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(54) **COMPUTING SYSTEM WITH CONFIGURATION UPDATE MECHANISM AND METHOD OF OPERATION THEREOF**

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(51) **Int. Cl.**

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H04W 64/00	(2009.01)
H04L 29/06	(2006.01)
H04W 4/00	(2009.01)

(52) **U.S. Cl.**

CPC ***H04W 4/021*** (2013.01); ***H04W 64/00*** (2013.01); *H04L 65/10* (2013.01); *H04W 4/001* (2013.01)

(58) **Field of Classification Search**

CPC H04W 4/021; H04W 4/001; H04W 64/00; H04W 52/0216; H04L 65/10; H04L 67/02
USPC 455/456.3, 405; 709/208; 715/753
See application file for complete search history.

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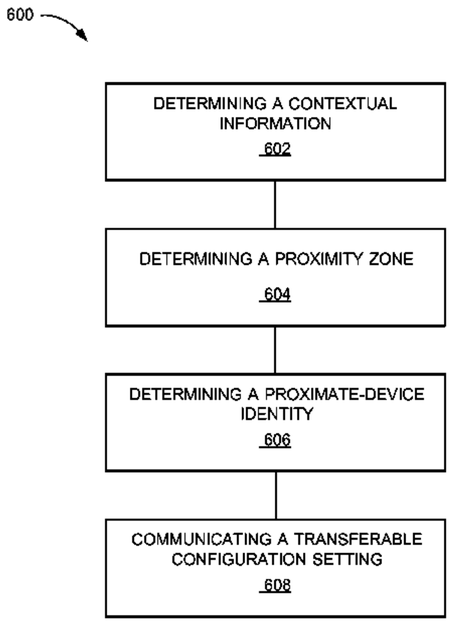
(57) **ABSTRACT**

A computing system includes: a context module configured to determine a contextual information for representing the contextual information relative to a device; a zone module, coupled to the context module, configured to determine a proximity zone for identifying further devices within the proximity zone relative to the device; a proximate-device module, coupled to the zone module, configured to determine proximate-device identities for identifying the further devices relative to the device; and a configuration transfer module, coupled to the proximate-device module, configured to communicate a transferable configuration setting with a communication unit using the proximate-device identities for updating the device based on the transferable configuration setting and the contextual information for displaying on the device.

17 Claims, 6 Drawing Sheets



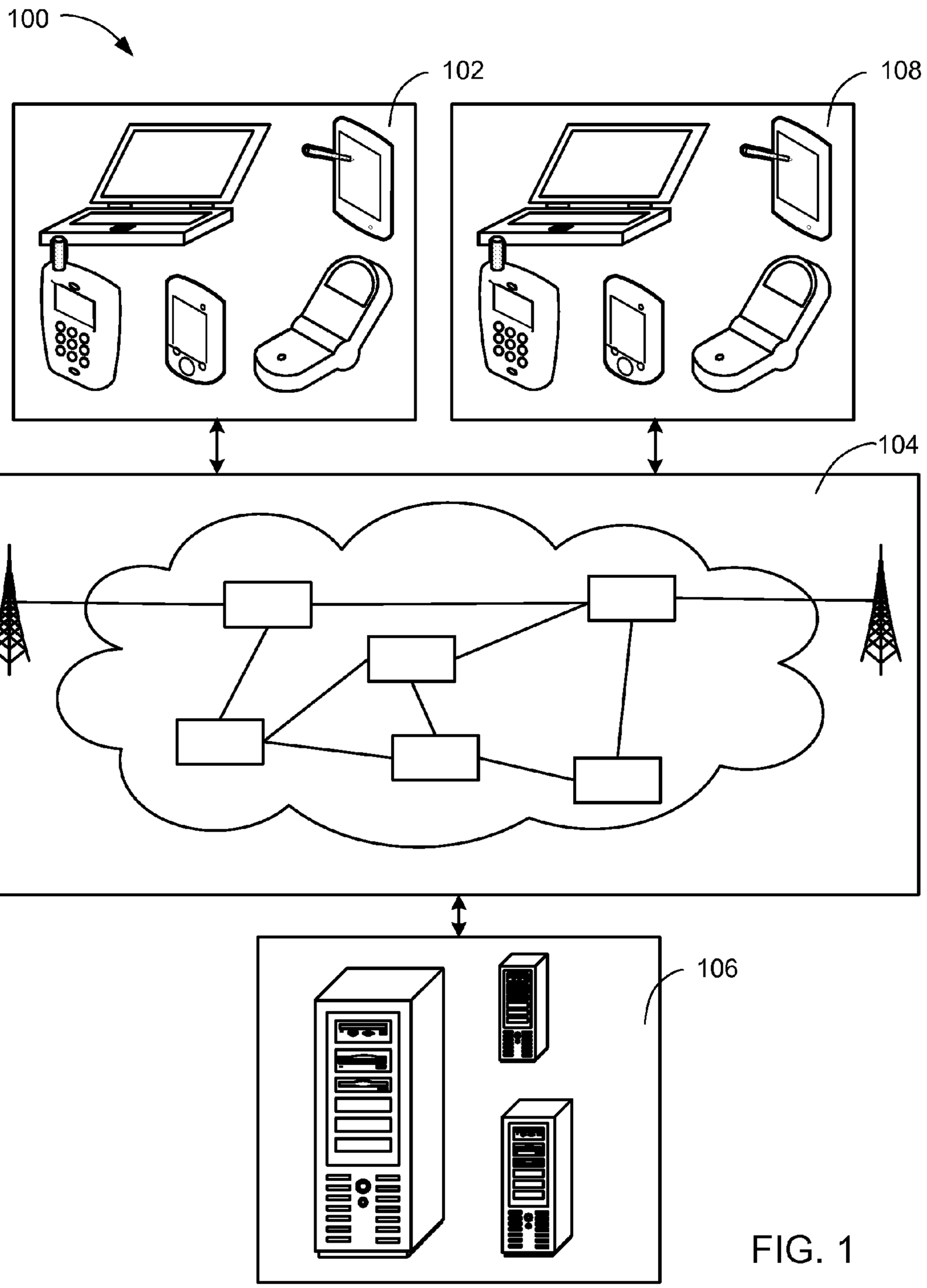


FIG. 1

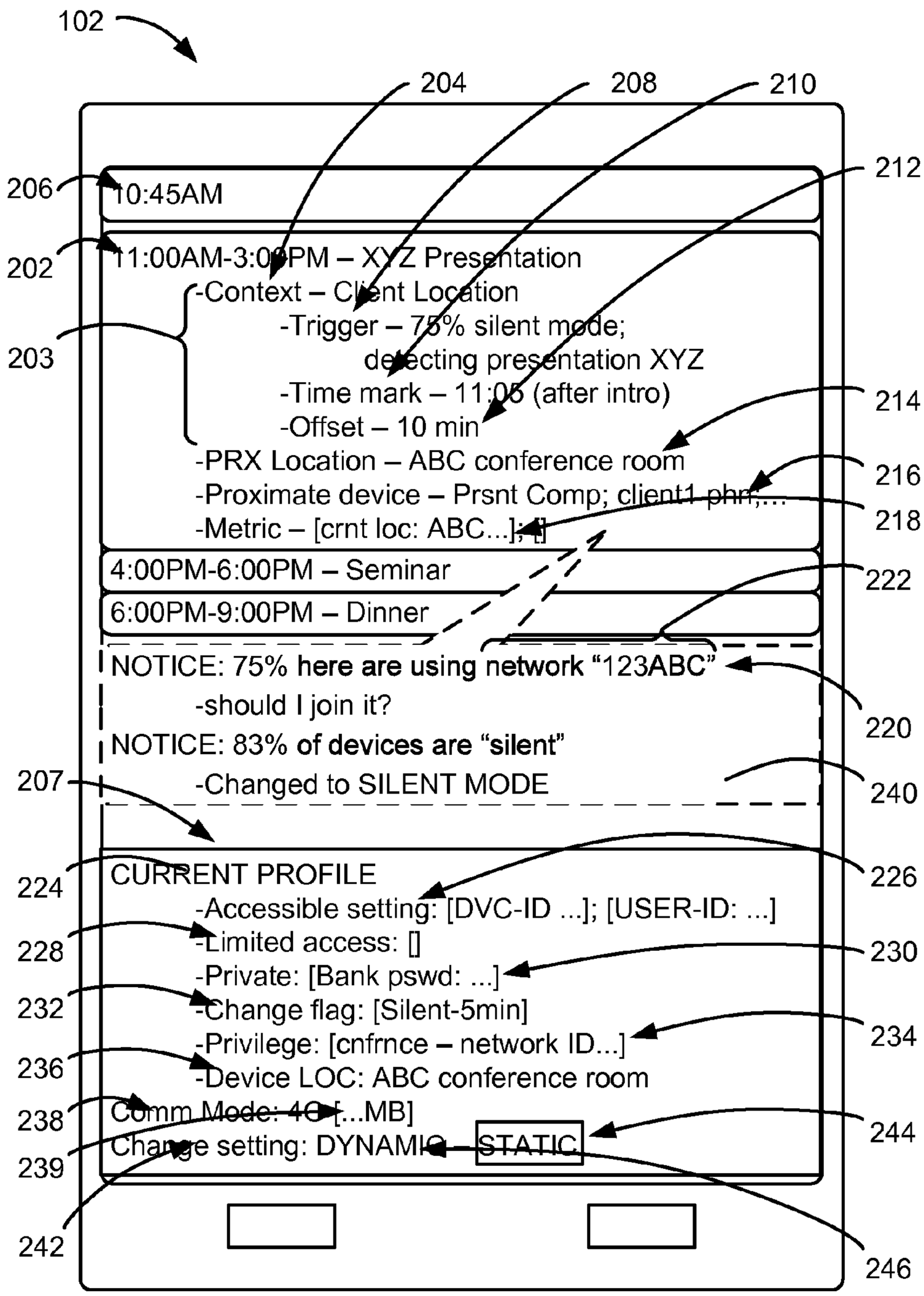

102
204
208
210
212
206
10:45AM
202
11:00AM-3:00PM – XYZ Presentation
-Context – Client Location
-Trigger – 75% silent mode;
detecting presentation XYZ
203
-Time mark – 11:05 (after intro)
-Offset – 10 min
214
-PRX Location – ABC conference room
216
-Proximate device – Prsnt Comp; client1 phn;...
218
-Metric – [crnt loc: ABC...];[]
4:00PM-6:00PM – Seminar
222
6:00PM-9:00PM – Dinner
NOTICE: 75% here are using network "123ABC"
-should I join it?
220
NOTICE: 83% of devices are "silent"
207
-Changed to SILENT MODE
240
CURRENT PROFILE
224
226
-Accessible setting: [DVC-ID ...]; [USER-ID: ...]
228
-Limited access: []
230
-Private: [Bank pswd: ...]
232
-Change flag: [Silent-5min]
234
-Privilege: [cnfrnce – network ID...]
236
-Device LOC: ABC conference room
238
Comm Mode: 4G [...MB]
244
239
Change setting: DYNAMIC STATIC
242
246

