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Canadian Intellectual Property Office
An agency of Industry Canada

CA 2891460 A1 2014/05/30

(21) 2 891 460

(12) DEMANDE DE BREVET CANADIEN
CANADIAN PATENT APPLICATION

(13) A1

(86) **Date de dépôt PCT/PCT Filing Date:** 2013/11/20
(87) **Date publication PCT/PCT Publication Date:** 2014/05/30
(85) **Entrée phase nationale/National Entry:** 2015/05/14
(86) **N° demande PCT/PCT Application No.:** CA 2013/000965
(87) **N° publication PCT/PCT Publication No.:** 2014/078933
(30) **Priorité/Priority:** 2012/11/21 (US61/728,979)

(51) **Cl.Int./Int.Cl.** ***H04L 12/58*** (2006.01),
H04W 4/12 (2009.01)

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(54) **Titre : SYSTEME DE MESSAGERIE ELECTRONIQUE A FENETRE DE MESSAGE SIMPLE COMPORTANT L'INSERTION DYNAMIQUE D'ANNONCES PUBLICITAIRES**
(54) **Title: SINGLE MESSAGE WINDOW ELECTRONIC MESSAGING SYSTEM WITH DYNAMIC ADVERTISEMENT INSERTION**

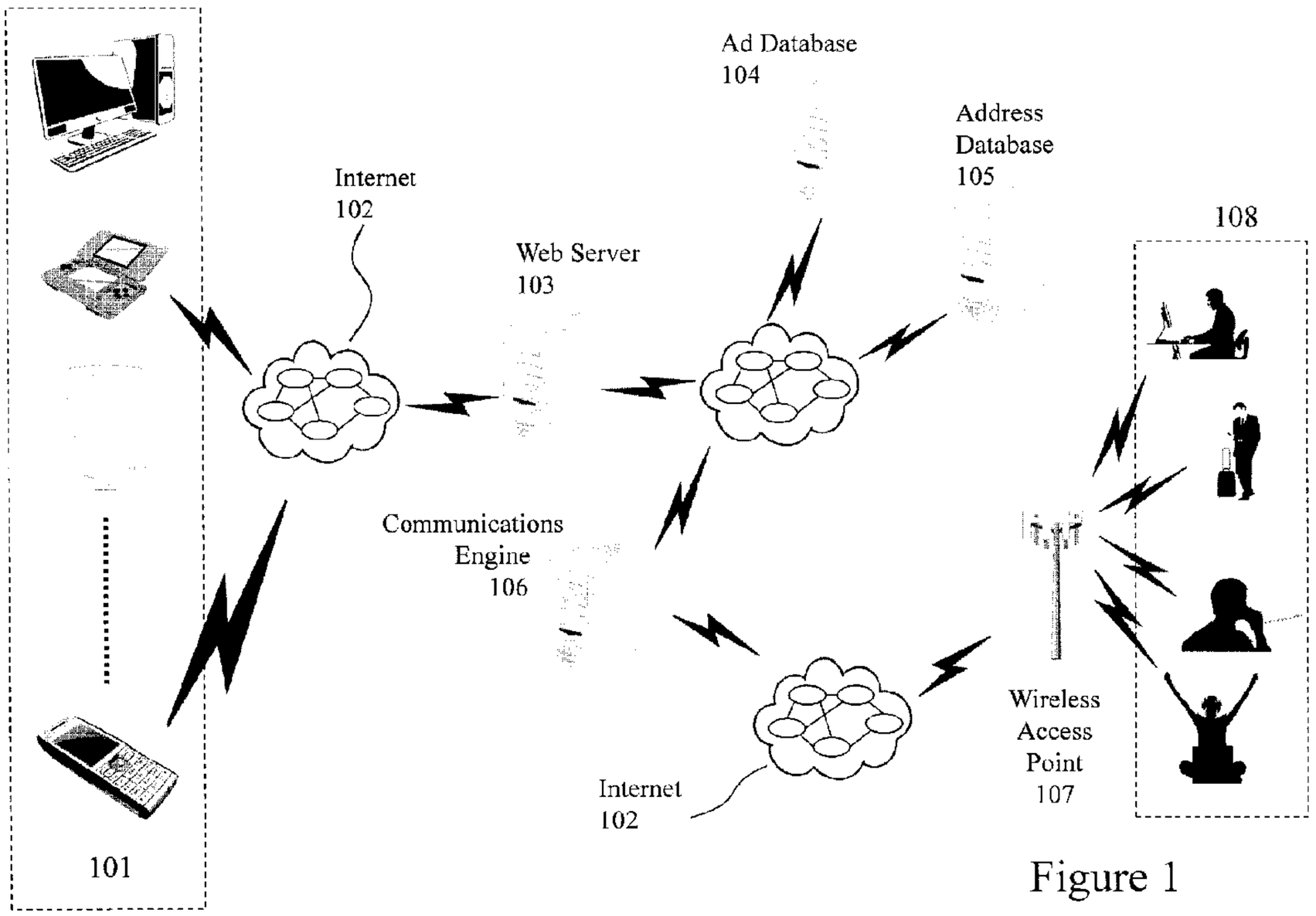

Figure 1

(57) **Abrégé/Abstract:**
This invention relates to electronic messaging and more particularly to a single message window (SMW) to send messages that automatically and simultaneously allows the message to be received in multiple message formats, e.g. e-mail, text, SMS, voice, social networks, etc. wherein the SMW is not part of a pre-existing end-to-end messaging system. SMW allows for dynamically building and delivering messages containing the same customer message with dynamically changing advertising content via different message mediums. The process results in the creation of multiple message formats depending on several variables set by both the message sender and the recipient.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
30 May 2014 (30.05.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/078933 A1

(51) International Patent Classification:
H04L 12/58 (2006.01) *H04W 4/12* (2009.01)

(21) International Application Number:
PCT/CA2013/000965

(22) International Filing Date:
20 November 2013 (20.11.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/728,979 21 November 2012 (21.11.2012) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(54) **Title**: SINGLE MESSAGE WINDOW ELECTRONIC MESSAGING SYSTEM WITH DYNAMIC ADVERTISEMENT INSERTION

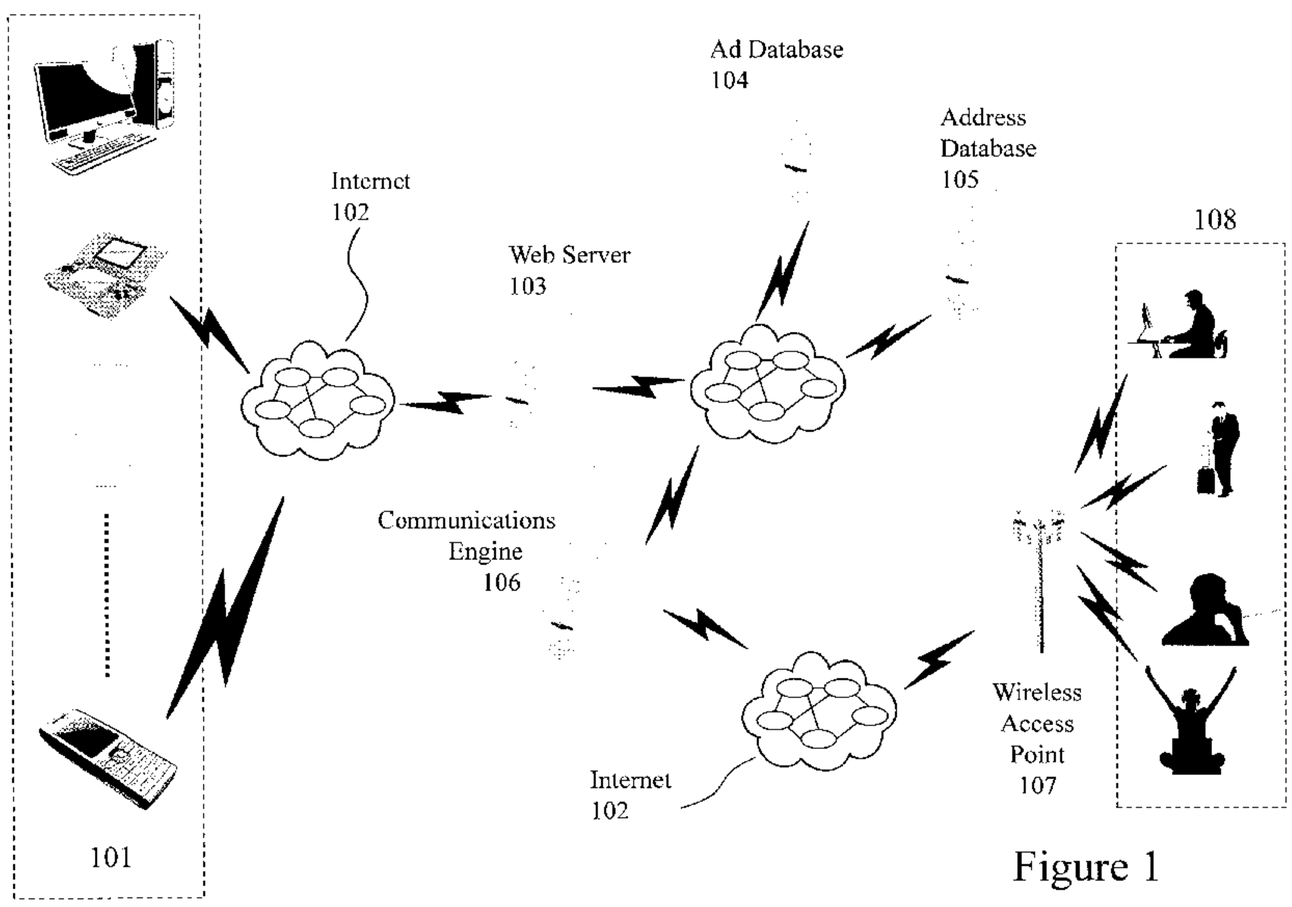

Figure 1

(57) **Abstract**: This invention relates to electronic messaging and more particularly to a single message window (SMW) to send messages that automatically and simultaneously allows the message to be received in multiple message formats, e.g. e-mail, text, SMS, voice, social networks, etc. wherein the SMW is not part of a pre-existing end-to-end messaging system. SMW allows for dynamically building and delivering messages containing the same customer message with dynamically changing advertising content via different message mediums. The process results in the creation of multiple message formats depending on several variables set by both the message sender and the recipient.

