality of device accounts, and a plurality of application accounts; and C)¹⁸ comprises authenticating the user and the at least one user platform based at least in part on the plurality of user accounts and the plurality of device accounts included in the authentication directory; and the method further comprises authenticating specific ones of the plurality of channels based at least in part on the plurality of application accounts included in the authentication directory.

210. In my opinion, WebSphere-Combination teaches this element because WebSphere-Combination discloses establishing user profiles as part of an authentication directory with user, device, and application accounts where users and devices are authenticated with specific channels based on the application accounts. *See* element [1.6]; claim 6.

211. WebSphere-Portal provides examples of application accounts in the authentication directory, such as Lotus Notes, personnel records, or a bank account. EX1004, 631 (“The resource within the vault implementation corresponds

¹⁸ *Supra* n.17.

to an application or backend system that requires its own authentication. Examples of resources include Lotus Notes, personnel records, or a bank account.”).

212. WebSphere-Portal also describes how objects in the portal environment store attributes including portlet application settings, which a POSITA would have understood constitutes an “application account.” EX1004, 145, 168. Similarly, Ben-Natan describes application settings for portlets. EX1005, 252, 258.

17. Claim 39

39. The method of claim 38, wherein: at least one user account of the plurality of user accounts includes at least one entry comprising at least one of: a user name; a user password; a user email; a user mailstop; a user telephone number; a user mobile number; a user building; a user campus; and at least one user group; and in C, the user is authenticated if the user identity matches the at least one entry.

213. In my opinion, WebSphere-Combination teaches user account authentication with at least a username and password, email, and telephone number, and user authentication is user identity matches the at least one entry. *See* claims 1, 7, 38.

18. Claim 40

40. The method of claim 39, wherein: at least one device account of the plurality of device accounts includes at least one entry comprising at least one of: a device name; a device type; a device manufacturer; a device model number; a device serial number; a device IP address; a device location; a device user; and a device password; and in C, the user platform is authenticated if the platform identity matches the at least one entry

214. In my opinion, WebSphere-Combination teaches device accounts with at least device name, device type, device user, IP address and device password, and device authentication if platform identity matches the at least one entry. *See* claims 1, 8, 38.

19. Claim 41

41. The method of claim 40, wherein: at least one application account of the plurality of application accounts includes at least one application user and at least one additional entry comprising at least one of: an application name; an application serial number; at least one application module; at least one application web service; at least one application interface; at least one application protocol; at least one application host; an application IP address; an application location; and an application password; and the specific ones of the multiple channels are authenticated if the user identity matches the at least one application user.

215. In my opinion, WebSphere-Combination teaches application accounts with at least application name, web service, and IP address, and channels are authenticated if the user identity matches the at least one application user. *See* claims 1, 6, 10, 38. A POSITA would have understood that the authorization for backend systems would include the recited “password.”

216. Web-Sphere-Portal provides examples of application accounts in the authentication directory, such as Lotus Notes, personnel records, or a bank account. EX1004, 631 (“The resource within the vault implementation corresponds to an application or backend system that requires its own authentication. Examples of resources include Lotus Notes, personnel records, or a bank account.”).

217. Web-Sphere-Portal also describes how objects in the portal environment store attributes including portlet application settings, which a POSITA would have understood constitutes an “application account.” EX1004, 145, 168. Similarly, Ben-Natan describes application settings for portlets. EX1005, 252, 258.

20. Claim 42

[42.1] At least one non-transitory computer readable storage medium storing processor-executable instructions that, when executed by at least one processor, perform a method for providing secure user-centric information via a plurality of user platforms operated by a user, the method comprising:

218. In my opinion, WebSphere-Combination teaches this element because WebSphere-Combination discloses that Portal operates on non-transitory computer readable storage media storing processor-executable instructions that perform a method of providing secure user-centric information on many platforms operated by a user. *See* element [1.1].

[42.2] A) implementing a channel grid framework including a matrix of a plurality of channels through which the user receives and/or interacts with, via the plurality of user platforms, respective portions of the secure user-centric information

219. In my opinion, WebSphere-Combination teaches this element. *See* element [1.4].

[42.3] wherein implementing the plurality of channels comprises synchronizing functions and features of one or more of the plurality of channels across two or

more of the plurality of user platforms by deploying the secure user-centric information to two or more of the plurality of user platforms;

220. In my opinion, WebSphere-Combination teaches this element. *See* element [1.5].

[42.4] B) establishing a user profile identifying user preferences, platform identities, and service support instructions that determine how the secure user-centric information behaves on at least one platform of the plurality of user platforms;