FIG. 2

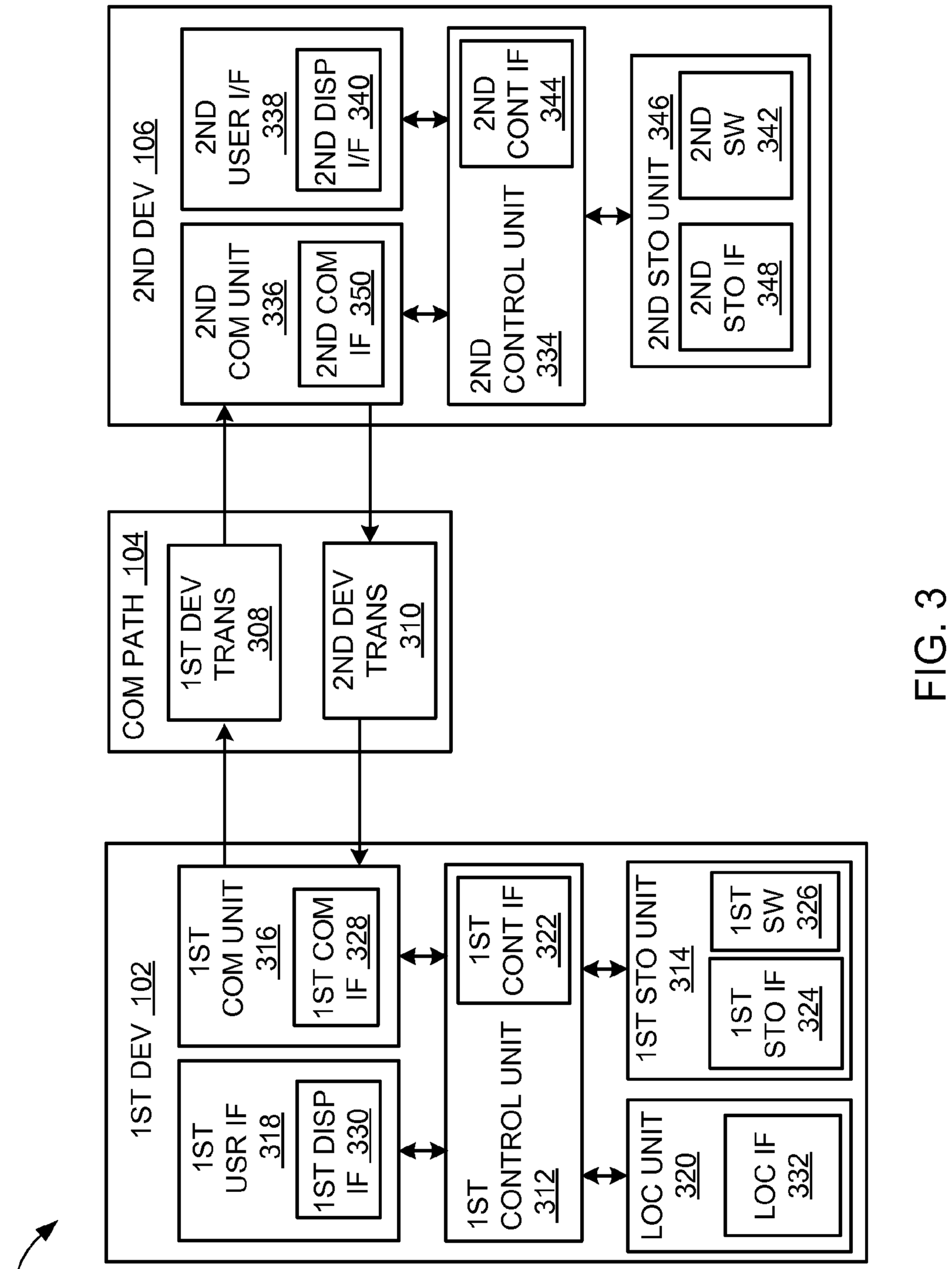

100
1ST DEV 102
1ST USR IF 318
1ST DISP IF 330
1ST COM UNIT 316
1ST COM IF 328
1ST CONTROL UNIT 312
1ST CONT IF 322
1ST STO UNIT 314
1ST STO IF 324
1ST SW 326
LOC UNIT 320
LOC IF 332
COM PATH 104
1ST DEV TRANS 308
2ND DEV TRANS 310
2ND DEV 106
2ND USER I/F 338
2ND DISP I/F 340
2ND COM UNIT 336
2ND COM IF 350
2ND CONTROL UNIT 334
2ND CONT IF 344
2ND STO UNIT 346
2ND STO IF 348
2ND SW 342

FIG. 3

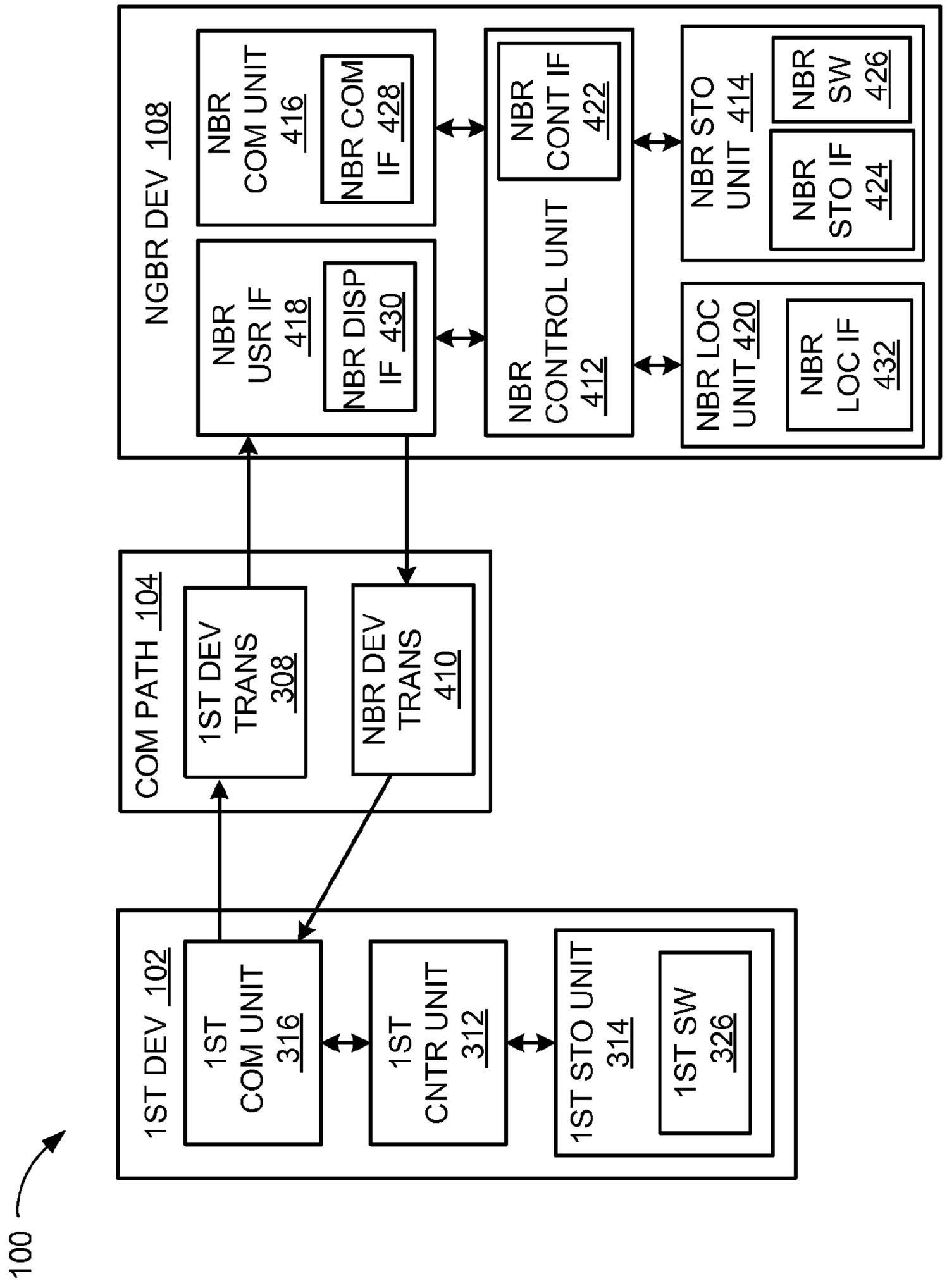

100
1ST DEV 102
1ST COM UNIT 316
1ST CNTR UNIT 312
1ST STO UNIT 314
1ST SW 326
COM PATH 104
1ST DEV TRANS 308
NBR DEV TRANS 410
NGBR DEV 108
NBR USR IF 418
NBR DISP IF 430
NBR COM UNIT 416
NBR COM IF 428
NBR CONTROL UNIT 412
NBR CONT IF 422
NBR STO UNIT 414
NBR STO IF 424
NBR SW 426
NBR LOC UNIT 420
NBR LOC IF 432

FIG. 4

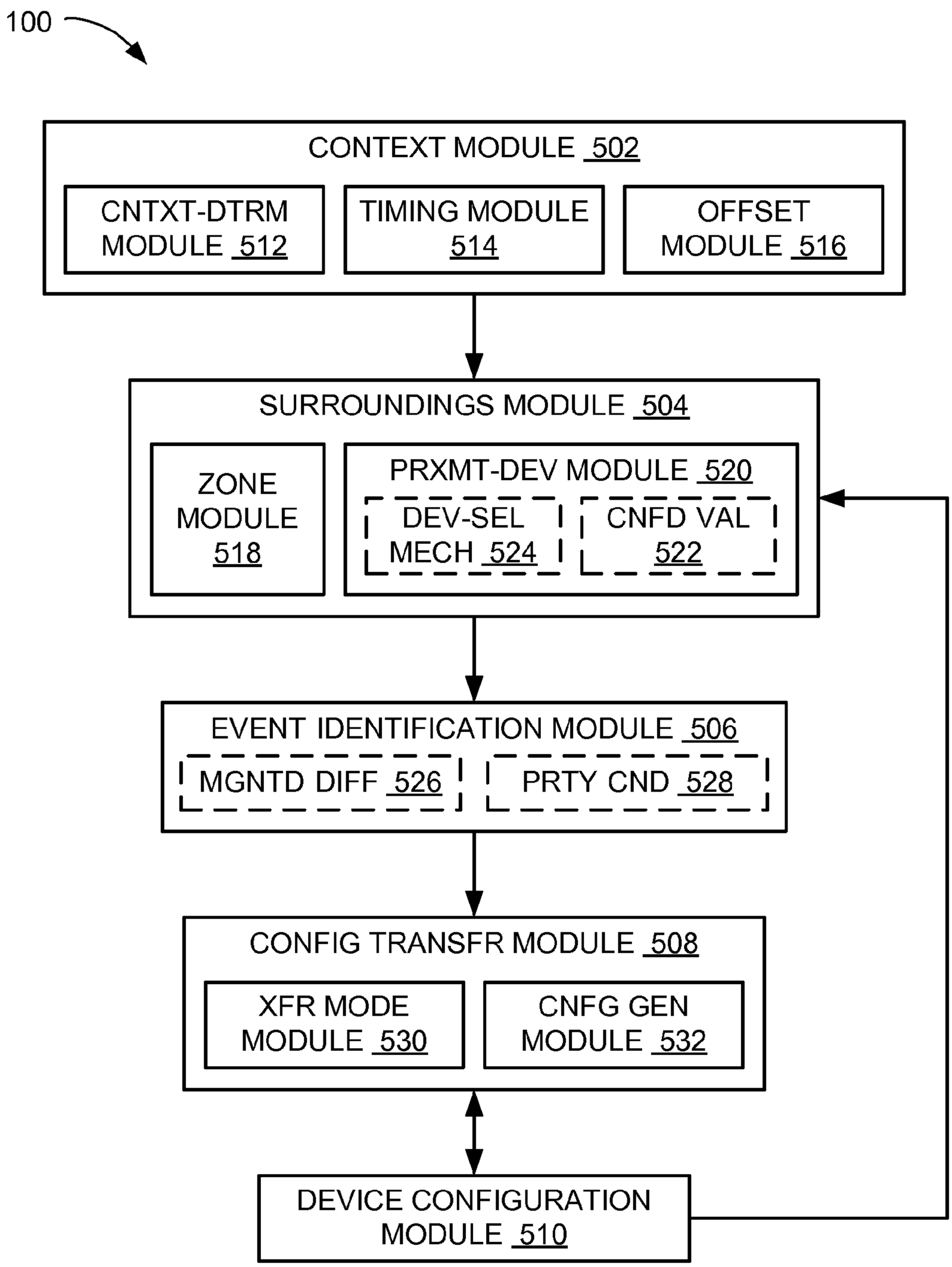

100
CONTEXT MODULE 502
CNTXT-DTRM MODULE 512
TIMING MODULE 514
OFFSET MODULE 516
SURROUNDINGS MODULE 504
ZONE MODULE 518
PRXMT-DEV MODULE 520
DEV-SEL MECH 524
CNFD VAL 522
EVENT IDENTIFICATION MODULE 506
MGNTD DIFF 526
PRTY CND 528
CONFIG TRANSFR MODULE 508
XFR MODE MODULE 530
CNFG GEN MODULE 532
DEVICE CONFIGURATION MODULE 510