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SINGLE MESSAGE WINDOW ELECTRONIC MESSAGING SYSTEM WITH DYNAMIC ADVERTISEMENT INSERTION

CROSS-REFERENCE TO RELATED APPLICATIONS

[001] This patent application claims the benefit of U.S. Provisional Patent Application 61/728,979 filed November 21, 2012 entitled "Single message Window (SMW) Electronic Messaging System with Dynamic Advertisement Insertion", the entire contents of this patent application being included by reference.

FIELD OF THE INVENTION

[002] This invention relates to electronic messaging and more particularly to a single message window (SMW) to send messages that automatically and simultaneously allows the message to be received in multiple message formats, e.g. e-mail, text, SMS, voice, social networks, etc. wherein the SMW is not part of a pre-existing end-to-end messaging system. SMW allows for dynamically building and delivering messages containing the same customer message with dynamically changing advertising content via different message mediums. The process results in the creation of multiple message formats depending on several variables set by both the message sender and the recipient.

BACKGROUND OF THE INVENTION

[003] Historically, an individual's ability to communicate specifically to another individual was limited, perhaps with the exception of smoke and semaphore signaling, to the speed at which a messenger could carry a message, oral or written, from the sender to the receiver. Newspapers allowed communication but in an open public form. The introduction of coherent postal systems in the mid-nineteenth century provided for the widespread availability of relatively secure, fast low cost communications between individuals. Subsequently, in the late nineteenth century the telephone provided for oral communications between individuals but did not become widespread until the early twentieth century. For example in 1904 there were approximately 3 million

telephones for a population of approximately 80 million. Subsequently, in the 1980s mobile telephones became available at much the same time that cable operators began offering telephony services in competition to telephone companies to be rapidly followed in the 1990s with the significant consumer acceptance / popularization of the Internet and then social networks, blogs, etc. in the 2000s. Overall these developments have meant that multiple formats have been developed essentially independently of each other, forcing senders to use different interfaces / processes to send messages and recipients to monitor multiple systems in order to receive messages sent to them, wanted or unwanted. Further, a sender may choose a format that a recipient cannot receive, e.g. sending an electronic mail (e-mail) message when the recipient uses a conventional cellphone rather than a smartphone and is not able to receive e-mails.

[004] Accordingly, there have been technical developments giving rise to various types of systems which have attempted to provide a standard window allowing multiple messages to be sent by an individual. The most pervasive to date is Unified Messaging, patented by several groups including U.S. Patent 4,837,798 "Communication System having Unified Messaging" (American Telephone & Telegraph); U.S. Patent Application 2008/0,215,694 and Canadian Patent 2,678,352 entitled "System and Method for Unified Messaging Service" (Telcordia Applied Research Center of Taiwan); and U.S. Patent Application 2002/0,120,690 and Canadian Patent 2,360,296 entitled "Accessing of Unified Messaging System User Data via a Standard E-mail Client" (Avaya Technology Corp.)

[005] While these methods provide a way to send a message via multiple modes so that it can be received in a standard message format such, as an e-mail, the sender must use a standard system input client associated with the mode to initiate the message. This means the sender must have access to, and an account on, with one of the existing messaging systems they wish to employ, e.g. a web based e-mail client.

[006] Unified Messaging (UM) is the integration of different electronic messaging and communications media, e.g. e-mail, facsimile (fax), Simple Message Service (also known as SMS or text), or text-to-speech (TTS), voicemail, video messaging, etc., technologies into a single interface, accessible from a variety of different devices. Whilst non-UM communications systems delivered messages into several different types of stores such as voicemail systems, e-mail servers, and stand-alone fax machines, with UM all types of messages are stored in one

system and hence accessible, with some limitations, by multiple user interfaces. Voicemail messages, for example, can be delivered directly into the user's inbox and either played through a handset, headset or a computer's loudspeaker, or converted to text and viewed visually. This simplifies the user's experience (only one place to check for messages) and can offer new options for workflow such as appending notes or documents to forwarded voicemails.

[007] Whilst UM was expected within consumer telecommunications to be a popular product, first augmenting and eventually replacing voicemail, it was slow to gain consumer acceptance, and many UM vendors were badly hit when the slowdown in the telecommunications industry in early 2000s made telecommunications carriers wary of spending large amounts of money on technology with little proven consumer demand. Today, UM solutions are increasingly accepted in the corporate environment with the intended goal that deploying UM solutions generally will enhance and improve business productivity whilst decreasing communication issues. Accordingly, today UM solutions targeting professional end-user customers integrate communications processes into the existing IT infrastructure, e.g. into Customer Relationship Management (CRM), Enterprise Resource Planning (ERP) and mail systems.

[008] These UM solutions have typically focused on general business computers (also known as personal computers or PCs) as the receiver for the user and not portable electronic devices (mobile devices) which means that in many instances these UM solutions support what many view as legacy communication modes, e.g. fax, but do not support what today are the dominant communication modes, particularly of younger demographic segments, namely text / SMS.

[009] Accordingly, it would be beneficial to provide a UM solution supporting fixed and portable electronic devices whilst also supporting a wider range of communication modes and the limitations / features of leading consumer telecommunications products.

[0010] Other aspects and features of the present invention will become apparent to those ordinarily skilled in the art upon review of the following description of specific embodiments of the invention in conjunction with the accompanying figures.

SUMMARY OF THE INVENTION

[0011] It is an object of the present invention to address limitations within the prior art and provide users with a single message window (SMW) to send messages that automatically and simultaneously allows the message to be received in multiple message formats, e.g. e-mail, text, SMS, voice, social networks, etc. wherein the SMW is not part of a pre-existing end-to-end messaging system. SMW allows for dynamically building and delivering messages containing the same customer message with dynamically changing advertising content via different message mediums. The process results in the creation of multiple message formats depending on several variables set by both the message sender and the recipient.

[0012] In accordance with an embodiment of the invention there is provided a method comprising; providing on a device comprising at least a microprocessor a user interface, the user interface allowing a user to at least one of send a message to multiple contacts in a plurality of formats and view a message received according to a format of a plurality of formats.

[0013] Other aspects and features of the present invention will become apparent to those ordinarily skilled in the art upon review of the following description of specific embodiments of the invention in conjunction with the accompanying figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Embodiments of the present invention will now be described, by way of example only, with reference to the attached Figures, wherein:

[0015] Figure 1 depicts a representative diagram for SMW communications according to embodiments of the invention;

[0016] Figure 2 depicts a network environment within which embodiments of the invention may be employed;

[0017] Figure 3 depicts a wireless portable electronic device supporting communications to a network such as depicted in Figure 2 and as supporting embodiments of the invention;

[0018] Figure 4 depicts a SMW cross-function process flow and data flow diagram according to an embodiment of the invention;

[0019] Figure 5 depicts a communications engine message parts and protocol methodology according to an embodiment of the invention.

DETAILED DESCRIPTION

[0020] The present invention is directed to a single message window (SMW) to send messages that automatically and simultaneously allows the message to be received in multiple message formats, e.g. e-mail, text, SMS, voice, social networks, etc. wherein the SMW is not part of a pre-existing end-to-end messaging system. SMW allows for dynamically building and delivering messages containing the same customer message with dynamically changing advertising content via different message mediums. The process results in the creation of multiple message formats depending on several variables set by both the message sender and the recipient.

[0021] The ensuing description provides exemplary embodiment(s) only, and is not intended to limit the scope, applicability or configuration of the disclosure. Rather, the ensuing description of the exemplary embodiment(s) will provide those skilled in the art with an enabling description for implementing an exemplary embodiment. It being understood that various changes may be made in the function and arrangement of elements without departing from the spirit and scope as set forth in the appended claims.

[0022] A "portable electronic device" (PED) as used herein and throughout this disclosure, refers to a wireless device used for communications and other applications that requires a battery or other independent form of energy for power. This includes devices, but is not limited to, such as a cellular telephone, smartphone, personal digital assistant (PDA), portable computer, pager, portable multimedia player, portable gaming console, laptop computer, tablet computer, and an electronic reader. A "fixed electronic device" (FED) as used herein and throughout this disclosure, refers to a wireless and /or wired device used for communications and other applications that requires connection to a fixed interface to obtain power. This includes, but is not limited to, a laptop computer, a personal computer, a computer server, a kiosk, a gaming console, a digital set-top box, an analog set-top box, an Internet enabled appliance, an Internet enabled television, and a multimedia player.

[0023] Embodiments of the invention address the inability of prior art systems to send a single instance of a message from a single message window (SMW) and have the message delivered, automatically, in different message formats.