221. In my opinion, WebSphere-Combination teaches this element. *See* element [1.6].

[42.4] C) receiving, from at least one user platform of the plurality of user platforms, a user identity for the user and a platform identity for the at least one user platform;

222. In my opinion, WebSphere-Combination teaches this element. *See* element [1.7].

[42.5] D) authenticating the user and the at least one user platform to receive the secure user-centric information based at least in part on the user identity and the platform identity; and

223. In my opinion, WebSphere-Combination teaches this element. *See* element [1.8].

[42.6] E) if the user and the at least one user platform are authenticated in C),¹⁹ transmitting to the at least one user platform first authenticated channel information relating to at least one authorized channel of the plurality of channels implemented in A), based at least in part on information access rights and/or security protocols respectively associated with the corresponding plurality of channels, the user, and the at least one user platform,

224. In my opinion, WebSphere-Combination teaches this element. *See* element [1.9].

[42.7] wherein at least a portion of the first authenticated channel information to be transmitted to the at least one user platform is selected based at least in part on the user profile and is transmitted to the at least one user platform without being requested by the user,

225. In my opinion, WebSphere-Combination teaches this element. *See* element [1.10].

[42.8] wherein the transmission of the first authenticated channel information to the at least one user platform is based in part on a bi-directional interrogation of the at least one authorized channel, wherein the bi-directional interrogation comprises the at least one authorized channel interrogating an identity management server, and

226. In my opinion, WebSphere-Combination teaches this element. *See* element [1.11].

[42.9] wherein the bi-directional interrogation further comprises the identity management server and a web services gateway interrogating the at least one

¹⁹ Claim 42's step C) relates to a "receiving" step while step D) relates to an "authenticating" step. *See* n.8.

authorized channel, wherein the web services gateway is a tool through which the channel grid framework interacts with the identity management server.

227. In my opinion, WebSphere-Combination teaches this element. *See* element [1.12].

VIII. SECONDARY CONSIDERATIONS
(OBJECTIVE INDICIA OF NON-OBVIOUSNESS)

228. I am unaware of any secondary considerations of non-obviousness that would refute the showing of obviousness set forth above.

I, Christopher M. Schmandt, do hereby declare and state, 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.

Dated: October 1, 2024

A handwritten signature in black ink, appearing to read 'Chris Schmandt', written over a horizontal line.

Signature

APPENDIX A

Christopher Schmandt

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Winchester, MA 01890
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Education

M.I.T., Master of Science, Visual Studies (Computer Graphics), 1980

M.I.T., Bachelor of Science, Computer Science, 1978

Professional Experience -- MIT

Media Laboratory, Principal Research Scientist, 1985-2018 (retired)
Director, Living Mobile Research Group (formerly Speech + Mobility)

Architecture Machine Group, Research Associate, 1980-1984

Architecture Machine Group, Research Assistant, 1979-1980

Architecture Machine Group, Graphics Programmer, 1977-1979

Departmental Undergraduate Research Opportunities Program Coordinator, 1984-2018

Laboratory Intellectual Property Committee 2001-2016, chair 2002-2009

Departmental Committee on Graduate Studies, 1996-2001, 2007-2018

Sponsored Research Activities

Alerting and Mobile Messaging, Digital Life Consortium, MIT Media Lab, 1997-2018

Acoustical Cues to Discourse Structure, National Science Foundation, Principal Investigator, 1995-1998

Parsing Radio, News in the Future Consortium, MIT Media Lab, 1993-1999

Desktop Audio, SUN Microsystems, Inc., Principal Investigator, 1989-1996

Voice Interaction in Hand Held Computers, Apple Computer, Principal Investigator, 1991-1993

Voice Interfaces for Network Services, AT&T, Principal Investigator, 1989-1991

Back Seat Driver, NEC, Principal Investigator, 1988-1991

Acoustic and Visual Cues for Speech Recognition, DARPA, co-Principal Investigator, 1986-1988

Personal Computers and Telephony, NTT Public Corporation, Principal Investigator, 1984-1989

Home Telecomputing, Atari, Inc., Principal Investigator, 1983

Testifying legal engagements within the last five years, representing party in italics