FIG. 5

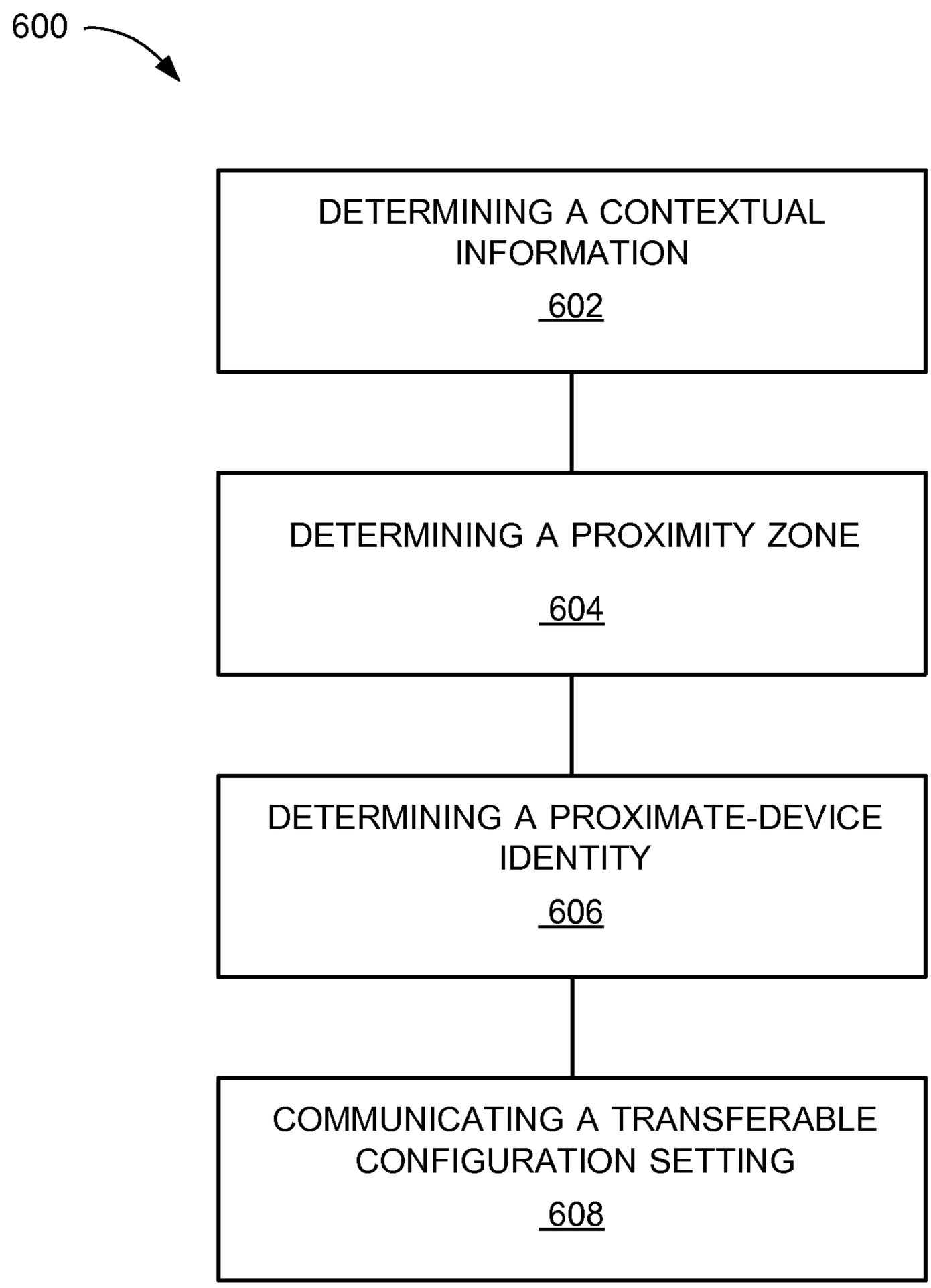

600
DETERMINING A CONTEXTUAL INFORMATION
602
DETERMINING A PROXIMITY ZONE
604
DETERMINING A PROXIMATE-DEVICE IDENTITY
606
COMMUNICATING A TRANSFERABLE CONFIGURATION SETTING
608

FIG. 6

COMPUTING SYSTEM WITH CONFIGURATION UPDATE MECHANISM AND METHOD OF OPERATION THEREOF

TECHNICAL FIELD

An embodiment of the present invention relates generally to a computing system, and more particularly to a system for updating configurations.

BACKGROUND

Modern consumer and industrial electronics, such as computing systems, televisions, tablets, cellular phones, portable digital assistants, projectors, and combination devices, are providing increasing levels of functionality to support modern life. In addition to the explosion of functionality and proliferation of these devices into the everyday life, there is also an explosion of data and information being created, transported, consumed, and stored.

The increasing demand for information in modern life requires users to access information at any time, while the variety of consumer devices allow for increased functionalities. However, device configurations for accommodating the information and the functionalities have often been difficult to control, such as in programming a videocassette recorder.

Thus, a need still remains for a computing system with configuration update mechanism for dynamically controlling configuration settings. In view of the ever-increasing commercial competitive pressures, along with growing consumer expectations and the diminishing opportunities for meaningful product differentiation in the marketplace, it is increasingly critical that answers be found to these problems. Additionally, the need to reduce costs, improve efficiencies and performance, and meet competitive pressures adds an even greater urgency to the critical necessity for finding answers to these problems.

Solutions to these problems have been long sought but prior developments have not taught or suggested any solutions and, thus, solutions to these problems have long eluded those skilled in the art.

SUMMARY

An embodiment of the present invention provides a computing system, including: a context module configured to determine a contextual information for representing the contextual information relative to a device; a zone module, coupled to the context module, configured to determine a proximity zone for identifying further devices within the proximity zone relative to the device; proximate-device module, coupled to the zone module, configured to determine proximate-device identities for identifying the further devices relative to the device; and a configuration transfer module, coupled to the proximate-device module, configured to communicate a transferable configuration setting with a communication unit using the proximate-device identities for updating the device based on the transferable configuration setting and the contextual information for displaying on the device.

An embodiment of the present invention provides a method of operation of a computing system including: determining a contextual information for representing the contextual information relative to a device; determining a proximity zone for identifying further devices within the proximity zone relative to a device; determining proximate-device identities for identifying the further devices relative to the device; and communicating a transferable configuration setting with a communication unit using the proximate-device identities for updating the device based on the transferable configuration setting for displaying on the device.

An embodiment of the present invention provides a non-transitory computer readable medium having instructions including: determining a contextual information for representing the contextual information relative to a device; determining a proximity zone for identifying further devices within the proximity zone relative to a device; determining proximate-device identities for identifying the further devices relative to the device; and communicating a transferable configuration setting with a communication unit using the proximate-device identities for updating the device based on the transferable configuration setting for displaying on the device.

Certain embodiments of the invention have other steps or elements in addition to or in place of those mentioned above. The steps or elements will become apparent to those skilled in the art from a reading of the following detailed description when taken with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a computing system with configuration update mechanism in an embodiment of the present invention.

FIG. **2** is an example display of the first device.

FIG. **3** is a functional block diagram of the computing system.

FIG. **4** is a further functional block diagram of the computing system.

FIG. **5** is a control flow of the computing system.

FIG. **6** is a flow chart of a method of operation of a computing system in a further embodiment of the present invention.

DETAILED DESCRIPTION

An embodiment of the present invention updates a downloading-device profile based on contextual information, including a future context. A transferable configuration setting is exchanged between devices based on a proximity zone, a transfer trigger, a contextual time-mark, a transfer offset, or a combination thereof associated with the contextual information. One or more devices can exchange the transferable configuration setting, update the downloading-device profile according to the transferable configuration setting, communicate a configuration notification to a user, or a combination thereof. The exchange or the update can be based on settings for the devices within the proximity zone.

An embodiment of the present invention includes the transferable configuration setting to provide contextually relevant configurations with minimal burden on the user. The transferable configuration setting and the future context further provide timely and contextually relevant features to the user.

The following embodiments are described in sufficient detail to enable those skilled in the art to make and use the invention. It is to be understood that other embodiments would be evident based on the present disclosure, and that system, process, or mechanical changes may be made without departing from the scope of the present invention.

In the following description, numerous specific details are given to provide a thorough understanding of the invention. However, it will be apparent that the invention may be practiced without these specific details. In order to avoid obscuring the present invention, some well-known circuits, system configurations, and process steps are not disclosed in detail.

The drawings showing embodiments of the system are semi-diagrammatic, and not to scale and, particularly, some of the dimensions are for the clarity of presentation and are shown exaggerated in the drawing figures. Similarly, although the views in the drawings for ease of description generally show similar orientations, this depiction in the figures is arbitrary for the most part. Generally, the invention can be operated in any orientation.

The term "module" referred to herein can include software, hardware, or a combination thereof in the present invention in accordance with the context in which the term is used. For example, the software can be machine code, firmware, embedded code, and application software. The software can also include a function, a call to a function, a code block, or a combination thereof. Also for example, the hardware can be circuitry, processor, computer, integrated circuit, integrated circuit cores, a pressure sensor, an inertial sensor, a micro-electromechanical system (MEMS), passive devices, physical non-transitory memory medium having instructions for performing the software function, or a combination thereof.

Referring now to FIG. **1**, therein is shown a computing system **100** with configuration update mechanism in an embodiment of the present invention. The computing system **100** includes a first device **102**, such as a client or a server, connected to a second device **106**, such as a client or server, a neighboring device **108**, such as a client or server, or a combination thereof. The first device **102** can communicate with the second device **106**, the neighboring device **108**, or a combination thereof with a communication path **104**, such as a wireless or wired network.

Users of the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof can communicate with each other or access or create information including text, images, symbols, location information, and audio, as examples. The users can be individuals or enterprise companies. The information can be created directly from a user or operations performed on these information to create more or different information.

The first device **102**, the further device **108**, or a combination thereof can be of any of a variety of devices, such as a smartphone, a cellular phone, personal digital assistant, a tablet computer, a notebook computer, or other multi-functional display or entertainment device. The first device **102**, the neighboring device **108**, or a combination thereof can couple, either directly or indirectly, to the communication path **104** for exchanging information with the second device **106** or each other, or can be a stand-alone device.

For illustrative purposes, the computing system **100** is described with the first device **102** and the neighboring device **108** as a portable multi-functional device, although it is understood that the first device **102** and the neighboring device **108** can be different types of devices. For example, the first device **102**, the neighboring device **108**, or a combination thereof can also be a workstation or a multi-media presentation. A multi-media presentation can be a presentation including sound, a sequence of streaming images or a video feed, text or a combination thereof.

The second device **106** can be any of a variety of centralized or decentralized computing devices, or video transmission devices. For example, the second device **106** can be a multimedia computer, a laptop computer, a desktop computer, a video game console, grid-computing resources, a virtualized computer resource, cloud computing resource, routers, switches, peer-to-peer distributed computing devices, a media playback device, a recording device, such as a camera or video camera, or a combination thereof. In another example, the second device **106** can be a server at a service provider or a computing device at a transmission facility.

The second device **106** can be centralized in a single room, distributed across different rooms, distributed across different geographical locations, embedded within a telecommunications network. The second device **106** can couple with the communication path **104** to communicate with the first device **102**, the neighboring device **108**, or a combination thereof.

For illustrative purposes, the computing system **100** is described with the second device **106** as a computing device, although it is understood that the second device **106** can be different types of devices. Also for illustrative purposes, the computing system **100** is shown with the second device **106**, the first device **102**, and the neighboring device **108** as end points of the communication path **104**, although it is understood that the computing system **100** can have a different partition between the first device **102**, the second device **106**, and the communication path **104**. For example, the first device **102**, the second device **106**, or a combination thereof can also function as part of the communication path **104**.

For further illustrative purposes, the computing system **100** is described with the first device **102** and the neighboring device **108** as a consumer device or a portable device, and with the second device **106** as a stationary or an enterprise device. However, it is understood that the first device **102**, the neighboring device **108**, and the second device **106** can be any variety of devices. For example, the first device **102**, the neighboring device **108**, or a combination thereof can be a stationary device or an enterprise system, such as a television or a server. Also for example, the second device **106** can be a consumer device or a portable device, such as a smart phone or a wearable device.

The communication path **104** can span and represent a variety of network types and network topologies. For example, the communication path **104** can include wireless communication, wired communication, optical, ultrasonic, or the combination thereof. Satellite communication, cellular communication, Bluetooth, Infrared Data Association standard (IrDA), wireless fidelity (WiFi), and worldwide interoperability for microwave access (WiMAX) are examples of wireless communication that can be included in the communication path **104**. Ethernet, digital subscriber line (DSL), fiber to the home (FTTH), and plain old telephone service (POTS) are examples of wired communication that can be included in the communication path **104**. Further, the communication path **104** can traverse a number of network topologies and distances. For example, the communication path **104** can include direct connection, personal area network (PAN), local area network (LAN), metropolitan area network (MAN), wide area network (WAN), or a combination thereof.

Referring now to FIG. **2**, therein is shown an example display of the first device **102**. The display can show an event **202**. The event **202** is an occurrence or a happening. The event **202** can be the occurrence or the happening for an action, a condition, a factor, or a combination thereof. The event **202** can be based on a group of people, surrounding environment, state or output of a device, or a combination thereof. The event **202** can further include an organized occasion.