[0024] Whilst Unified Messaging as discussed *supra* has had commercial success targeting professional end-user customers integrate communications processes into the existing IT infrastructure, e.g. into Customer Relationship Management (CRM), Enterprise Resource Planning (ERP) and mail systems, it is not currently possible for users to quickly send an electronic message, in the variety of formats mobile devices receive, by inputting the message in a single operation within a single message window of a software system and / or software application. Hence, at present if the user wishes to send a message to a group of mobile users and be assured they have been sent in all possible formats in which the group can receive the message, they must currently enter their message into a plurality of interfaces, typically at least three such interfaces, to send the message to all users. These interfaces being e-mail, text (SMS), and telephone. Accordingly, current messaging resources are underutilized or not used at all to communicate important information that could be communicated if there was a solution to easily send the information, saving time and money.

[0025] Beneficially, users receiving messages delivered through such a system according to embodiments of the invention may also receive the message in multiple formats or only the preferred format they typically wish to receive messages in. Similarly, a delivery failure to a user within one format can automatically trigger another message transmission within another message format. Further, the single message window (SMW) system as described below according to embodiments of the invention does not have to be part of an existing messaging system, e.g. an e-mail client, and hence may be a separate application provided upon a PED and / or FED. For example, a user with a Google Chromebook may via an SMW application provide additional communications formats to users which are not supported by the Chromebook directly. In other embodiments of the invention, the SMW may be a plug-in to an existing software suite and / or software application such as Microsoft Outlook, Lotus Notes, Skype, etc.

[0026] Within embodiments of the invention, the SMW does not need to have any addressees (individually or groups) specifically identified when the message as it is being composed and sent. The SMW provides a single message window that accepts the message that is intended to

be sent (the "body" of a message) including space for a subject line to be inserted. Once this information is completed a "send" button can be engaged and the message sent to the intended addressees automatically. The messaging system knows contextually who the message is intended for and sends one message per single recipient, in the format each recipient wishes to receive the message in. When composing the message to be sent the senders need not concern themselves with the specifics of the addressees or delivery systems. They can simply open the message window, insert their subject line and message and touch the send button.

[0027] The SMW is the interface to the system for the sender when sending a message. According to an embodiment of the invention, there is depicted an embodiment of the invention exploiting a web interfaced SMW in the Representative Diagram of Figure 1 a SMW is displayed on any User PED / FED 101 that is capable of displaying a website using a standard web browser. The window is opened by the message sender clicking on a context aware object in a mobile or web application or by clicking a "create message" button. If the window is opened by the user clicking on a context aware object then the system has the capability to select the addressees and their requested format and send the message with no further instructions other than the sender touching the "send" button after the subject and message are entered. If the sender opens the window by touching a "create message" button or wishes to add more addressees to a context object opened SMW or the system has not been configured to know the addressees then the sender can add those addressees and then touch the "send" button.

[0028] When the sender opens the window using a context aware object, the system uses the context of the object to automatically select the addressees and their requested message receipt format. This is done on a Web Server 103 where the context code, message content and message subject content is entered into the SMW. The web server then passes the information via the Internet 102 to an Address Database 105, where the details of recipients are stored. The SMW system extracts the necessary information from the address database to build the necessary message formats identified in the addressee profiles contained in the address database.

[0029] Once the addressees are selected the system ascertains if sponsorship contracts are in place with the message sender and if the recipients of the message are to have sponsorship ads appended to the sender's message. If so, the additional data elements to identify the appropriate sponsors and the correctly formatted ad inserts (Digital Sponsorship Messages - DSMs) are sent

by the SMW program to the Ad Database 104. The requisite advertisement inserts are passed to the Communications Engine 106 where the sender message subject line, message content, recipient name (if a person), requested message format (message address) and appropriate sponsor DSM are assembled and passed via the Internet 102 to a third party Wireless Access Point (WAP) 107 where the messages are sent in the correct format to be received on addressees of the Recipient PED / FED Devices 108.

[0030] If a sender does not start a message process by touching a context sensitive object but instead touches a generic “compose message" button, then once the message subject and body are filled in the sender may touch an “address message” button which is either present continually or upon completion of their message composition and may, for example, appear at the bottom of the SMW. The sender is then presented with a list of context sensitive addressees. Once the sender has selected the addressees to receive the message, they select a “send” button and the system proceeds to find the electronic addresses of the recipients the sender has indicated they would prefer to have used, collects any sponsorship information and proceeds to combine the information into the requested message format and sends the messages.

[0031] If the sender started the message process by touching a context aware object, once they finish entering the message subject and message body they may, for example, touch a button titled “add more addressees” before they touch the “send” button. This will allow them to add more addressees to those the system automatically selects to receive the message. The list will be generated using a contextually derived list of other appropriate addressees contained in the address database. Once the sender has chosen all their addressees they can touch the “send” button to have the system select the appropriate electronic address requested by each recipient, retrieve appropriate DSMs to append to each message, build and send the messages via the Communications Engine 106. The system then selects the appropriate message format to send each addressee based on the requested format stored in the addressee’s profile in the address database.

[0032] By inference, the preferred address also indicates which sponsorship message format should be requested from the sponsorship Ad Database 104 for appending to the recipient’s copy of the sender’s message. The various data elements required are extracted from the Address Database 105 and forwarded to the sponsorship Ad Database 104 and Communications Engine

106 as appropriate for later assembly into the correct message content for each addressee. The sponsorship Ad Database 104 is queried for the appropriate DSMs for the addressees to receive the message and forward them to the Communications Engine 106. Once all the necessary data elements are received by the Communications Engine (106) it then combines the necessary data elements into the required message format(s) and sends each message to the appropriate third party WAP 107 for onward transmission to the mobile device of the addresses of the Recipient PED / FED 108 in the message format requested by the addressee. The messages are sent one per addressee to ensure the personal information of all addressees is protected (not shared without permission.)

[0033] If the recipient replies to the message then the system routes the reply depending on the original message format. If the message was an e-mail or text (SMS) message the return message is passed back through the WAP 107 to the Communications Engine 106 and is then stored in a message storage facility on the Address Database 105 and the system notifies the message sender that they have a reply via the Communications Engine 106. If the return message is in reply to a text-to-speech message, the system cannot normally accept a reply message. However, when the message is played to the recipient (or their voicemail box) as a converted-to-speech message the voice system will usually allow the recipient to reply to the phone number of the sender and the reply will either result in a live phone call with the sender or the sender's voicemail box will accept a message.

[0034] Data elements to create a message according to an embodiment of the invention are described below in respect of Figure 5 whilst a cross functional process and data flow diagram according to an embodiment of the invention is described below in respect of Figure 4.

[0035] Referring to Figure 2 there is depicted a network environment 200 within which embodiments of the invention may be employed SMWs according to embodiments of the invention. As shown, first and second user groups 200A and 200B respectively interface to a telecommunications network 102. Within the representative telecommunication architecture a remote central exchange 280 communicates with the remainder of a telecommunication service providers network via the network 200 which may include for example long-haul OC-48 / OC-192 backbone elements, an OC-48 wide area network (WAN), a Passive Optical Network, and a Wireless Link. The central exchange 280 is connected via the network 200 to local, regional, and

international exchanges (not shown for clarity) and therein through network 200 to first and second cellular APs 295A and 295B respectively which provide Wi-Fi cells for first and second user groups 200A and 200B respectively. Also connected to the network 200 are first and second Wi-Fi nodes 210A and 210B, the latter of which being coupled to network 102 via router 205. Second Wi-Fi node 210B is associated with Enterprise 260 within which are other first and second user groups 200A and 200B. Second user group 200B may also be connected to the network 102 via wired interfaces including, but not limited to, DSL, Dial-Up, DOCSIS, Ethernet, G.hn, ISDN, MoCA, PON, and Power line communication (PLC) which may or may not be routed through a router such as router 205.

[0036] Within the cell associated with first AP 210A the first group of users 200A may employ a variety of PEDs including for example, laptop computer 255, portable gaming console 235, tablet computer 240, smartphone 250, cellular telephone 245 as well as portable multimedia player 230. Within the cell associated with second AP 210B are the second group of users 200B which may employ a variety of FEDs including for example gaming console 225, personal computer 215 and wireless / Internet enabled television 220 as well as cable modem 205. First and second APs 295A and 295B respectively provide, for example, cellular GSM (Global System for Mobile Communications) telephony services as well as 3G and 4G evolved services with enhanced data transport support. Second cellular AP 295B provides coverage in the exemplary embodiment to first and second user groups 200A and 200B. Alternatively, the first and second user groups 200A and 200B may be geographically disparate and access the network 102 through multiple APs, not shown for clarity, distributed geographically by the network operator or operators. First cellular AP 295A as shown provides coverage to first user group 200A and environment 270, which comprises second user group 270B as well as first user group 270A. Accordingly, the first and second user groups 270A and 270B may according to their particular communications interfaces communicate to the network 102 through one or more wireless communications standards such as, for example, IEEE 802.11, IEEE 802.15, IEEE 802.16, IEEE 802.20, UMTS, GSM 850, GSM 900, GSM 1800, GSM 1900, GPRS, ITU-R 5.138, ITU-R 5.150, ITU-R 5.280, and IMT-2000. It would be evident to one skilled in the art that many portable and fixed electronic devices may support multiple wireless protocols simultaneously, such that for example a user may employ GSM services such as telephony and

SMS and Wi-Fi / WiMAX data transmission, VOIP and Internet access. Accordingly, portable electronic devices within first user group 200A may form associations either through standards such as IEEE 802.15 and Bluetooth as well in an ad-hoc manner.