- *Microsoft v. SpeakWare*, 2019
- *Bumble Trading LLC v. Match Group LLC*, 2019
- *Tile Inc. v. Cellwitch Inc.*, 2019
- *Blackberry Ltd v. Facebook, Inc* 2020
- *EROAD Ltd v. PerDiem Co.*, 2020
- *Snap Inc. v. SRK Technology LLC*, 2020
- *Shopify Inc Ltd v. Express Mobile Inc.*, 2020
- *Express Mobile Inc. v Wix Ltd* 2020
- *Motorola Mobility LLC v. Ironworks patents, LLC.* 2021
- *Express Mobile Inc. v GoDaddy Inc* 2021
- *Bumble Trading LLC v. Kinectus, LLC.* 2021
- *Tile, Inc v. Linquet Technologies, Inc.* 2021
- *Facebook, Inc. v. Palo Alto Research Center, Inc.* 2021
- *Unified Patents, LLC v. Gesture Technology Partners, LLC.* 2021
- *Quantum Metric, Inc v. Content Square Isreal, Ltd.* 2021
- *Meta Platforms Inc. v. AlmondNet, Inc* 2022
- *Apple Inc. v. Zentian Limited* 2022
- *Google LLC v. Mira Advanced Technology Systems Inc* 2022
- *Google LLC v. Robocast* 2023
- *Google LLC v. Buffalo Patents LLC* 2023
- *Amazon v. AlmondNet* 2023
- *Google LLC v. Valtrus* 2023
- *Samsung Electronics Co., Ltd v. Stanton Techiya, LLC* 2024
- *Roku, Inc. v. AlmondNet, Inc.* 2024
- *LinkedIn v. AlmondNet, Inc* 2024
- *Google, LLC v. Dialect, LLC* 2024

Professional Experience -- Intellectual Property

Co-inventor on U.S. Patents

- 5,177,685 for "Automobile navigation system using real time spoken driving instructions"
- 6,728,348 for "System for storing voice recognizable identifiers using a limited input device such as a telephone key pad"
- 6,937,986 for "Automatic dynamic speech recognition vocabulary based on external sources of information"
- 7,098,776 for "Methods and apparatus for vibrotactile communication"
- 7,392,280 for "Method for summarization of threads in electronic mail"
- 7,738,637 "Interactive voice message retrieval"
- 7,443,283 for "Methods and apparatus for connecting an intimate group by exchanging awareness cues and text, voice instant messages, and two-way voice communications"
- 7,865,560 for "System for summarization of threads in electronic mail"
- 8,121,653 for "Methods and apparatus for autonomously managing communications using an intelligent intermediary"
- 8,135,128 for "Animatronic creatures that act as intermediaries between human users and a telephone system"

Co-inventor on U.S. Patent Applications

- 20020076009 "International dialing using spoken commands"
- 20020087328 "Automatic dynamic speech recognition vocabulary based on external sources of information"

- 20020064257 "System for storing voice recognizable identifiers using a limited input device such as a telephone keypad"
- 20030023688 "Voice-based message sorting and retrieval method"
- 20030081738 "Method and apparatus for improving access to numerical information in voice messages"
- 20030144846 "Method and system for modifying the behavior of an application based upon the application's grammar"
- 20030158903 "Calendar bar interface for electronic mail interaction"

Publications

Field Study of a Tactile Sound Awareness Device for Deaf and Hard of Hearing Users ISWC 2020. (with D. Jain, B. Chiu, S. Goodman, L. Findlater, J. Froehlich)

SkinMorph: Texture-Tunable On-Skin Interface Through Thin, Programmable Gel ISWC 2018. (with Cindy Kao, M. Banforth, D. Kim)

Technical Interventions to Detect, Communicate, and Deter Sexual Assault. ISWC 2017. (with Manisha Mohan)

Exploring Interactions and Perceptions of Kinetic Wearables. DIS 2017. (with Cindy Hsin-Liu Kao, D. Ajilo, O. Anilonyte, A. Dementyev, I. Choi and S. Follmer)

Leveraging User-made Predictions to Help Understand Personal Behavior. MobileHCI 2017. (with Miriam Greis, Tilman Dangler and Albrecht Schmidt)

Rovables: On-Body Robots as Mobile Wearables. UIST 2016. (with Cindy Hsin-Liu Kao, A. Dementyev, I. Choi, D. Ajilo, M. Xu, and S. Follmer)

DuoSkin: Rapidly Prototyping On-Skin User Interfaces Using Skin-Friendly Materials. ISWC 2016. (with Cindy Hsin-Liu Kao, Christian Holz, Asta Roseway, and Andres Calvo)

Immersive Terrestrial Scuba Diving Using Virtual Reality (with Dhruv Jain, Misha Sra, Jingru Go, Rodrigo Margues, Raymond Wu and Justin Chiu) Proceedings, UIST 2016

Expanding social mobile games beyond the device screen (with Misha Sra) Journal of Personal and Ubiquitous Computing, 2015

NailO: Fingernails as an input surface (with Cindy Hsin-Liu Kao, Artem Dementyev, Joseph Paradiso) CHI 2015

Mugshots: A mug display for front and back stage social interaction in the workplace (with Cindy Hsin-Liu Kao) TEI (Tangible and Embedded Interfaces) 2015

Mime: compact, low power 3D gesture sensing for interaction with head mounted displays (with Andrea Colaco, Ahmend Kirmani, Hye Soo Yang, Nan-Wei Gong, and Vivek Goyal) Proceedings of UIST 2013.