For example, the event **202** can include a device entering or leaving a specific area, a device changing state or mode, a current time being a specific predetermined time, weather, or a combination thereof. Also for example, the event **202** can include the user being around a certain person or a certain group of people or entities, the user's location entering or leaving a specific area, or a combination thereof. For further example, the event **202** can include a sporting event, a party,

a professional gathering, such as attendance for a trade show or a staff meeting, a class, or a combination thereof.

The display can further show contextual information **203** regarding the event **202**, including a future context **204**. The contextual information **203** is situational or environmental information for the event **202**. The contextual information **203** can include a purpose, a meaning, a reason, a significance or importance, or a combination thereof associated with the event **202**.

The contextual information **203** can be represented by a title or a name, a categorization, a time and a location, or a combination thereof for the event **202**. The contextual information **203** can be based on entities involved in the event **202**, such as a common trait or a purpose for the people or organizations associated with the event **202**. The future context **204** is the contextual information **203** corresponding to the event **202** occurring after a current time **206**.

The computing system **100** can transfer a device configuration **207** between devices, such as the first device **102**, the neighboring device **108** of FIG. **1**, the second device **106** of FIG. **1**, or a combination thereof. The device configuration **207** is a specified method or a setting for operating the device. The device configuration **207** can be implemented for hardware or software. The device configuration **207** can be represented by a selection of an option, identification of specific feature or function and corresponding setting information, a condition or an input value and a corresponding set of instructions or output value, or a combination thereof.

For example, the device configuration **207** can include display or arrangement of icons or a group of actions selected to be to be automatically performed based on specified conditions. Also for example, the device configuration **207** can include a physical switch setting or a corresponding software value for controlling display, sound, device function, device performance, or a combination thereof. For further example, the device configuration **207** can include instructions, access information, preferences and methods, or a combination thereof for accessing information, communicating and interacting with other devices, or a combination thereof.

The device configuration **207** can include current configuration setting, or a portion thereof, for the first device **102**, the further device **108**, the second device **106**, or a combination thereof. The device configuration **207** can further include a setting stored in the first device **102**, the further device **108**, the second device **106**, or a combination thereof.

The computing system **100** can transfer the device configuration **207** based on the event **202**, the contextual information **203** associated therewith, or a combination thereof. The computing system **100** can transfer the device configuration **207** based on the future context **204**. The computing system **100** can transfer the device configuration **207** at the current time **206** based on the future context **204**.

The future context **204** can include a transfer trigger **208**. The transfer trigger **208** is a condition or a factor used to initiate an exchange in the device configuration **207** between devices. The transfer trigger **208** can include the condition or the factor based on the user, the transferring device, another device, a surrounding environment, a time, or a combination thereof.

For example, the transfer trigger **208** can include an existence of a device within a specified area, a specific time, a user command, a location of the sending or the receiving device, a number of devices having a specific value or instance for the device configuration **207**, or a combination thereof. As a more specific example, the transfer trigger **208** can include when majority of the devices in the same room are in "silent" mode, when the projection device or the main computer starts a "presentation mode" for a meeting, when the user makes a phone call or starts driving, fifteen minutes before a specific meeting, or a combination thereof.

The future context **204** can further include a contextual time-mark **210**. The contextual time-mark **210** is a representation of a time of relevance for the event **202** corresponding to the future context **204**. The contextual time-mark **210** can be after the current time **206**. The contextual time-mark **210** can be a starting time, an ending time, a specific time or duration during the occurrence of the event **202**, or a combination thereof.

The computing system **100** of FIG. **1** can calculate a transfer offset **212**. The transfer offset **212** can be a representation of a time different and based on the contextual time-mark **210**. The transfer offset **212** can be a time before or after the contextual time-mark **210**. The transfer offset **212** can be a duration before or after the contextual time-mark **210**. The computing system **100** can transfer the device configuration **207** between various devices based on the contextual time-mark **210** and the transfer offset **212**.

The display can further show a proximity zone **214**, a proximate-device identity **216**, a trigger metric **218**, and a transferable configuration setting **220**. The proximity zone **214** is an area relative to the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof for transferring the device configuration **207**. The proximity zone **214** can be represented by a distance, a boundary, a specific area, or a combination thereof around the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof. The proximity zone **214** can be based on the future context **204**.

The proximate-device identity **216** is identification information of a device within the proximity zone **214**. The proximate-device identity **216** can be a serial number, a network identification number, a communication address, a product name, an arbitrary moniker, or a combination thereof representing the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

The trigger metric **218** is a value or information representing a condition or a factor associated with a device for initiating the exchange in the device configuration **207** between devices. The trigger metric **218** can be based on the transfer trigger **208**. The trigger metric **218** a representation of conditions or factors associated with the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

The trigger metric **218** can be the representation of conditions or factors specified by the transfer trigger **208**. The transfer trigger **208** can be compared to the transfer trigger **208** for initiating the exchange between the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

The transferable configuration setting **220** is the device configuration **207** that can be exchanged between devices. The transferable configuration setting **220** can include the specific method or the setting for operating the device, which can be shared with another device. The transferable configuration setting **220** can include a function, a category, an option, or a combination thereof and an associated value.

For example, the transferable configuration setting **220** can be a table or a data structure identifying one or more feature or capability for one or more device, such as a current or stored configuration of the transmitting device or surrounding devices. Also for example, the transferable configuration setting **220** can include values and information for performing various functions, such as protocol, access information, rela-

tive identification information, or a combination thereof for communication or data processing.

The display can show a device profile, such as an uploading-device profile **222**, the downloading-device profile **224**, or a combination thereof. The device profile is information describing a specific device. The device profile can include identification information, current setting or operational information, or a combination thereof for the device. The device profile can also include a designated setting or operational information of the device. The device profile can include the device configuration **207** of the corresponding device.

The device profile can have a setting name, a setting value, an old value, a new value, or a combination thereof. The setting name can be identification for a specific function or a category for the setting. The device profile can have multiple instances of the setting name associated with the setting value representing the current setting of the device or associated with the old and the new values.

For example, the device profile can include identification or access information based on various access privileges, device or user identification information, grouping or membership information, location-based information, usage information, or a combination thereof. As a more specific example, the device profile can include the browsing or call history, stored passwords, current location or heading of the device, schedule information, current modes, such as "silent mode" or "work mode", or a combination thereof.

The uploading-device profile **222** is the device profile of a device providing the transferable configuration setting **220** to another device. The downloading-device profile **224** is the device profile of a different device receiving the transferable configuration setting **220** from the device providing the transferable configuration setting **220**.

For example, the first device **102** having the downloading-device profile **224** can receive the transferable configuration setting **220** from the second device **106** or the neighboring device **108** having the uploading-device profile **222**. Also for example, the first device **102** can have the uploading-device profile **222** and transmit the transferable configuration setting **220** to the second device **106**, the neighboring device **108**, or a combination thereof having a common instance or device-specific instances of the downloading-device profile **224**.

The device profile can include an accessible setting **226**, a limited-access setting **228**, a private setting **230**, a setting-change flag **232**, an access privilege **234**, a device location **236**, or a combination thereof. The accessible setting **226** is public information associated with the device. The accessible setting **226** can include information that can be shared without specific identification or accessibility information.

For example, the accessible setting **226** can include a sound setting or volume level, a user identification information, a device identification information, a group identifier for the device, such as family or project group, a display color or brightness, or a combination thereof. Also for example, the accessible setting **226** can include information designated by the user, the computing system **100**, a service provider, or a combination thereof as being openly accessible.

The limited-access setting **228** is information accessible based on privilege or specific requirement. The limited-access setting **228** can include information that can be shared based on specific device identification, common membership information, password, or a combination thereof.

For example, the accessible setting **226** can include network access information based on device and user identification, program or content access information for family members, instructors, or coworkers. Also for example, the accessible setting **226** can include other information designated by the user, the computing system **100**, a service provider, or a combination thereof as being accessible based on further specified corresponding requirements.

The private setting **230** is information inaccessible for other devices without explicit action or input from the user. The private setting **230** can include browsing history, stored documents, stored passwords, call history, protected files, or a combination thereof. The private setting **230** can be based on specific identification or a categorization of the user, the computing system **100**, a service provider, or a combination thereof.

The setting-change flag **232** is an indication of change in the device configuration **207** corresponding to the transferable configuration setting **220**. The setting-change flag **232** can be a notification or a representation of a state in the uploading-device profile **222** or the downloading-device profile **224** for information associated with sharing the transferable configuration setting **220**. For example, the setting-change flag **232** can be for indicating a change to "silent-mode" or operational status of the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

The access privilege **234** is a description of relationship or familiarity for sending or receiving various information. The access privilege **234** can be represented by password, membership information, relationship information, identification information, previously shared information, prior interactions, or a combination thereof. The access privilege **234** can further be represented by category values, access or familiarity level, a degree of separation, number or frequency of interaction, types of interactions, or a combination thereof as determined by the computing system **100**, the user, the service provider, or a combination thereof.

The device location **236** can be the navigation information associated with the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof. For example, the device location **236** can be a current location, a projected future location, a prior location, or a combination thereof for a device. Also for example, the device location **236** can be an address or a set of coordinates representing the location of the user, other people, contextually relevant location, or a combination thereof.

The content or the device profile for various devices can be based on contextual information **203**, ownership or control of the device, or a combination thereof. For example, the uploading-device profile **222** and the downloading-device profile **224** can be based on exchange of information or roles of devices involved in the communication. As a more specific example, the uploading-device profile **222** and the downloading-device profile **224** can be contextually relative for personal devices exchanging information or contextually fixed for a server and a client device.

Also for example, information determined as the accessible setting **226**, the limited-access setting **228**, the private setting **230**, or a combination thereof can be based on ownership of the device, the context, or a combination thereof. As a more specific example, no information may be included in the private setting **230** for devices owned by a corporation and issued to an employee. Also as a more specific example, the limited-access setting **228** can include employee identification information of the employee using the device for other devices owned by the corporation or project specific information accessible only by devices associated with the project group.

The display can further show a communication mode **238**, a configuration notification **240**, a change setting **242**, or a

combination thereof. The communication mode **238** is a method or a way of sharing information between devices. The communication mode **238** can include the communication medium or protocol, a facilitating device or service, or a combination thereof.

For example, the communication mode **238** can include wired or wireless, direct communication between client devices, communication with or through a server, or a combination thereof. As a more specific example, the communication mode **238** can specify WiFi, cable service at home, a specific router or network at work, Bluetooth, IrDA, or a combination thereof for exchanging information between applicable devices.

The communication mode **238** can include a communication rate **239**. The communication rate **239** is a representation of speed for exchanging the information using the corresponding instance of the communication mode **238**. The communication rate **239** can include a measured current speed, a projected or estimated speed, a maximum speed, or a combination thereof. The communication rate **239** can further include an error rate, a repeat rate, a failure rate, a rate specific to a grouping or a type of data, or a combination thereof.

The configuration notification **240** is an indication for the user regarding the device configuration **207**. The configuration notification **240** can be based on the transferable configuration setting **220**. For example, the configuration notification **240** can be an interface or a prompt to the user regarding permission or selection for exchanging the transferable configuration setting **220**. Also for example, the configuration notification **240** can be a message informing the user of receiving and implementing the transferable configuration setting **220**.

The change setting **242** is a set of values or a process for exchanging or implementing the transferable configuration setting **220**. For example, the change setting **242** can include a dynamic setting **244**, a static setting **246**, or a combination thereof.

The dynamic setting **244** is a set of values or a process for downloading the transferable configuration setting **220**, implementing the transferable configuration setting **220**, or a combination thereof based on conditions or environmental factors. The dynamic setting **244** can be for downloading or processing the transferable configuration setting **220** without specific user interaction, before the configuration notification **240**, or a combination thereof.

The static setting **246** is a set of values or a process for downloading the transferable configuration setting **220**, implementing the transferable configuration setting **220**, or a combination thereof based on user interaction. For example, the static setting **246** can be for downloading or processing the transferable configuration setting **220** according to user command or selection, after the configuration notification **240**, or a combination thereof.

Referring now to FIG. **3**, therein is shown an exemplary block diagram of the computing system **100**. The computing system **100** can include the first device **102**, the communication path **104**, and the second device **106**. The first device **102** can send information in a first device transmission **308** over the communication path **104** to the second device **106**. The second device **106** can send information in a second device transmission **310** over the communication path **104** to the first device **102**.