[0037] Also connected to the network 102 are social networks (SOCNETs) 265, advertising provider 270A, e.g. Grey Group, WPP, Omnicom, etc.; telecom service provider 270B, e.g. AT&T, NTT DoCoMo, Verizon, Comcast, BT, SK Telecom; as well as social service provider 275, e.g. Google+, Yahoo; as well as first and second servers 290A and 290B which together with others, not shown for clarity, may host according to embodiments of the inventions multiple services associated with a provider of single message window services (SMWs), such as Dawnsuite Communications, a provider of advertising content, a SOCNET provider, a social media (SOME) provider, a provider of services to PEDS and / or FEDS; a provider of one or more aspects of wired and / or wireless communications; an Enterprise 260 exploiting SMWs with enabled advertising features; license databases; customer databases; websites; and software applications for download to or access by FEDs and / or PEDs exploiting and / or hosting SMWs. First and second primary content servers 290A and 290B may also host for example other Internet services such as a search engine, financial services, third party applications and other Internet based services.

[0038] Accordingly, a user with a PED and / or FED may, for example, access one of the first or second primary content servers 290A and 290B respectively to download an application which provides SMW features according to embodiments of the invention or alternatively access one of the first or second primary content servers 290A and 290B respectively to access a web-based application providing SMW features. Subsequently, during use of their PED the user may enter locations such as typified by Enterprise 260 coming into wireless contact with first and second user groups 200A and 200B as well as first and second APs 210A and 210B respectively and first and second cellular APs 295A and 295B respectively. Accordingly, the user may therefore form new contacts within their SOCNET(s) and / or SOME(s) or the SOCNET(s) and / or SOME(s) associated with the Enterprise 260 wherein these new contacts may be associated with SMW features according to embodiments of the invention generated by the user. Similarly, the user may expand their contacts wherein within their communications SMW features are exploited. These contacts being within SOCNETs 265 to which the user is a member.

[0039] Now referring to Figure 3 there is depicted an electronic device 304 and network access point 307 supporting contextual based UIs according to embodiments of the invention. Electronic device 304 may for example be a portable electronic device or a fixed electronic device and may include additional elements above and beyond those described and depicted. Also depicted within the electronic device 304 is the protocol architecture as part of a simplified functional diagram of a system 300 that includes an electronic device 304, such as a smartphone 255, an access point (AP) 306, such as first AP 210, and one or more network devices 307, such as communication servers, streaming media servers, and routers for example such as first and second servers 290A and 290B respectively. Network devices 307 may be coupled to AP 306 via any combination of networks, wired, wireless and/or optical communication links such as discussed above. The electronic device 304 includes one or more processors 310 and a memory 312 coupled to processor(s) 310. AP 306 also includes one or more processors 311 and a memory 313 coupled to processor(s) 310. A non-exhaustive list of examples for any of processors 310 and 311 includes a central processing unit (CPU), a digital signal processor (DSP), a reduced instruction set computer (RISC), a complex instruction set computer (CISC) and the like. Furthermore, any of processors 310 and 311 may be part of application specific integrated circuits (ASICs) or may be a part of application specific standard products (ASSPs). A non-exhaustive list of examples for memories 312 and 313 includes any combination of the following semiconductor devices such as registers, latches, ROM, EEPROM, flash memory devices, non-volatile random access memory devices (NVRAM), SDRAM, DRAM, double data rate (DDR) memory devices, SRAM, universal serial bus (USB) removable memory, and the like.

[0040] Electronic device 304 may include an audio input element 314, for example a microphone, and an audio output element 316, for example, a speaker, coupled to any of processors 310. Electronic device 304 may include a video input element 318, for example, a video camera, and a video output element 320, for example an LCD display, coupled to any of processors 310. Electronic device 304 also includes a keyboard 315 and touchpad 317 which may for example be a physical keyboard and touchpad allowing the user to enter content or select functions within one of more applications 322. Alternatively, the keyboard 315 and touchpad 317 may be predetermined regions of a touch sensitive element forming part of the

display within the electronic device 304. The one or more applications 322 that are typically stored in memory 312 and are executable by any combination of processor 310. Electronic device 304 also includes accelerometer 360 providing three-dimensional motion input to the processor 310 and GPS 362 which provides geographical location information to processor 310.

[0041] Electronic device 304 includes a protocol stack 324 and AP 306 includes a communication stack 325. Within system 300, protocol stack 324 is shown as IEEE 802.11 protocol stack but alternatively may exploit other protocol stacks such as an Internet Engineering Task Force (IETF) multimedia protocol stack for example. Likewise AP stack 325 exploits a protocol stack but is not expanded for clarity. Elements of protocol stack 324 and AP stack 325 may be implemented in any combination of software, firmware and/or hardware. Protocol stack 324 includes an IEEE 802.11-compatible PHY module 326 that is coupled to one or more Front-End Tx/Rx & Antenna 328, an IEEE 802.11-compatible MAC module 330 coupled to an IEEE 802.2-compatible LLC module 332. Protocol stack 324 includes a network layer IP module 334, a transport layer User Datagram Protocol (UDP) module 336 and a transport layer Transmission Control Protocol (TCP) module 338.

[0042] Protocol stack 324 also includes a session layer Real Time Transport Protocol (RTP) module 340, a Session Announcement Protocol (SAP) module 342, a Session Initiation Protocol (SIP) module 344 and a Real Time Streaming Protocol (RTSP) module 346. Protocol stack 324 includes a presentation layer media negotiation module 348, a call control module 350, one or more audio codecs 352 and one or more video codecs 354. Applications 322 may be able to create maintain and/or terminate communication sessions with any of devices 307 by way of AP 306. Typically, applications 322 may activate any of the SAP, SIP, RTSP, media negotiation and call control modules for that purpose. Typically, information may propagate from the SAP, SIP, RTSP, media negotiation and call control modules to PHY module 326 through TCP module 338, IP module 334, LLC module 332 and MAC module 330.

[0043] It would be apparent to one skilled in the art that elements of the electronic device 304 may also be implemented within the AP 306 including but not limited to one or more elements of the protocol stack 324, including for example an IEEE 802.11-compatible PHY module, an IEEE 802.11-compatible MAC module, and an IEEE 802.2-compatible LLC module 332. The AP 306 may additionally include a network layer IP module, a transport layer User Datagram Protocol

(UDP) module and a transport layer Transmission Control Protocol (TCP) module as well as a session layer Real Time Transport Protocol (RTP) module, a Session Announcement Protocol (SAP) module, a Session Initiation Protocol (SIP) module and a Real Time Streaming Protocol (RTSP) module, media negotiation module, and a call control module. Portable and fixed electronic devices represented by electronic device 304 may include one or more additional wireless or wired interfaces in addition to the depicted IEEE 802.11 interface which may be selected from the group comprising IEEE 802.15, IEEE 802.16, IEEE 802.20, UMTS, GSM 850, GSM 900, GSM 1800, GSM 1900, GPRS, ITU-R 5.138, ITU-R 5.150, ITU-R 5.280, IMT-2000, DSL, Dial-Up, DOCSIS, Ethernet, G.hn, ISDN, MoCA, PON, and Power line communication (PLC).

[0044] Now referring to Figure 4, there is depicted an exemplary process flow for a SMW cross-function process with associated data diagram. As depicted, the cross-function process is deployed across four elements, a Web Page, an Address Database, a Dawnsuite Ad Engine (DAE), and a Dawnsuite Communications Engine (DCE). Starting with step 401 a user selects an addressing object either in sub-step 401A, by clicking on an object to indicate addressing instructions and opening a message window, or in sub-step 401B, by opening a message window and typing the message content before selecting a recipient list. Upon completion of either sub-step the process moves to step 402 wherein recipient records are extracted. The process flow may then proceed in first sub-flow via step 404 wherein sponsor elements are extracted including preferred receipt mode and demographic tags and then in step 406 this extracted data is then sent to the DAE. Within DAE 407 a digital sponsorship message (DSM) is selected for each recipient. This may for example, be the same DSM for all recipients, a plurality of DSMs selected upon recipient demographic data, or a plurality of DSMs selected upon recipient demographic data factored for receipt mode. The retrieved demographic data may, for example, be stored in the address database in association with the address of a recipient and is created by the sender when adding the recipient to their address book. In other embodiments of the invention the demographic data stored within the address book is extracted from the social network profile of the recipient when the sender adds the recipient to their address book / social network contacts. From step 407 the process flow proceeds to Dawnsuite Communications Engine (DCE).

[0045] From step 402 the process flow may alternatively proceed in a second sub-flow via step 403 wherein first name and last name data are extracted from the address database before being sent in step 405 to the Dawnsuite Communications Engine (DCE). Within the DCE the messages to be sent are built according to the mode for each recipient. In step 408 messages according to Mode 1 (E-mail) are built using, for example, header content, footer content, from name, addressee e-mail address, subject line, sender message, and the recipient specific e-mail compatible DSM are combined before the process moves to step 412 and sends the message(s) to the appropriate third-party message gateways. In step 409 messages according to Mode 2 (SMS / Text) are built using, for example, header content, footer content, from name, addressee SMS address, subject line, sender message, and the recipient specific SMS compatible DSM are combined before the process moves to step 412 and sends the message(s) to the appropriate third-party message gateways.

[0046] In step 410 messages according to Mode 3 (Text-to-Speech – TTS) are built using, for example, header content, footer content, from name, addressee TTS address, subject line, sender message, and the recipient specific TTS compatible DSM are combined before the process moves to step 412 and sends the message(s) to the appropriate third-party message gateways. In step 411 messages according to Mode 4 (Future) are built using, for example, header content, footer content, from name, addressee address within future communications system format, subject line, sender message, and the recipient specific DSM compatible with the future communications format are combined before the process moves to step 412 and sends the message(s) to the appropriate third-party message gateways. In either case after the messages have been sent in step 412 the process stops.