Spotz: A location-based approach to self-awareness (with Misha Sra) Proceedings of Persuasive 2013.

Setting the stage for interaction: A tablet application to augment group discussion in a seminar class (with Drew Harry and Eric Gordon) Proceedings of CSCW 2012.

Indoor Location Sensing using Geo-Magnetism (with Jaewoo Chung, Matt Donahoe, Ig-Jae Kim, Pedram Razavai and Micaela Wiseman) Proceedings of International Conference on Mobile Systems, Applications, and Services (Mobisys) 2011.

My second bike: a TV-enabled social and interactive riding experience (with Jaewoo Chung, Kuang Xu, Andrea Colaco, and Victor Li) Proceedings of IEEE Communications and Networking Conference, Jan 2010.

Going my way?: User-aware route planner (with Jaewoo Chung) Proceedings CHI 2009.

Globetoddler: Designing for remote interaction between preschoolers and their traveling parents (with Paulina Modlitba) CHI 2008 Extended Abstracts

Are we there yet? - a temporally aware media player (with Matt Adcock and Jaewoo Chung), Australian User Interface Conference (AUIC) 2008

Physical embodiments for mobile communication agents (with Stefan Marti), UIST 2005

Giving the caller the finger: collaborative responsibility for cellphone interruptions (with Stefan Marti) Extended Abstracts, CHI 2005

Active Messenger: email filtering and delivery in a heterogeneous network (with Stefan Marti) Human-Computer Interaction Journal (HCI) Volume 20 (2005)

WatchMe: communication and awareness between members of a closely-knit group (with Natalia Marmasse) Proceedings of Ubicomp 2004

An audio-based personal memory aid (with S. Vemuri, W. Bender, S. Tellex and B. Lassey) Proceedings of Ubicomp 2004

Improving speech playback using time-compression and speech recognition (with Sunil Vemuri, Philip DeCamp, and Walter Bender) Proceedings of CHI 2004

Impromptu: managing networked audio applications for mobile users (with Kwan Lee, Jang Kim, and Mark Ackerman), Proceedings of MobiSys 2004

TalkBack: a conversational answering machine (with Vidya Lakshminpathy and Natalia Marmasse) Proceedings of UIST 2003

"ListenIn" to domestic environments from remote locations (with Gerardo Vallejo) Proceedings of the 2003 International Conference on Auditory Display (ICAD)

Safe & Sound: a wireless leash (with Natalia Marmasse) Extended Abstracts, Proceedings of CHI 2003

Mediated voice communication via mobile IP (with Jang Kim, Kwan Lee, Gerardo Vallejo, and Mark Ackerman), Proceedings of UIST 2002.

The Audio Notebook: Paper and pen interaction with structured speech (with Lisa Stifelman and Barry Arons), Proceedings of CHI 2001

Synthetic News Radio (with Keith Emnett) IBM Systems Journal, Vol. 39 Nos. 3-4, pp. 646-659, 2000.

Everywhere messaging (with Natalia Marmasse, Stefan Marti, Nitin Sawhney, and Sean Wheeler) IBM Systems Journal, Vol. 39 Nos. 3-4, pp. 660-677, 2000.

Location-aware information delivery with comMotion (with Natalia Marmasse), Proceedings of the Second International Symposium on Handheld and Ubiquitous Computing, pp. 157-171, Springer, 2000.

Nomadic Radio: Scalable and contextual notification for wearable audio messaging (with Nitin Sawhney), Proceedings of CHI 1999.

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Mailcall: Message presentation and navigation in a nonvisual environment (with Matt Marx), Proceedings of CHI 1996

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A Robust Parser and Dialog Generator for a Conversational Office System (with B. Arons and C. Simmons), Proceedings, American Voice Input/Output Society Conference, AVIOS, Palo Alto, CA, 1987.

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The Intelligent Ear: A Graphical Interface to Digital Audio, Proceedings, IEEE International Conference on Cybernetics and Society, IEEE, Atlanta, GA, 1981.

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