For illustrative purposes, the computing system **100** is shown with the first device **102** as a client device, although it is understood that the computing system **100** can have the first device **102** as a different type of device. For example, the first device **102** can be a server having a display interface.

Also for illustrative purposes, the computing system **100** is shown with the second device **106** as a server, although it is understood that the computing system **100** can have the second device **106** as a different type of device. For example, the second device **106** can be a client device.

For brevity of description in this embodiment of the present invention, the first device **102** will be described as a client device and the second device **106** will be described as a server device. The embodiment of the present invention is not limited to this selection for the type of devices. The selection is an example of an embodiment of the present invention.

The first device **102** can include a first control unit **312**, a first storage unit **314**, a first communication unit **316**, and a first user interface **318**, and a location unit **320**. The first control unit **312** can include a first control interface **322**. The first control unit **312** can execute a first software **326** to provide the intelligence of the computing system **100**.

The first control unit **312** can be implemented in a number of different manners. For example, the first control unit **312** can be a processor, an application specific integrated circuit (ASIC) an embedded processor, a microprocessor, a hardware control logic, a hardware finite state machine (FSM), a digital signal processor (DSP), or a combination thereof. The first control interface **322** can be used for communication between the first control unit **312** and other functional units in the first device **102**. The first control interface **322** can also be used for communication that is external to the first device **102**.

The first control interface **322** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the first device **102**.

The first control interface **322** can be implemented in different ways and can include different implementations depending on which functional units or external units are being interfaced with the first control interface **322**. For example, the first control interface **322** can be implemented with a pressure sensor, an inertial sensor, a microelectromechanical system (MEMS), optical circuitry, waveguides, wireless circuitry, wireline circuitry, or a combination thereof.

The first storage unit **314** can store the first software **326**. The first storage unit **314** can also store the relevant information, such as data representing incoming images, data representing previously presented image, sound files, or a combination thereof.

The first storage unit **314** can be a volatile memory, a nonvolatile memory, an internal memory, an external memory, or a combination thereof. For example, the first storage unit **314** can be a nonvolatile storage such as nonvolatile random access memory (NVRAM), Flash memory, disk storage, or a volatile storage such as static random access memory (SRAM).

The first storage unit **314** can include a first storage interface **324**. The first storage interface **324** can be used for communication between the first storage unit **314** and other functional units in the first device **102**. The first storage interface **324** can also be used for communication that is external to the first device **102**.

The first storage interface **324** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the first device **102**.

The first storage interface **324** can include different implementations depending on which functional units or external units are being interfaced with the first storage unit **314**. The first storage interface **324** can be implemented with technologies and techniques similar to the implementation of the first control interface **322**.

The first communication unit **316** can enable external communication to and from the first device **102**. For example, the first communication unit **316** can permit the first device **102** to communicate with the second device **106** of FIG. **1**, an attachment, such as a peripheral device or a desktop computer, and the communication path **104**.

The first communication unit **316** can also function as a communication hub allowing the first device **102** to function as part of the communication path **104** and not limited to be an end point or terminal unit to the communication path **104**. The first communication unit **316** can include active and passive components, such as microelectronics or an antenna, for interaction with the communication path **104**.

The first communication unit **316** can include a first communication interface **328**. The first communication interface **328** can be used for communication between the first communication unit **316** and other functional units in the first device **102**. The first communication interface **328** can receive information from the other functional units or can transmit information to the other functional units.

The first communication interface **328** can include different implementations depending on which functional units are being interfaced with the first communication unit **316**. The first communication interface **328** can be implemented with technologies and techniques similar to the implementation of the first control interface **322**.

The first user interface **318** allows a user (not shown) to interface and interact with the first device **102**. The first user interface **318** can include an input device and an output device. Examples of the input device of the first user interface **318** can include a keypad, a touchpad, soft-keys, a keyboard, a microphone, an infrared sensor for receiving remote signals, or any combination thereof to provide data and communication inputs.

The first user interface **318** can include a first display interface **330**. The first display interface **330** can include an output device, such as the display interface **202** of FIG. **2**. The first display interface **330** can include a display, a projector, a video screen, a speaker, or any combination thereof.

The first control unit **312** can operate the first user interface **318** to display information generated by the computing system **100**. The first control unit **312** can also execute the first software **326** for the other functions of the computing system **100**, including receiving location information from the location unit **320**. The first control unit **312** can further execute the first software **326** for interaction with the communication path **104** via the first communication unit **316**.

The location unit **320** can generate location information, current heading, current acceleration, and current speed of the first device **102**, as examples. The location unit **320** can be implemented in many ways. For example, the location unit **320** can function as at least a part of the global positioning system, an inertial computing system, a cellular-tower location system, a pressure location system, or any combination thereof. Also, for example, the location unit **620** can utilize components such as an accelerometer or GPS receiver.

The location unit **320** can include a location interface **332**. The location interface **332** can be used for communication between the location unit **320** and other functional units in the first device **102**. The location interface **632** can also be used for communication external to the first device **102**.

The location interface **332** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the first device **102**.

The location interface **332** can include different implementations depending on which functional units or external units are being interfaced with the location unit **320**. The location interface **332** can be implemented with technologies and techniques similar to the implementation of the first control unit **312**.

The second device **106** can be optimized for implementing an embodiment of the present invention in a multiple device embodiment with the first device **102**. The second device **106** can provide the additional or higher performance processing power compared to the first device **102**. The second device **106** can include a second control unit **334**, a second communication unit **336**, a second user interface **338**, and a second storage unit **346**.

The second user interface **338** allows a user (not shown) to interface and interact with the second device **106**. The second user interface **338** can include an input device and an output device. Examples of the input device of the second user interface **338** can include a keypad, a touchpad, soft-keys, a keyboard, a microphone, or any combination thereof to provide data and communication inputs. Examples of the output device of the second user interface **338** can include a second display interface **340**. The second display interface **340** can include a display, a projector, a video screen, a speaker, or any combination thereof.

The second control unit **334** can execute a second software **342** to provide the intelligence of the second device **106** of the computing system **100**. The second software **342** can operate in conjunction with the first software **326**. The second control unit **334** can provide additional performance compared to the first control unit **312**.

The second control unit **334** can operate the second user interface **338** to display information. The second control unit **334** can also execute the second software **342** for the other functions of the computing system **100**, including operating the second communication unit **336** to communicate with the first device **102** over the communication path **104**.

The second control unit **334** can be implemented in a number of different manners. For example, the second control unit **334** can be a processor, an embedded processor, a microprocessor, hardware control logic, a hardware finite state machine (FSM), a digital signal processor (DSP), or a combination thereof.

The second control unit **334** can include a second control interface **344**. The second control interface **344** can be used for communication between the second control unit **334** and other functional units in the second device **106**. The second control interface **344** can also be used for communication that is external to the second device **106**.

The second control interface **344** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the second device **106**.

The second control interface **344** can be implemented in different ways and can include different implementations depending on which functional units or external units are being interfaced with the second control interface **344**. For example, the second control interface **344** can be implemented with a pressure sensor, an inertial sensor, a microelec-

tromechanical system (MEMS), optical circuitry, waveguides, wireless circuitry, wireline circuitry, or a combination thereof.

A second storage unit **346** can store the second software **342**. The second storage unit **346** can also store the information such as data representing incoming images, data representing previously presented image, sound files, or a combination thereof. The second storage unit **346** can be sized to provide the additional storage capacity to supplement the first storage unit **314**.

For illustrative purposes, the second storage unit **346** is shown as a single element, although it is understood that the second storage unit **346** can be a distribution of storage elements. Also for illustrative purposes, the computing system **100** is shown with the second storage unit **346** as a single hierarchy storage system, although it is understood that the computing system **100** can have the second storage unit **346** in a different configuration. For example, the second storage unit **346** can be formed with different storage technologies forming a memory hierarchal system including different levels of caching, main memory, rotating media, or off-line storage.

The second storage unit **346** can be a volatile memory, a nonvolatile memory, an internal memory, an external memory, or a combination thereof. For example, the second storage unit **346** can be a nonvolatile storage such as nonvolatile random access memory (NVRAM), Flash memory, disk storage, or a volatile storage such as static random access memory (SRAM).

The second storage unit **346** can include a second storage interface **348**. The second storage interface **348** can be used for communication between the second storage unit **346** and other functional units in the second device **106**. The second storage interface **348** can also be used for communication that is external to the second device **106**.

The second storage interface **348** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the second device **106**.

The second storage interface **348** can include different implementations depending on which functional units or external units are being interfaced with the second storage unit **346**. The second storage interface **348** can be implemented with technologies and techniques similar to the implementation of the second control interface **344**.

The second communication unit **336** can enable external communication to and from the second device **106**. For example, the second communication unit **336** can permit the second device **106** to communicate with the first device **102** over the communication path **104**.

The second communication unit **336** can also function as a communication hub allowing the second device **106** to function as part of the communication path **104** and not limited to be an end point or terminal unit to the communication path **104**. The second communication unit **336** can include active and passive components, such as microelectronics or an antenna, for interaction with the communication path **104**.

The second communication unit **336** can include a second communication interface **350**. The second communication interface **350** can be used for communication between the second communication unit **336** and other functional units in the second device **106**. The second communication interface **350** can receive information from the other functional units or can transmit information to the other functional units.

The second communication interface **350** can include different implementations depending on which functional units are being interfaced with the second communication unit **336**. The second communication interface **350** can be implemented with technologies and techniques similar to the implementation of the second control interface **344**.

The first communication unit **316** can couple with the communication path **104** to send information to the second device **106** in the first device transmission **308**. The second device **106** can receive information in the second communication unit **336** from the first device transmission **308** of the communication path **104**.

The second communication unit **336** can couple with the communication path **104** to send information to the first device **102** in the second device transmission **310**. The first device **102** can receive information in the first communication unit **316** from the second device transmission **310** of the communication path **104**. The computing system **100** can be executed by the first control unit **312**, the second control unit **334**, or a combination thereof. For illustrative purposes, the second device **106** is shown with the partition having the second user interface **338**, the second storage unit **346**, the second control unit **334**, and the second communication unit **336**, although it is understood that the second device **106** can have a different partition. For example, the second software **342** can be partitioned differently such that some or all of its function can be in the second control unit **334** and the second communication unit **336**. Also, the second device **106** can include other functional units not shown in FIG. **3** for clarity.

The functional units in the first device **102** can work individually and independently of the other functional units. The first device **102** can work individually and independently from the second device **106** and the communication path **104**.

The functional units in the second device **106** can work individually and independently of the other functional units. The second device **106** can work individually and independently from the first device **102** and the communication path **104**.

For illustrative purposes, the computing system **100** is described by operation of the first device **102** and the second device **106**. It is understood that the first device **102** and the second device **106** can operate any of the modules and functions of the computing system **100**.

Referring now to FIG. **4**, therein is shown a further exemplary block diagram of the computing system **100**. Along with the first device **102** and the second device **106** of FIG. **3**, the computing system **100** can include the neighboring device **108**. The first device **102** can send information in the first device transmission over the communication path **104** to the neighboring device **108**. The neighboring device **108** can send information in a neighboring-device transmission **410** over the communication path **104** to the first device **102**.

For illustrative purposes, the computing system **100** is shown with the neighboring device **108** as a portable consumer device, although it is understood that the computing system **100** can have the neighboring device **108** as a different type of device. For example, the neighboring device **108** can be a server device.

Also for illustrative purposes, the computing system **100** is shown with the first device **102** communicating with the neighboring device **108**. However, it is understood that the second device **106** can also communicate with the neighboring device **108** in a similar manner as the communication between the first device **102** and the neighboring device **108**, between the first device **102** and the second device **106**, or a combination thereof.

For brevity of description in this embodiment of the present invention, the neighboring device **108** will be described as a client device. The embodiment of the present invention is not limited to this selection for the type of devices. The selection is an example of an embodiment of the present invention.

The neighboring device **108** can include a neighboring control unit **412**, a neighboring storage unit **414**, a neighboring communication unit **416**, and a neighboring user interface **418**, and a neighboring location unit **420**. The neighboring control unit **412** can include a neighboring control interface **422**. The neighboring control unit **412** can execute a neighboring software **426** to provide the intelligence of the computing system **100**.

The neighboring control unit **412** can be implemented in a number of different manners. For example, the neighboring control unit **412** can be a processor, an application specific integrated circuit (ASIC) an embedded processor, a microprocessor, a hardware control logic, a hardware finite state machine (FSM), a digital signal processor (DSP), or a combination thereof. The neighboring control interface **422** can be used for communication between the neighboring control unit **412** and other functional units in the neighboring device **108**. The neighboring control interface **422** can also be used for communication that is external to the neighboring device **108**.