[0047] Now referring to Figure 5, there is depicted the structure of the Message Parts and Protocol 510 forming part of the Dawnsuite Communications Engine 500. As depicted, Message Parts and Protocol 510 comprises Message Protocol 520, Preferred Receipt Protocol 530, Address 540, Customer Message 550, and Digital Sponsor Message 560. Message Protocol 520 comprises the structure of the message including any header information, message pointers, etc. Preferred Receipt Format 530 defines whether the recipient prefers SMS, e-mail, TTS, etc. as well as any future protocols that may be established. Address 540 defines the recipient's first name and last name although it may in other embodiments of the invention be the recipient's

identity upon a social network for example. Customer Message 550 defines the recipient message by mode, text for Mode 1 (e-mail), approximately 100 character text for Mode 2 (SMS), 80 word text for Mode 3 (TTS), and appropriate content for Mode 4. Digital Sponsor Message (DSM) 560 similarly varies by mode, being text plus graphic (i.e. logo) for Mode 1 (e-mail), 40 character text for Mode 2 (SMS), audio or text tag for Mode 3 (TTS) and appropriate content for Mode 4

[0048] With respect to how SMW could be used then consider, for example, the hospitality industry with convention or meeting planners who need to make changes in room assignments during a convention because of problems like a water leak or electrical problem in a meeting room. Today, if the planner needs to notify conference attendees of room changes, a staff member must be diverted from other tasks to position themselves outside the door of the affected room. As attendees arrive for the presentation they are redirected to the new room, usually causing them to be late for the start of the presentation and generating negative repercussions for all concerned, including negative evaluations.

[0049] Using the SMW system, the event planner can just touch a “context aware" object (in this case the block in the on-line schedule for the affected presentation) and the SMW will open. The conference planner can quickly type a message to the attendees about the situation and tell them the new seminar room name and location. They can then just touch “send” and the SMW system will query the address database, select any registered participant scheduled to attend the subject seminar, including the speaker, select their requested message receipt format, query the ad database and receive the necessary DSMs for any sponsor messages and send all the data elements to the Communications Engine for building and sending of the messages. Because this can be done quickly from a single window, all attendees will typically get the message, in the format they use, before or when they leave their last session. The inconvenience will be reduced to a minimum and the conference planner will be seen to be proactively managing the event by their customer.

[0050] It would be evident to one skilled in the art that a SMW as described within the preceding descriptions in respect of Figures 1 through 5 respectively is a user interface provided upon a PED / FED as a discrete web based interface or as an interface / plug-in within another software application.

[0051] Specific details are given in the above description to provide a thorough understanding of the embodiments. However, it is understood that the embodiments may be practiced without these specific details. For example, circuits may be shown in block diagrams in order not to obscure the embodiments in unnecessary detail. In other instances, well-known circuits, processes, algorithms, structures, and techniques may be shown without unnecessary detail in order to avoid obscuring the embodiments.

[0052] Implementation of the techniques, blocks, steps and means described above may be done in various ways. For example, these techniques, blocks, steps and means may be implemented in hardware, software, or a combination thereof. For a hardware implementation, the processing units may be implemented within one or more application specific integrated circuits (ASICs), digital signal processors (DSPs), digital signal processing devices (DSPDs), programmable logic devices (PLDs), field programmable gate arrays (FPGAs), processors, controllers, micro-controllers, microprocessors, other electronic units designed to perform the functions described above and/or a combination thereof.

[0053] Also, it is noted that the embodiments may be described as a process which is depicted as a flowchart, a flow diagram, a data flow diagram, a structure diagram, or a block diagram. Although a flowchart may describe the operations as a sequential process, many of the operations can be performed in parallel or concurrently. In addition, the order of the operations may be rearranged. A process is terminated when its operations are completed, but could have additional steps not included in the figure. A process may correspond to a method, a function, a procedure, a subroutine, a subprogram, etc. When a process corresponds to a function, its termination corresponds to a return of the function to the calling function or the main function.

[0054] Furthermore, embodiments may be implemented by hardware, software, scripting languages, firmware, middleware, microcode, hardware description languages and/or any combination thereof. When implemented in software, firmware, middleware, scripting language and/or microcode, the program code or code segments to perform the necessary tasks may be stored in a machine readable medium, such as a storage medium. A code segment or machine-executable instruction may represent a procedure, a function, a subprogram, a program, a routine, a subroutine, a module, a software package, a script, a class, or any combination of instructions, data structures and/or program statements. A code segment may be coupled to another code

segment or a hardware circuit by passing and/or receiving information, data, arguments, parameters and/or memory contents. Information, arguments, parameters, data, etc. may be passed, forwarded, or transmitted via any suitable means including memory sharing, message passing, token passing, network transmission, etc.

[0055] For a firmware and/or software implementation, the methodologies may be implemented with modules (e.g., procedures, functions, and so on) that perform the functions described herein. Any machine-readable medium tangibly embodying instructions may be used in implementing the methodologies described herein. For example, software codes may be stored in a memory. Memory may be implemented within the processor or external to the processor and may vary in implementation where the memory is employed in storing software codes for subsequent execution to that when the memory is employed in executing the software codes. As used herein the term "memory" refers to any type of long term, short term, volatile, nonvolatile, or other storage medium and is not to be limited to any particular type of memory or number of memories, or type of media upon which memory is stored.

[0056] Moreover, as disclosed herein, the term "storage medium" may represent one or more devices for storing data, including read only memory (ROM), random access memory (RAM), magnetic RAM, core memory, magnetic disk storage mediums, optical storage mediums, flash memory devices and/or other machine readable mediums for storing information. The term "machine-readable medium" includes, but is not limited to portable or fixed storage devices, optical storage devices, wireless channels and/or various other mediums capable of storing, containing or carrying instruction(s) and/or data.

[0057] The methodologies described herein are, in one or more embodiments, performable by a machine which includes one or more processors that accept code segments containing instructions. For any of the methods described herein, when the instructions are executed by the machine, the machine performs the method. Any machine capable of executing a set of instructions (sequential or otherwise) that specify actions to be taken by that machine are included. Thus, a typical machine may be exemplified by a typical processing system that includes one or more processors. Each processor may include one or more of a CPU, a graphics-processing unit, and a programmable DSP unit. The processing system further may include a memory subsystem including main RAM and/or a static RAM, and/or ROM. A bus subsystem

may be included for communicating between the components. If the processing system requires a display, such a display may be included, e.g., a liquid crystal display (LCD). If manual data entry is required, the processing system also includes an input device such as one or more of an alphanumeric input unit such as a keyboard, a pointing control device such as a mouse, and so forth.

[0058] The memory includes machine-readable code segments (e.g. software or software code) including instructions for performing, when executed by the processing system, one of more of the methods described herein. The software may reside entirely in the memory, or may also reside, completely or at least partially, within the RAM and/or within the processor during execution thereof by the computer system. Thus, the memory and the processor also constitute a system comprising machine-readable code.

[0059] In alternative embodiments, the machine operates as a standalone device or may be connected, e.g., networked to other machines, in a networked deployment, the machine may operate in the capacity of a server or a client machine in server-client network environment, or as a peer machine in a peer-to-peer or distributed network environment. The machine may be, for example, a computer, a server, a cluster of servers, a cluster of computers, a web appliance, a distributed computing environment, a cloud computing environment, or any machine capable of executing a set of instructions (sequential or otherwise) that specify actions to be taken by that machine. The term "machine" may also be taken to include any collection of machines that individually or jointly execute a set (or multiple sets) of instructions to perform any one or more of the methodologies discussed herein.

[0060] The foregoing disclosure of the exemplary embodiments of the present invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Many variations and modifications of the embodiments described herein will be apparent to one of ordinary skill in the art in light of the above disclosure. The scope of the invention is to be defined only by the claims appended hereto, and by their equivalents.

[0061] Further, in describing representative embodiments of the present invention, the specification may have presented the method and/or process of the present invention as a particular sequence of steps. However, to the extent that the method or process does not rely on

the particular order of steps set forth herein, the method or process should not be limited to the particular sequence of steps described. As one of ordinary skill in the art would appreciate, other sequences of steps may be possible. Therefore, the particular order of the steps set forth in the specification should not be construed as limitations on the claims. In addition, the claims directed to the method and/or process of the present invention should not be limited to the performance of their steps in the order written, and one skilled in the art can readily appreciate that the sequences may be varied and still remain within the spirit and scope of the present invention.

CLAIMS

What is claimed is:

l. A method comprising;

providing on a device comprising at least a microprocessor a user interface, the user interface allowing a user to at least one of send a message to multiple contacts in a plurality of formats and view a message received according to a format of a plurality of formats.

2. The method according to claim 1, wherein

the user interface operates independently of any other messaging application upon the device; and

the format and the plurality of formats are selected from a group of supported formats of the user interface, the group of supported formats comprising electronic mail, text, simple message system, social network posts, voice, facsimile, and social network communications.

3. The method according to claim 1, wherein

the user interface when allowing a user to send a message to multiple contacts sends each message as an individual message, each message being sent in a format the recipient has previously indicated to the user they wish to receive messages in.

4. The method according to claim 1, wherein

the user is only required to enter the message body and enact an action relating to sending as the user interface automatically performs all actions relating to sending the message to the intended addressees with no further direction or input from the sender.