The neighboring control interface **422** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the neighboring device **108**.

The neighboring control interface **422** can be implemented in different ways and can include different implementations depending on which functional units or external units are being interfaced with the neighboring control interface **422**. For example, the neighboring control interface **422** can be implemented with a pressure sensor, an inertial sensor, a microelectromechanical system (MEMS), optical circuitry, waveguides, wireless circuitry, wireline circuitry, or a combination thereof.

The neighboring storage unit **414** can store the neighboring software **426**. The neighboring storage unit **414** can also store the relevant information, such as data representing incoming images, data representing previously presented image, sound files, or a combination thereof.

The neighboring storage unit **414** can be a volatile memory, a nonvolatile memory, an internal memory, an external memory, or a combination thereof. For example, the neighboring storage unit **414** can be a nonvolatile storage such as non-volatile random access memory (NVRAM), Flash memory, disk storage, or a volatile storage such as static random access memory (SRAM).

The neighboring storage unit **414** can include a neighboring storage interface **424**. The neighboring storage interface **424** can be used for communication between the neighboring storage unit **414** and other functional units in the neighboring device **108**. The neighboring storage interface **424** can also be used for communication that is external to the neighboring device **108**.

The neighboring storage interface **424** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the neighboring device **108**.

The neighboring storage interface **424** can include different implementations depending on which functional units or external units are being interfaced with the neighboring storage unit **414**. The neighboring storage interface **424** can be implemented with technologies and techniques similar to the implementation of the neighboring control interface **422**.

The neighboring communication unit **416** can enable external communication to and from the neighboring device **108**. For example, the neighboring communication unit **416** can permit the neighboring device **108** to communicate with the second device **106** of FIG. **1**, the first device **102**, or a combination thereof, an attachment, such as a peripheral device or a desktop computer, and the communication path **104**.

The neighboring communication unit **416** can also function as a communication hub allowing the neighboring device **108** to function as part of the communication path **104** and not limited to be an end point or terminal unit to the communication path **104**. The neighboring communication unit **416** can include active and passive components, such as microelectronics or an antenna, for interaction with the communication path **104**.

The neighboring communication unit **416** can include a neighboring communication interface **428**. The neighboring communication interface **428** can be used for communication between the neighboring communication unit **416** and other functional units in the neighboring device **108**. The neighboring communication interface **428** can receive information from the other functional units or can transmit information to the other functional units.

The neighboring communication interface **428** can include different implementations depending on which functional units are being interfaced with the neighboring communication unit **416**. The neighboring communication interface **428** can be implemented with technologies and techniques similar to the implementation of the neighboring control interface **422**.

The neighboring user interface **418** allows a user (not shown) to interface and interact with the neighboring device **108**. The neighboring user interface **418** can include an input device and an output device. Examples of the input device of the neighboring user interface **418** can include a keypad, a touchpad, soft-keys, a keyboard, a microphone, an infrared sensor for receiving remote signals, or any combination thereof to provide data and communication inputs.

The neighboring user interface **418** can include a neighboring display interface **430**. The neighboring display interface **430** can include an output device, such as the display interface **202** of FIG. **2**. The neighboring display interface **430** can include a display, a projector, a video screen, a speaker, or any combination thereof.

The neighboring control unit **412** can operate the neighboring user interface **418** to display information generated by the computing system **100**. The neighboring control unit **412** can also execute the neighboring software **426** for the other functions of the computing system **100**, including receiving location information from the neighboring location unit **420**. The neighboring control unit **412** can further execute the neighboring software **426** for interaction with the communication path **104** via the neighboring communication unit **416**.

The neighboring location unit **420** can generate location information, current heading, current acceleration, and current speed of the neighboring device **108**, as examples. The neighboring location unit **420** can be implemented in many ways. For example, the neighboring location unit **420** can function as at least a part of the global positioning system, an inertial computing system, a cellular-tower location system, a pressure location system, or any combination thereof. Also,

for example, the location unit **620** can utilize components such as an accelerometer or GPS receiver.

The neighboring location unit **420** can include a neighboring location interface **432**. The neighboring location interface **432** can be used for communication between the neighboring location unit **420** and other functional units in the neighboring device **108**. The location interface **632** can also be used for communication external to the neighboring device **108**.

The neighboring location interface **432** can receive information from the other functional units or from external sources, or can transmit information to the other functional units or to external destinations. The external sources and the external destinations refer to sources and destinations external to the neighboring device **108**.

The neighboring location interface **432** can include different implementations depending on which functional units or external units are being interfaced with the neighboring location unit **420**. The neighboring location interface **432** can be implemented with technologies and techniques similar to the implementation of the neighboring control unit **412**.

The first communication unit **316** can couple with the communication path **104** to send information to the neighboring device **108** in the first device transmission **308**. The neighboring device **108** can receive information in the neighboring communication unit **436** from the first device transmission **308** of the communication path **104**.

The neighboring communication unit **436** can couple with the communication path **104** to send information to the first device **102** in the neighboring-device transmission **410**. The first device **102** can receive information in the first communication unit **316** from the neighboring-device transmission **410** of the communication path **104**. The computing system **100** can be executed by the first control unit **312**, the neighboring control unit **434**, or a combination thereof. The second device **106** can similarly communicate and interact with the neighboring device **108** using the corresponding units and functions therein.

For illustrative purposes, the neighboring device **108** is shown with the partition having the neighboring user interface **438**, the neighboring storage unit **446**, the neighboring control unit **434**, and the neighboring communication unit **436**, although it is understood that the neighboring device **108** can have a different partition. For example, the neighboring software **442** can be partitioned differently such that some or all of its function can be in the neighboring control unit **434** and the neighboring communication unit **436**. Also, the neighboring device **108** can include other functional units not shown in FIG. **4** for clarity.

The functional units in the neighboring device **108** can work individually and independently of the other functional units. The neighboring device **108** can work individually and independently from the first device **102**, the second device **106**, and the communication path **104**.

For illustrative purposes, the computing system **100** is described by operation of the first device **102** and the neighboring device **108**. It is understood that the first device **102**, the second device **106**, and the neighboring device **108** can operate any of the modules and functions of the computing system **100**.

Referring now to FIG. **5**, therein is shown a control flow of the computing system **100**. The computing system **100** can include a context module **502**, a surroundings module **504**, an event identification module **506**, a configuration transfer module **508**, and a device configuration module **510**.

The context module **502** can be coupled to the surroundings module **504** using wired or wireless connections, by having an output of one module as an input of the other module, by having operations of one module influence operation of the other module, or a combination thereof. Similarly, the surroundings module **504** can be coupled to the event identification module **506**. Moreover, the configuration transfer module **508** can be similarly coupled to the device configuration module **510**.

The context module **502** is configured to determine the contextual information **203** for transferring the device configuration **207** between various devices. The context module **502** can include a context-determination module **512**, a timing module **514**, an offset module **516**, or a combination thereof. The context-determination module **512** is configured to determine the contextual information **203**, including the future context **204** of FIG. **2** for transferring the device configuration **207**.

The context-determination module **512** can determine the contextual information **203** including the future context **204** for describing the event **202** of FIG. **2** associated with the first device **102** of FIG. **1**, the neighboring device **108** of FIG. **1**, the second device **106** of FIG. **1**, or a combination thereof. The context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof to describe the event **202** based on a function or a mode appropriate or necessary for the first device **102**, the neighboring device **108**, the second device **106**, or a combination thereof for the event **202**. The context-determination module **512** can further determine the contextual information **203**, the future context **204**, or a combination thereof to describe the event **202** in relation to the user or a different user, or a combination thereof associated with the event **202** and having the first device **102**, the neighboring device **108**, the second device **106**, or a combination thereof.

The context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof by using available or associated information for the event **202** scheduled to occur or likely to occur during or after the current time **206** of FIG. **2**. The context-determination module **512** can use information available on the internet, a user's calendar, a user's input, information internal to the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

For example, the context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof using the first communication unit **316** of FIG. **3**, the second communication unit **336** of FIG. **3**, the neighboring communication unit **416** of FIG. **4**, or a combination thereof. The context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof using a machine-learning mechanism, a pattern analysis mechanism, or a combination thereof.

Also for example, the context-determination module **512** can use the first user interface **318** of FIG. **3**, the second user interface **338** of FIG. **3**, the neighboring user interface **418** of FIG. **4**, or a combination thereof to generate a selection set and communicate the selection set to the user. The context-determination module **512** can likewise receive a user-selection for determining the contextual information **203**, including the future context **204**.

The context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof based on various types of information, including information internal to, external to, or a combination thereof with respect to the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof. For example, the context-determination module **512** can determine the contextual information **203**, the future con-

text **204**, or a combination thereof based on the user's schedule calendar, correspondences, documents, or a combination thereof for the event **202**.

As a more specific example, the context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof by determining a cluster, a model, or a combination thereof for the event **202** specified on the user's schedule calendar using various information. The context-determination module **512** can determine the cluster, the model, or a combination thereof using a title or a purpose of the event **202** in the calendar, keywords or images in a document or a correspondence, such as an email or a spread sheet, or a combination thereof stored in the first device **102**, the second device **106**, the neighboring device **108**, a device external to the computing system **100**, or a combination thereof.

Also for example, the context-determination module **512** can determine the contextual information **203**, the future context **204**, or a combination thereof based on a route traveled by the user, a commonality or a relationship between the user and other people within a specified area, such as within a distance from the user or in the same room with the user, historical information, or a combination thereof. As a more specific example, the context-determination module **512** perform the pattern analysis to determine a professional context, such as commuting to work or meeting a client, or a social context, such as going home or visiting a social contact, or a combination thereof, based on the route used or traveled by the user, the current time **206**, historical information, or a combination thereof.

The context-determination module **512** can generate the transfer trigger **208** of FIG. **2** associated with the contextual information **203**, the future context **204**, or a combination thereof. The context-determination module **512** can generate the transfer trigger **208** based on the event **202**, the future context **204**, the contextual information **203** for the current time **206**, a time, a user input, a historical data, a nearby user, or a combination thereof.

For example, the context-determination module **512** can generate the transfer trigger **208** based on a specific time associated with the event **202** having the future context **204** associated therewith based the future context **204**. As a more specific example, the context-determination module **512** can generate the transfer trigger **208** based on a start or end time for professional or official instances of the event **202**.

Also for example, the context-determination module **512** can generate the transfer trigger **208** based on user's familiarity with the current instance of the contextual information **203**. As a more specific example, the context-determination module **512** can generate the transfer trigger **208** for user's first arrival at the current location or the event **202**, first usage of a service or a device associated with the event **202**, or a combination thereof as indicated by the contextual information **203**.

Also for example, the context-determination module **512** can generate the transfer trigger **208** based on a user input or a user selection for changing a configuration value for the setting. As a more specific example, the context-determination module **512** can generate the transfer trigger **208** based on selections or configuration changes from the user or other participant, such as through crowd-sourcing, occurring before, during, or after events similar to the event **202** having the future context **204**.

Also as a more specific example, the context-determination module **512** can generate the transfer trigger **208** based on similar selections or configuration changes, such as switching to "silent" mode or establishing the communication mode **238**, for a specific amount of participants, such as a number or a percentage of event participants or people present within a set distance or the same room. The context-determination module **512** can have a predetermined method, value, table, or a combination thereof for generating the transfer trigger **208** such as setting the specific amount, identifying the set distance or the room, types of situations, types of selection or configuration changes, or a combination thereof.

It has been discovered that the transfer trigger **208** can provide contextually relevant and situation-appropriate adaptations and features for the computing system **100**. The transfer trigger **208** can provide measureable and machine-relevant factors for representing the contextual information **203**, including the future context **204**, and the event **202** associated with the user. The computing system **100** can use the transfer trigger **208** to provide specific changes in the device configuration **207** appropriate for the context surrounding the future event.

The timing module **514** is configured to determine a time associated with the future context **204**. The timing module **514** can determine the time by determining the contextual time-mark **210** of FIG. **2** for temporally representing the future context **204**.

The timing module **514** can determine the contextual time-mark **210** in a variety of ways. For example, the timing module **514** can determine the contextual time-mark **210** based on a start time, a duration, an end time, or a combination thereof associated with the event **202** in the calendar. Also for example, the timing module **514** can determine the contextual time-mark **210** based on an estimated time of arrival.

For further example, the timing module **514** can determine the contextual time-mark **210** based on a participant for the event **202**, identification information of a different user within an area relative to the user, historical or usage-based information thereof, calendar-based information thereof, a pattern or a combination thereof. The timing module **514** can use the first control interface **322** of FIG. **3**, the second control interface **344** of FIG. **3**, the neighboring control interface **422** of FIG. **4**, or a combination thereof to access the information necessary to determine the contextual time-mark **210**.

The offset module **516** is configured to determine an initiation time for updating the device configuration **207** in association with the future context **204**. The offset module **516** can calculate the transfer offset **212** of FIG. **2** relative to the contextual time-mark **210**. The offset module **516** can calculate the transfer offset **212** based on the future context **204**.

For example, the offset module **516** can set the transfer offset **212** as '0' to set the first device **102** to a silent device at the start of the meeting or to connect to a hotel wireless network contemporaneously with checking in to the hotel. Also for example, the offset module **516** can set the transfer offset **212** as a number of days before the event **202** for downloading configuration settings for in anticipation of and rehearsing for a major presentation, or as a time after the event **202** for processing the information obtained during the event **202**.

The offset module **516** can calculate the transfer offset **212** using the first control unit **312**, the second control unit **334**, the neighboring control unit **412**, or a combination thereof. The offset module **516** can use the first storage interface **324** of FIG. **3**, the second storage interface **348** of FIG. **3**, the neighboring storage interface **424** of FIG. **4**, or a combination thereof to access the information necessary to calculate the transfer offset **212**, such as the contextual time-mark **210** or the future context **204**.

It has also been discovered that the transfer trigger **208** including the transfer offset **212** from the contextual time-mark **210** provide timely adaptations and features for the computing system **100**. The transfer trigger **208** can be used to provide measureable and machine-relevant factors and the transfer offset **212** from the contextual time-mark **210** can describe an appropriate time for initiating changes in anticipation of the context surrounding the future event.

After determining the future context **204**, the transfer trigger **208** associated therewith, or a combination thereof, the control flow can pass from context module **502** to the surroundings module **504**. The control flow can pass by having the future context **204**, the transfer trigger **208**, or a combination thereof as an output from the context module **502** to an input of the surroundings module **504**, storing the future context **204**, the transfer trigger **208**, or a combination thereof at a location known and accessible to the surroundings module **504**, by notifying the surroundings module **504**, such as by using a flag, an interrupt, a status signal, or a combination thereof, or a combination of processes thereof.

The surroundings module **504** is configured to process information regarding surroundings of the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof. The surroundings module **504** can include a zone module **518**, a proximate-device module **520**, or a combination thereof for processing the information regarding the surroundings.

The zone module **518** is configured to determine the proximity zone **214** of FIG. **2**. The zone module **518** can determine the proximity zone **214** based on the future context **204**, the contextual time-mark **210**, the transfer offset **212**, an estimate of the communication mode **238** of FIG. **2** or the change setting **242** of FIG. **2**, or a combination thereof. For example, the zone module **518** can determine the proximity zone **214** based on a boundary or a perimeter for an area associated with the corresponding instance of the event **202**, the future context **204**, the contextual time-mark **210**, the transfer offset **212**, or a combination thereof.

Also for example, the zone module **518** can determine the proximity zone **214** based on a set distance predetermined by the computing system **100**. As a more specific example, the zone module **518** can adjust a distance for establishing the proximity zone **214** based on current or projected use of protocols, such as peer-to-peer communication or fourth generation cellular protocol, strength of communication signals, number of participants or devices associated with the future context **204**, the communication rate **239** of FIG. **2** or a combination thereof for communication.

The zone module **518** can include a mechanism, a method, a set of correlated values representing different scenarios, such as a predetermined threshold or a preset value, or a combination thereof predetermined by the computing system **100** for determining the proximity zone **214**. The zone module **518** can use the first storage interface **324** of FIG. **3**, the second storage interface **348** of FIG. **3**, the neighboring storage interface **424** of FIG. **4**, or a combination thereof to access the mechanism, the method, the set of correlated information, or a combination thereof for determining the proximity zone **214**.

The zone module **518** can determine the proximity zone **214** for identifying the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof within the proximity zone **214**. The zone module **518** can determine the proximity zone **214** relative to the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof for identifying a further device.

For example, the zone module **518** can determine the proximity zone **214** relative to the first device **102**, such as a physical boundary surrounding the first device **102** or an area defined by a radius around the first device **102**. The zone module **518** can identify the neighboring device **108** within the proximity zone **214** as the further device in the same room or building as the first device **102**, within a specified distance from the first device **102**, or a combination thereof.

The zone module **518** can further determine the proximity zone **214** to include multiple areas. For example, the zone module **518** can determine the proximity zone **214** to have multiple values for the radius used to determine the proximity zone **214**. Also for example, the zone module **518** can determine the proximity zone **214** to change between the room and the building having the first device **102** therein. The zone module **518** can select between the multiple values based on the future context **204**, the communication mode **238** or the communication rate **239**, or a combination thereof.

The proximate-device module **520** is configured to determine the proximate-device identity **216**. The proximate-device module **520** can determine the proximate-device identity **216** for identifying the first device **102**, the neighboring device **108**, the second device **106**, or a combination thereof. The proximate-device module **520** can determine the proximate-device identity **216** relative to another device, for transferring the device configuration **207** between the devices.

For example, the proximate-device module **520** can determine the proximate-device identity **216** relative to the first device **102**, with the proximate-device identity **216** corresponding to the neighboring device **108**. The computing system **100** can transfer the device configuration **207** between the first device **102** and the neighboring device **108**.

For illustrative purposes, the computing system **100** has been described as transferring the device configuration **207** between the first device **102** and the neighboring device **108**. However, it is understood that the computing system **100** can transfer the device configuration **207** between the first device **102** and the second device **106**, the second device and the neighboring device **108**, or a combination thereof. The computing system **100** can further transfer the device configuration **207** through another device, such as by communicating the device configuration **207** from the neighboring device **108** to the second device **106**, and then from the second device **106** to the first device **102**.

The proximate-device module **520** can determine the proximate-device identity **216** using short-range broadcast. The proximate-device module **520** can use encryption for the short-range broadcast. The proximate-device module **520** can further use multiple or sequential broadcasts, such as having both unencrypted broadcast and encrypted broadcast or broadcasting in either encrypted or unencrypted format based on information received during an initial exchange.

The proximate-device module **520** can use the first communication unit **316**, the second communication unit **336**, the neighboring communication unit **416**, or a combination thereof to initiate communication, exchange preliminary information from the device profile, such as the accessible setting **226** of FIG. **2** or the device identification, update changes in the status or mode, such as by transmitting the setting-change flag **232** of FIG. **2**, or a combination thereof. The proximate-device module **520** can determine the proximate-device identity **216** by identifying one or more devices that respond to or initiate the short-range broadcast.

The proximate-device module **520** can further determine the proximate-device identity **216** by identifying one or more device within the proximity zone **214**, and by selecting a device from the identified device. The proximate-device

module **520** can identify the one or more devices within the proximity zone **214** by comparing the device location **236** in the device profile of a device responding to a communication including the short-range communication.

For example, the first device **102** can use the first device transmission **308** of FIG. **3** to broadcast a query or ping any nearby device. One or more devices can respond to the query or the ping and provide identification information, the device location **236**, the device profile, or a combination thereof corresponding to the responding device. The proximate-device module **520** can compare the proximity zone **214** to the device location **236** to identify the one or more device within the proximity zone **214**.

The proximate-device module **520** can further select from the identified devices to determine the proximate-device identity **216**. The proximate-device module **520** can select based on determining the device profile, such as the uploading-device profile **222** of FIG. **2**, the downloading-device profile **224** of FIG. **2**, or a combination thereof.

The proximate-device module **520** can determine the device profile by determining various settings or values associated or used by a corresponding device. For example, the proximate-device module **520** can determine the uploading-device profile **222**, the downloading-device profile **224**, or a combination thereof.

As a more specific example, the proximate-device module **520** can determine the uploading-device profile **222** of FIG. **2**, the downloading-device profile **224** of FIG. **2**, or a combination thereof by determining the accessible setting **226**, the limited-access setting **228** of FIG. **2**, the private setting **230** of FIG. **2**, the setting-change flag **232**, the access privilege **234** of FIG. **2**, or a combination thereof. As a further specific example, the proximate-device module **520** can determine the device profile for the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

The proximate-device module **520** can determine the device profile by determining the setting or value stored in the first storage unit **314** of FIG. **3**, the second storage unit **346** of FIG. **3**, the neighboring storage unit **414** of FIG. **4**, or a combination thereof at a known location designated for the accessible setting **226**, the limited-access setting **228**, the private setting **230**, the setting-change flag **232**, the access privilege **234**, or a combination thereof. The proximate-device module **520** can further determine the device profile by determining the setting or value using a protocol including a prompt, a request, a reply, or a combination thereof between devices.

For example, the second device **106** can determine the various settings stored or implemented in the first device **102** or the various setting values corresponding to the first device **102** and stored in the second device **106**. The proximate-device module **520** can determine the downloading-device profile **224** for the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof, including the corresponding device having the proximity zone **214** associated therewith, device within the proximity zone **214**, devices unrelated to the proximity zone **214**, or a combination thereof.

The proximate-device module **520** can determine the device profile of one or more devices within the computing system **100** from the perspective of the device itself. As a more specific example, the proximate-device module **520** can determine the downloading-device profile **224** for each of the devices.

As a further specific example, the proximate-device module **520** can determine the access privilege **234** as network passwords associated with specific network identification, membership information associated with accessibility information, such as conference registration or hotel check-in information associated with room or network access, a received key, or a combination thereof. Also as a more specific example, the proximate-device module **520** can determine the setting-change flag **232** to reflect that a mode or a status, such as "silent mode" or connection to a network, of the neighboring device **108** has changed, indicate the new mode or status, or a combination thereof.

Also for example, the first device **102** and the neighboring device **108** can determine the various information based on exchanging the accessible setting **226**, the device location **236**, the access privilege **234**, or a combination thereof through broadcasting a request and replying to the request with the corresponding information.

As a more specific example, the proximate-device module **520** can determine the accessible setting **226** as public information, such as a setting for alerting a user of a device or a device identification information. The proximate-device module **520** can determine the limited-access setting **228** as privilege-based information, such as network or folder access based on password or membership. The proximate-device module **520** determine the limited-access setting **228** associated with the access privilege **234**. The proximate-device module **520** can further determine the private setting **230** as personal passwords, usage history, personal content data, or a combination thereof.

The proximate-device module **520** can further calculate a confidence value **522** associated with a portion within the device profile. The confidence value **522** is a representation of likelihood of the user's intent in the setting value within the device profile. The confidence value **522** can be the highest rating or score if the setting value, such as a value in the accessible setting **226** or the access privilege **234** is based on a direct input from the user. The confidence value **522** can be based on an equation predetermined by the computing system **100** if the setting value is determined as part of a package or based on an estimate of the user's intent or context.

The proximate-device module **520** can select an instance of a device within the proximity zone **214** based on the device profile according to a device-selection mechanism **524**. The device-selection mechanism **524** can be a process or a method for selecting a device within the proximity zone **214** for exchanging the transferable configuration setting **220**. The device-selection mechanism **524** can include a scenario or an evaluation, a predetermined threshold, a step or an instruction, an equation or a formula, or a combination thereof.

For example, the proximate-device module **520** can select the neighboring device **108** in the proximity zone **214** associated with the first device **102** based on the device-selection mechanism **524** including comparison of the access privilege **234** for the first device **102** and the neighboring device **108**. The proximate-device module **520** can further include instructions or steps to select the neighboring device **108** including the access privilege **234** less than, greater than, equal to, or a combination thereof relative to the access privilege **234** of the first device **102**.

Also for example, the proximate-device module **520** can select the neighboring device **108** using the device-selection mechanism **524** for detecting devices attending the same instance of the event **202** in the accessible setting **226** or the limited-access setting **228**, detecting the identification information in the accessible setting **226** and cross-matching to a predetermined list of device identifications, or a combination thereof. The proximate-device module **520** can select the neighboring device **108** as any device attending the same instance of the event **202**, a device identified within the pre-

determined list, having a specific mode, such as a "silent" mode or a mode associated with the event **202**, or a combination thereof.

The proximate-device module **520** can determine the uploading-device profile **222** as the device profile of the selected device within the proximity zone **214**. The proximate-device module **520** can determine the downloading-device profile **224** as the device profile of the device used to define the proximity zone **214**. The uploading-device profile **222** and the downloading-device profile **224** can represent the neighboring device **108** and the first device **102**.