5. The method according to claim 1, wherein
the user interface does not form part of another application on the device supporting an end-to-end messaging system.

6. The method according to claim 1, wherein
the user interface forms a predetermined portion of a system for generating electronic messages from the requisite elements required by end-to-end messaging systems according to a first predetermined portion of the plurality of formats and receive replies according to a second predetermined portion of the plurality of formats.

7. The method according to claim 1, wherein
the user interface is initiated by the user selecting a context aware object within at least one of a web based and mobile based application, wherein a system of which the user interface forms part can determine the context of the context aware object and ascertain in dependence therefrom at least a data element and forward the at least a data element to a communications element of the system for assembly into a message for sending, the at least a data element selected from the group comprising an intended address of a recipient, a name of a recipient, a preferred mode of communications of a recipient, and an advertisement sponsor of an advertisement for a recipient.

8. The method according to claim 1, wherein
the user interface can be initiated by the user selecting an element of another user interface on the device absent a contextual object link to open the user interface; and
upon initiation of the user interface the user can enter their message and select addresses from a contextually generated list of addressees.

9. The method according to claim 1, wherein

the user interface is initiated by the user selecting a context aware object within a web application; and

subsequent to entering a message the user can select through a menu additional recipient addresses not included in a contextually aware addressee list associated with the message in dependence upon at least the user's selection of the context aware object.

10. The method according to claim 1, wherein

the user interface can present to the user a list of addressees established in dependence upon the user's previous selection of a contextually aware object, each address being associated with a preferred method of receipt for the recipient associated with the address.

11. The method accordingly to claim 1, wherein

each message to a contact within the multiple contacts contains a digital sponsorship message dynamically placed within the sender's message.

12. The method according to claim 11, wherein

each digital sponsorship message is selected from a database of at least one of advertising messages and sponsorship messages intended for transmittal by all the message formats supported by the plurality of formats.

13. The method of claim 11, wherein

each digital sponsorship message is selected from a database of at least one of advertising messages and sponsorship messages in dependence of at least the format of the message to be sent to a recipient.

14. The method according to claim 1, wherein

the user interface forms part of a software application further comprising a reply store associated with the user, the reply store receiving replies from recipients of messages sent by the user and providing the user with a notification relating to receipt of a reply.

15. The method according to claim 1, wherein

each message to a contact of the multiple contacts sent in a format of the plurality of formats is sent only to that contact.

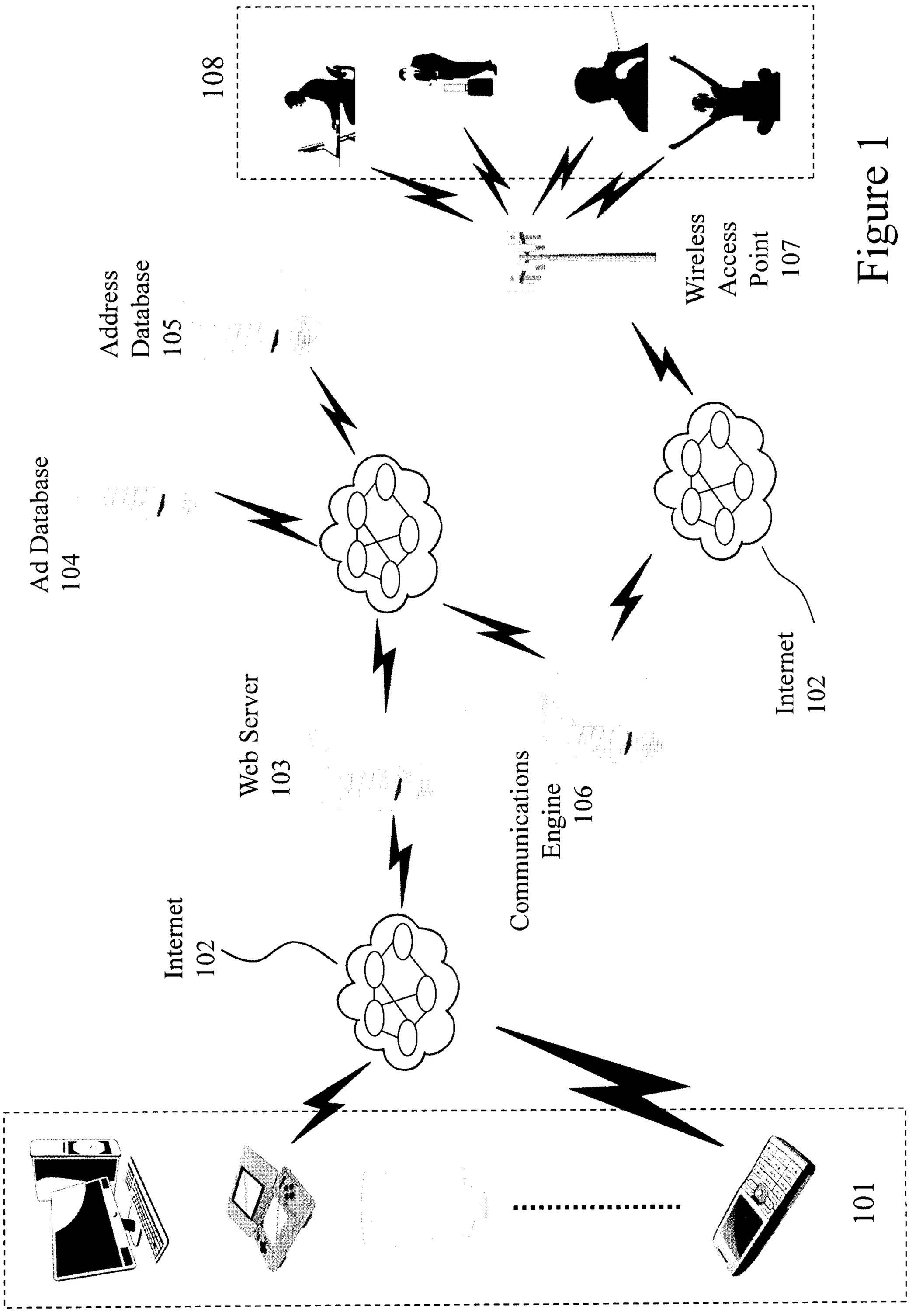
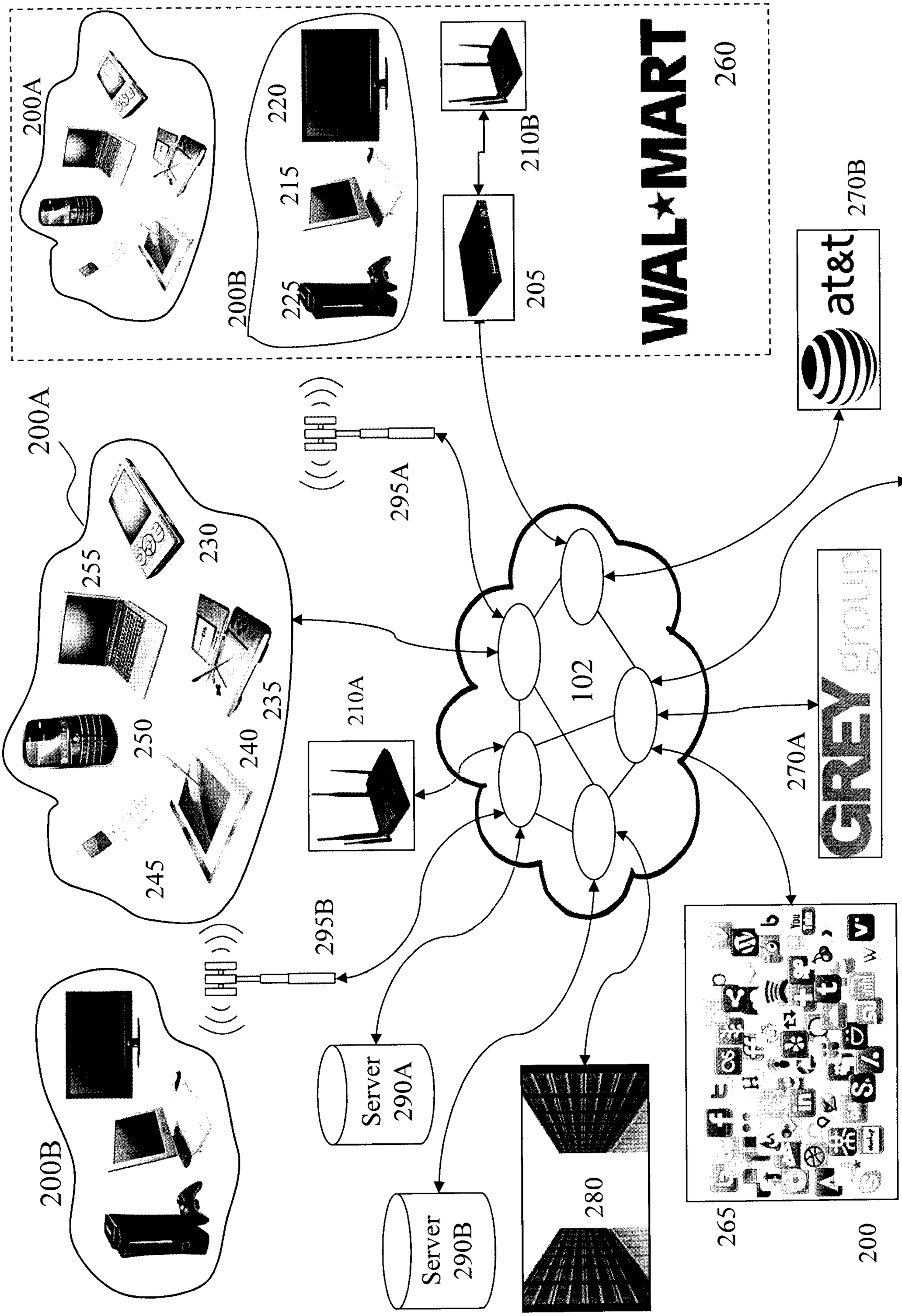

108
Wireless Access Point 107
Address Database 105
Ad Database 104
Web Server 103
Internet 102
Communications Engine 106
Internet 102
101

Figure 1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200B
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215
225
205
210B
WAL★MART
260
at&t
270B
Google
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295A
210A
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245
295B
Server 290A
Server 290B
280
265
200

Figure 2

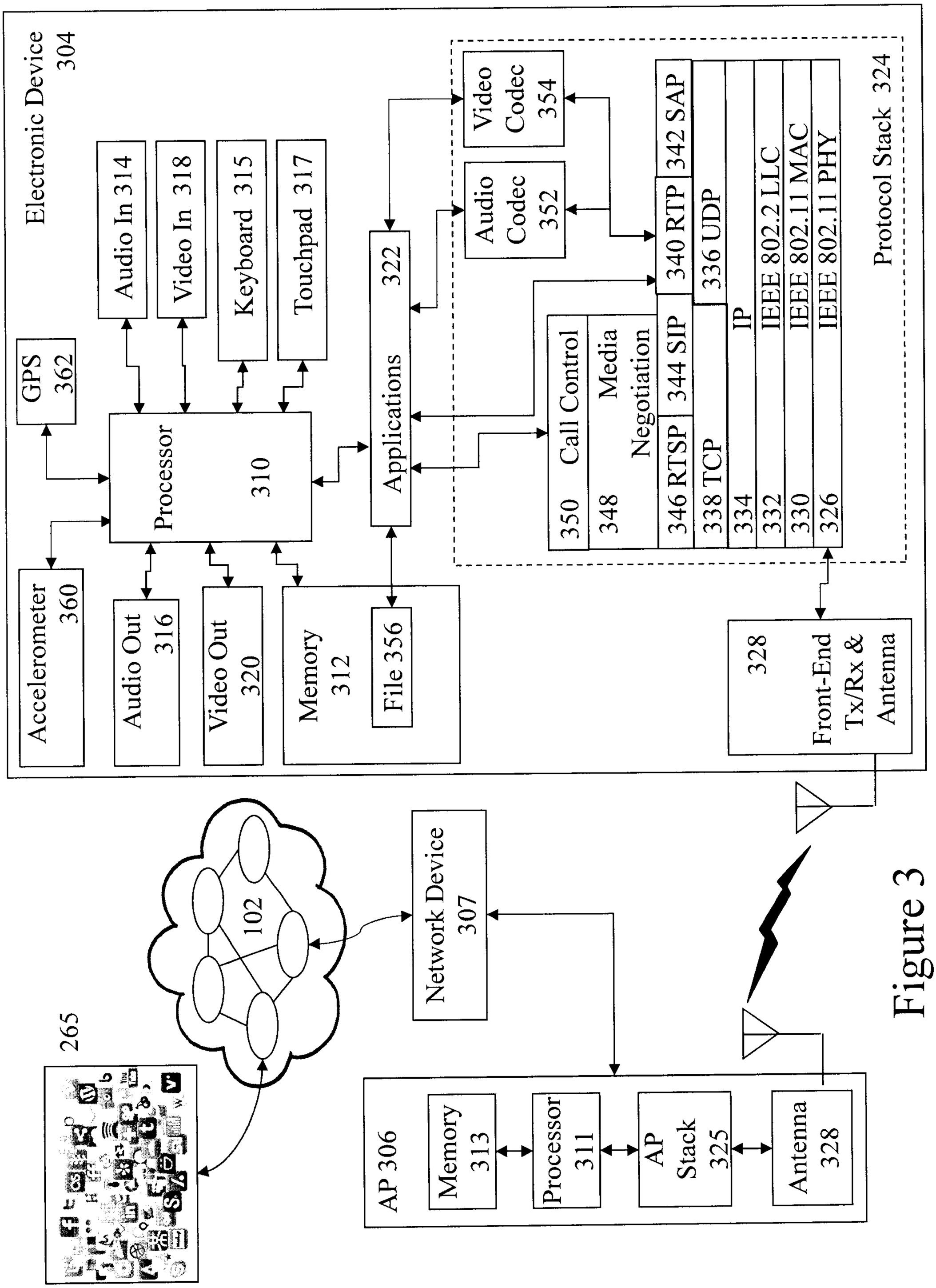
Electronic Device 304
Audio In 314
Video In 318
Keyboard 315
Touchpad 317
GPS 362
Accelerometer 360
Audio Out 316
Video Out 320
Processor 310
Memory 312
File 356
322
Applications
Video Codec 354
Audio Codec 352
Protocol Stack 324
350 Call Control
348 Media Negotiation
346 RTSP
344 SIP
342 SAP
340 RTP
338 TCP
336 UDP
334 IP
332 IEEE 802.2 LLC
330 IEEE 802.11 MAC
326 IEEE 802.11 PHY
328 Front-End Tx/Rx & Antenna
300
265
102
Network Device 307
AP 306
Memory 313
Processor 311
AP Stack 325
Antenna 328

Figure 3

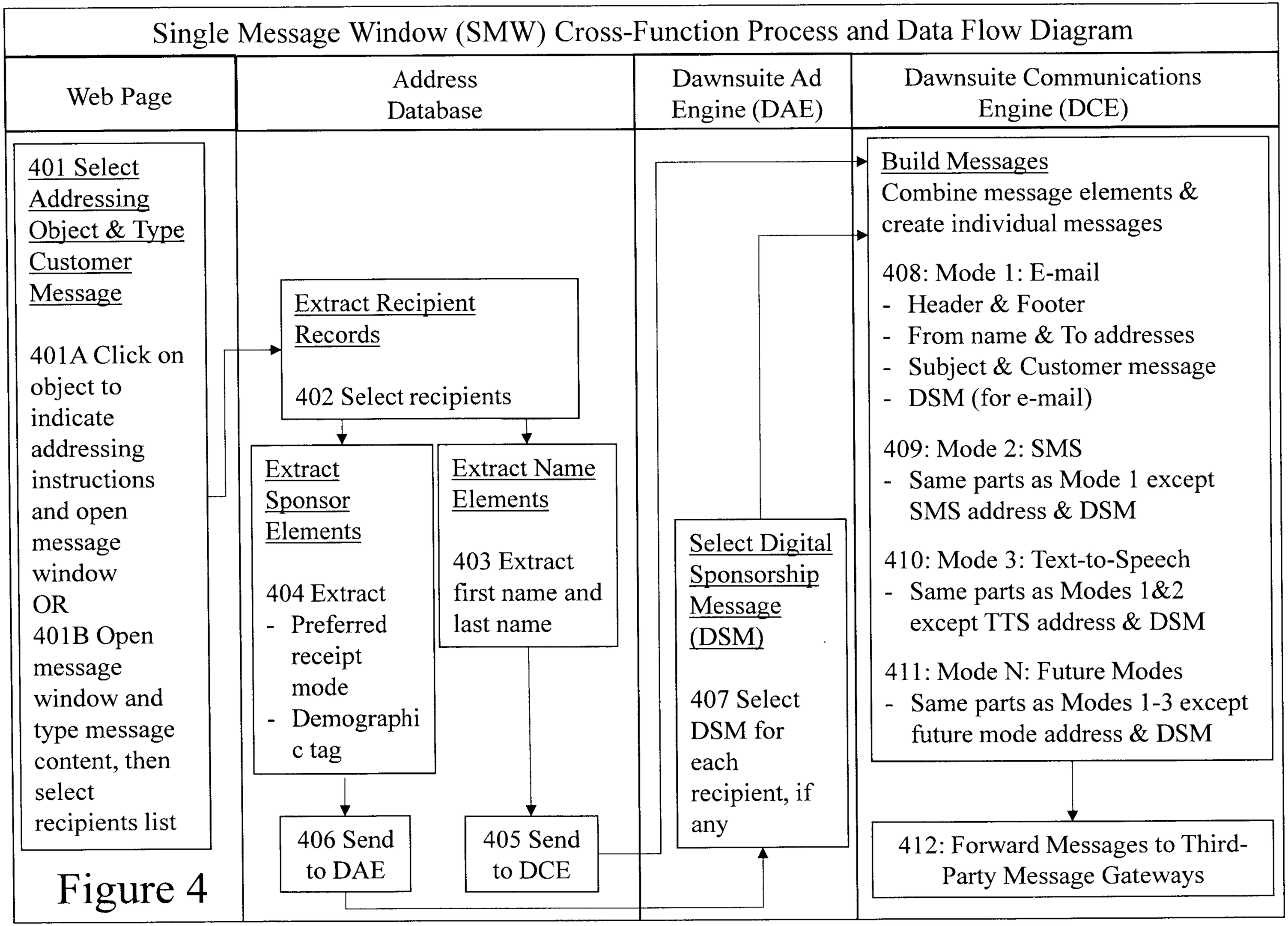
Single Message Window (SMW) Cross-Function Process and Data Flow Diagram
Web Page
Address Database
Dawnsuite Ad Engine (DAE)
Dawnsuite Communications Engine (DCE)
401 Select Addressing Object & Type Customer Message
401A Click on object to indicate addressing instructions and open message window
OR
401B Open message window and type message content, then select recipients list
Extract Recipient Records
402 Select recipients
Extract Sponsor Elements
404 Extract
- Preferred receipt mode
- Demographic tag
Extract Name Elements
403 Extract first name and last name
406 Send to DAE
405 Send to DCE
Select Digital Sponsorship Message (DSM)
407 Select DSM for each recipient, if any
Build Messages
Combine message elements & create individual messages
408: Mode 1: E-mail
- Header & Footer
- From name & To addresses
- Subject & Customer message
- DSM (for e-mail)
409: Mode 2: SMS
- Same parts as Mode 1 except SMS address & DSM
410: Mode 3: Text-to-Speech
- Same parts as Modes 1&2 except TTS address & DSM
411: Mode N: Future Modes
- Same parts as Modes 1-3 except future mode address & DSM
412: Forward Messages to Third-Party Message Gateways

Figure 4

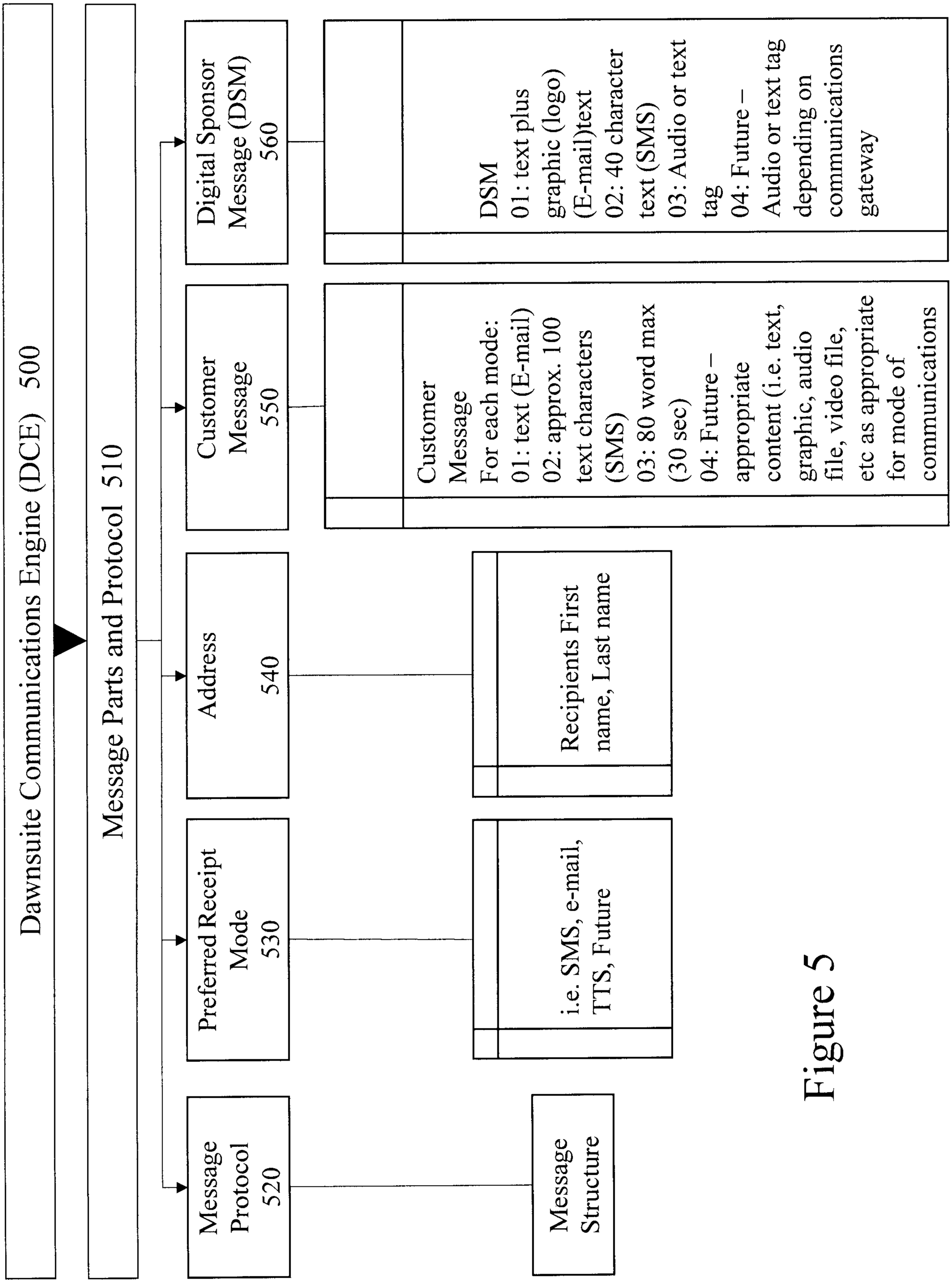
Dawnsuite Communications Engine (DCE) 500
Message Parts and Protocol 510
Message Protocol 520
Message Structure
Preferred Receipt Mode 530
i.e. SMS, e-mail, TTS, Future
Address 540
Recipients First name, Last name
Customer Message 550
Customer Message For each mode: 01: text (E-mail) 02: approx. 100 text characters (SMS) 03: 80 word max (30 sec) 04: Future – appropriate content (i.e. text, graphic, audio file, video file, etc as appropriate for mode of communications
Digital Sponsor Message (DSM) 560
DSM 01: text plus graphic (logo) (E-mail)text 02: 40 character text (SMS) 03: Audio or text tag 04: Future – Audio or text tag depending on communications gateway

Figure 5

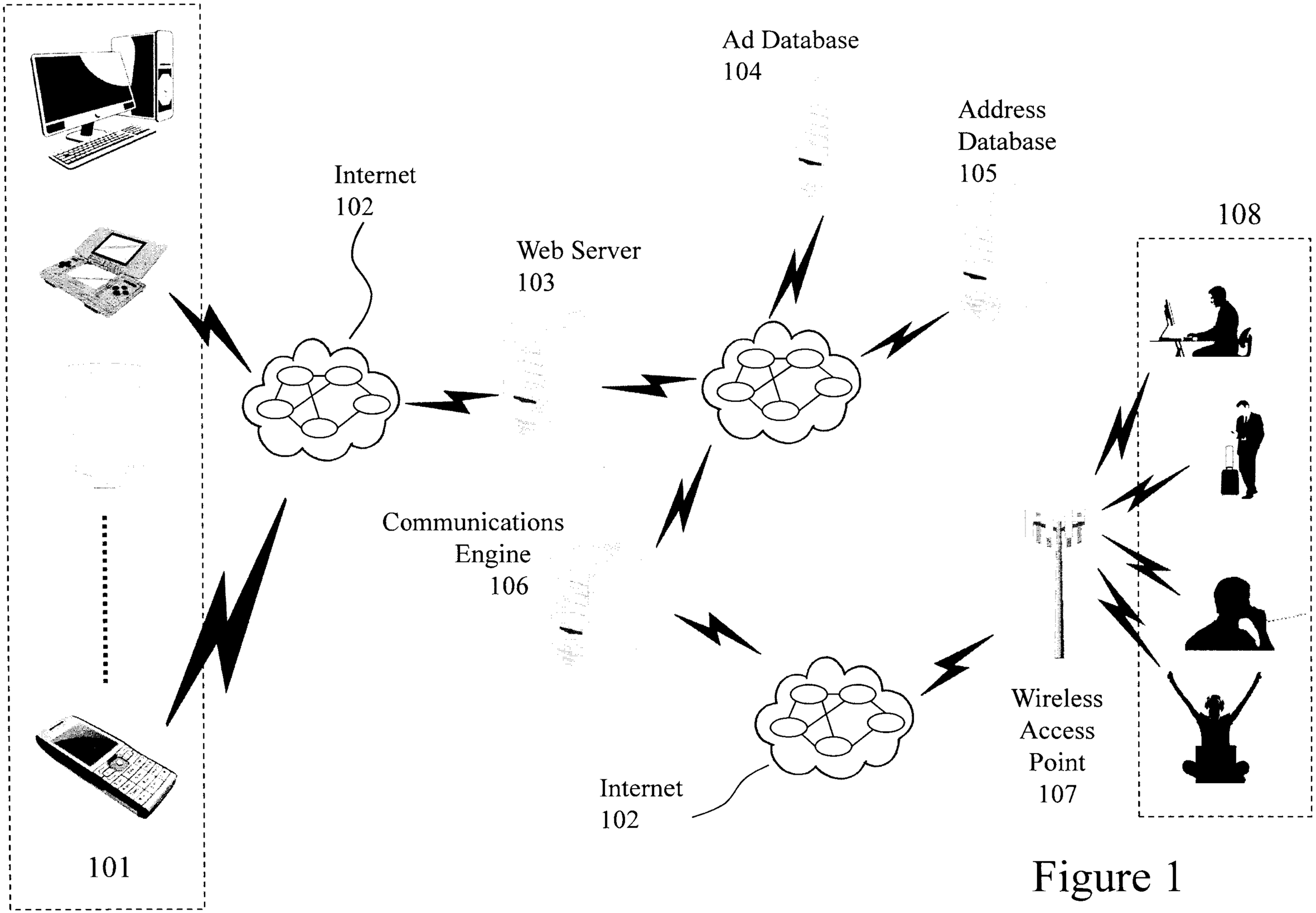
Ad Database
104
Address
Database
105
Internet
102
Web Server
103
108
Communications
Engine
106
Wireless
Access
Point
107
Internet
102
101

Figure 1