For example, the proximate-device module **520** can determine the uploading-device profile **222** as the device profile of the neighboring device **108** within the proximity zone **214** associated with the first device **102**. Also for example, the proximate-device module **520** can determine the downloading-device profile **224** as the device profile of the first device **102** having the proximity zone **214** associated therewith.

For illustrative purposes the first device **102** is described as being associated with the proximity zone **214** and the neighboring device **108** as an uploading source for transferring the device configuration **207** to the first device **102**. However, it is understood that the neighboring device **108** can have the proximity zone **214** associated therewith and the first device **102** can be the uploading source.

The proximate-device module **520** can also determine the downloading-device profile **224**. The proximate-device module **520** can separately determine the uploading-device profile **222** for all instances of the devices within the proximity zone **214**. The proximate-device module **520** can select the device as described above and the uploading-device profile **222** associated therewith.

The proximate-device module **520** can determine the proximate-device identity **216** as the identification information of the selected device within the proximity zone **214**. The proximate-device module **520** can further determine the proximate-device identity **216** as the uploading-device profile **222** or a portion therein.

The proximate-device module **520** can further determine the proximate-device identity **216** based on the future context **204**. The proximate-device module **520** can determine the proximate-device identity **216** as the identification information or the device profile of a device associated with the future context **204**, such as based on a location, an organizer or presenter, a function, or a combination thereof.

For example, the proximate-device module **520** can determine the proximate-device identity **216** as the projector or a main computer connected thereto when the future context **204** includes a meeting room, a use of the projector for the event **202**, or a combination thereof. Also for example, the proximate-device module **520** can determine the proximate-device identity **216** as the personal device belonging to the user having similar function or capacity as the downloading-device profile **224**.

The proximate-device module **520** can determine the proximate-device identity **216** to be the device related to the future context **204** or the current context. For example, the proximate-device identity **216** can be the device associated with a controller or a manager of the event **202**. Also for example, the proximate-device identity **216** can be all devices owned by the user.

It has been discovered that the proximate-device identity **216** and the proximity zone **214** provide improved usability for the user. The proximate-device identity **216** and the proximity zone **214** provide improved usability by identifying near-by devices that are further contextually related to the user. The identification of the near-by relevant devices can be used to further identify configuration settings that are relevant to the user in light of the future context **204** without requiring the user to identify all relevant features or configuration setting values.

After identifying the proximate-device identity **216**, determining the proximity zone **214**, or a combination thereof the control flow can pass from the surroundings module **504** to the event identification module **506**. The control flow can pass similarly as described above between the context module **502** and the surroundings module **504**.

The event identification module **506** is configured to initiate the transfer of the device configuration **207**. The event identification module **506** can initiate the transfer based on the trigger metric **218** of FIG. **2**, the transfer trigger **208**, the contextual time-mark **210**, or a combination thereof.

The event identification module **506** can identify the trigger metric **218** and evaluate the trigger metric **218** based on the transfer trigger **208** for initiating the transfer of the device configuration **207**. The event identification module **506** can identify the trigger metric **218** based on data received into the corresponding device, such as user input or downloaded information, categories or types of information predetermined by the computing system **100**, such as the current time **206** or the user's schedule calendar, or a combination thereof.

The event identification module **506** can identify the trigger metric **218** based on the contextual information **203**. For example, the event identification module **506** can identify the trigger metric **218** for when the user is new to the geographical location or the event **202**. Also for example, the event identification module **506** can identify the trigger metric **218** based on the contextual information **203** corresponding to the current time **206**, the future context **204**, or a combination thereof. As a more specific example, the event identification module **506** can identify the trigger metric **218** based on a categorization indicating social importance or user-specific importance for the contextual information **203**, such as a meeting or a birthday.

The event identification module **506** can identify the trigger metric **218** as crowd-sourcing threshold. The event identification module **506** can identify the trigger metric **218** as a number of devices having or switching to a specific setting value in the corresponding instances of the device configuration **207** as indicated by the contextual information **203** corresponding to the current time **206**.

For example, the event identification module **506** can identify the trigger metric **218** as a number of devices having the specific setting value including the transferable configuration setting **220**, such as silent or connected to a specific router, within the proximity zone **214**, among instances of the proximate-device identity **216**, or a combination thereof. Also for example, the event identification module **506** can identify the trigger metric **218** as a number of devices switching to the specific setting value within a time duration relative to the current time **206** or a time associated with the event **202**.

The event identification module **506** can evaluate the trigger metric **218** by comparing to the transfer trigger **208**. The event identification module **506** can initiate the transfer when the trigger metric **218** satisfies the transfer trigger **208**.

For example, the transfer trigger **208** stored in the second device **106** can include common ownership, located at user's home, or a combination thereof. The event identification module **506** can identify the trigger metric **218** as the ownership information, the device location **236**, or a combination thereof for the uploading-device profile **222**, the downloading-device profile **224**, or a combination thereof based on the transfer trigger **208**. The event identification module **506** can

initiate the transfer when the user brings home the first device **102** newly purchased by the user.

Also for example, the transfer trigger **208** stored in the first device **102** can include a threshold number of participant devices, such as 75% or more than 5, switching to or having the "silent" mode. The event identification module **506** can identify the trigger metric **218** as the setting-change flag **232**, a device identification, a user identification, a mode identification, the membership information, or a combination thereof. The event identification module **506** can initiate the transfer when the number of devices, the number of users, the number of participants for the event **202**, or a combination thereof as identified by the trigger metric **218** further includes "silent" mode in the device profile or switches thereto as required by the transfer trigger **208**.

As a more specific example, the event identification module **506** can identify the setting-change flag **232** by identifying the devices within the proximity zone **214** with a specific value or changes for the setting-change flag **232**. The event identification module **506** can initiate the transfer when a magnitude of the change, a type or a categorization, a last-changed time, a number of devices having a specific value or a specific type of change, or a combination thereof for the setting-change flag **232** satisfies the transfer trigger **208** associated with the future context **204**.

The event identification module **506** can also initiate the transfer based on the current time **206**, the contextual time-mark **210**, and the transfer offset **212**. The event identification module **506** can initiate the transfer when the current time **206** matches the contextual time-mark **210** or a combination of the contextual time-mark **210** and the transfer offset **212**. The event identification module **506** can further initiate the transfer when the current time **206** is within a window defined by the contextual time-mark **210**, the transfer offset **212**, or a combination thereof.

The event identification module **506** can further initiate the transfer based on the uploading-device profile **222**, the downloading-device profile **224**, or a combination thereof. The event identification module **506** can compare the downloading-device profile **224** and the uploading-device profile **222** and initiate the transfer based on a magnitude difference **526**.

The magnitude difference **526** is a representation of the quantity, quality, amount, or a combination thereof differing between values for a common aspect between the downloading-device profile **224** and one or more instances of the uploading-device profile **222**. For example, the magnitude difference **526** can represent differences in volume settings, brightness, the communication speed, or a combination thereof.

As a more specific example, the event identification module **506** can calculate the magnitude difference **526** for volume levels for an audio-media playback or a user-notification mechanism between the first device **102** and the neighboring device **108**, any other device in the proximity zone **214**, or a combination thereof. As a further specific example, the event identification module **506** can calculate the magnitude difference **526** for the communication rate **239** for identical instances of the communication mode **238**.

The event identification module **506** can further calculate the magnitude difference **526** based on multiple instances of the uploading-device profile **222**. For example, the event identification module **506** can calculate the magnitude difference **526** between the mean or median setting value for multiple instances of the devices in the proximity zone **214** and the downloading-device profile **224**.

The event identification module **506** can compare the magnitude difference **526** to a difference threshold having a maximum limit, a minimum limit, or a combination thereof predetermined by the computing system **100**. The event identification module **506** can initiate the transfer when the magnitude difference **526** is outside of the difference threshold.

It has been discovered that the magnitude difference **526** between the uploading-device profile **222** and the downloading-device profile **224** provides optimization for the user and minimizing unintended circumstances. The magnitude difference **526** can be used to determine situations where the user's devices are not performing as well as others based on possible issues with the device configuration **207** or where the device configuration **207** does not correctly anticipate the future context **204**. The magnitude difference **526** can provide quantitative evaluation for determining sub-optimal performance or anticipatory error for the future context **204**.

The event identification module **506** can further initiate the transfer based on a priority condition **528**. The priority condition **528** can be a representation of importance or immediacy in initiating the configuration transfer.

The priority condition **528** can be based on one or a combination of factors, such as a current context, the future context **204**, the device profile for one or more devices in the proximity zone **214**, the magnitude difference **526**, or a combination thereof. The priority condition **528** can be represented by one or more factors, a rating or a score representing the importance or the immediacy, or a combination thereof. The priority condition **528** can be similar to the device-selection mechanism **524** and be predetermined by the computing system **100**.

For example, the event identification module **506** can include the priority condition **528** having the rating to immediately initiate the configuration transfer based on the device location **536** being in a funeral home or a conference room, certain categories or values of the current context or the future context **204**, such as a wedding or a meeting with a client, the magnitude difference **526** exceeding the difference threshold, or a combination thereof. Also for example, the priority condition **528** can have the rating to initiate the configuration transfer when the user accesses a specific function or a device, such as a printer or a web browser.

It has been discovered that the priority condition **528** based on the future context **204** provides efficiency for the computing system **100** in transferring the device configuration **207**. The priority condition **528** can quantize the importance of transferring the device configuration **207** in anticipation of the future context **204**. The computing system **100** can use the priority condition **528** to schedule the transfer along with other tasks to maximize the efficiency for the overall system.

The event identification module **506** can further notify and prompt the user for confirmation before initiating the transfer. The event identification module **506** can use the first user interface **318**, the second user interface **338**, the neighboring user interface **418**, or a combination thereof to notify and prompt the user.

The event identification module **506** can further initiate the transfer without a confirmation or a selection. For example, the event identification module **506** can initiate the transfer without previously communicating the configuration notification **240** to the user, such as by audibly recreating or displaying the configuration notification **240**. Also for example, the event identification module **506** can initiate the transfer without a direct and contemporaneous interaction with the user based on the priority condition **528**, the magnitude difference **526**, or a combination thereof.

The event identification module **506** can further initiate the transfer based on the user interaction according to the change

setting **242** for the overall device or the specific function or setting. For example, the event identification module **506** can initiate the transfer without the user interaction when the setting category or name is identified by the computing system **100** as having the dynamic setting **244**. Also for example, the event identification module **506** can initiate or wait for the user interaction when the first device **102** used by the user includes the downloading-device profile **224** having static setting **246** for the overall setting of the device.

The event identification module **506** can initiate the transfer through passing of the control flow from the event identification module **506** to the configuration transfer module **508**. The control flow can pass similarly as described above between the context module **502** and the surroundings module **504**.

The configuration transfer module **508** is configured to transfer the device configuration **207**. The configuration transfer module **508** can use the first communication unit **316**, the second communication unit **336**, the neighboring communication unit **416**, or a combination thereof to communicate the transferable configuration setting **220** of FIG. **2**.

The configuration transfer module **508** can communicate the transferable configuration setting **220** by exchanging the device configuration **207** or a portion thereof between the first device **102**, the neighboring device **108**, the second device **106**, or a combination thereof. The configuration transfer module **508** can transmit the uploading-device profile **222** or a portion therein to the device having the proximity zone **214** associated therewith.

For example, the configuration transfer module **508** can send the uploading-device profile **222** or a portion therein as the transferable configuration setting **220** from the neighboring device **108** in the proximity zone **214** around the first device **102**. The first device **102** can receive the uploading-device profile **222**.

The configuration transfer module **508** can communicate the transferable configuration setting **220** from multiple devices in the proximity zone **214**. The configuration transfer module **508** can collect multiple instances of the transferable configuration setting **220**. The configuration transfer module **508** can also communicate the transferable configuration setting **220** with a specific device using the proximate-device identity **216**.

The configuration transfer module **508** can communicate the transferable configuration setting **220** based on various factors used to initiate the transfer of the device configuration **207** as determined by the event identification module **506**. For example, the configuration transfer module **508** can communicate the transferable configuration setting **220** based on the future context **204**, the transfer trigger **208**, the trigger metric **218**, the uploading-device profile **222**, the downloading-device profile **224**, the setting-change flag **232** or a different portion therein, or a combination thereof as described above.

The configuration transfer module **508** can further communicate the transferable configuration setting **220** between devices without previously communicating the configuration notification **240**. The configuration transfer module **508** can communicate the transferable configuration setting **220** with or without a previous interaction with the user based on the change setting **242**, on the transfer offset **212**, the contextual time-mark **210**, or a combination thereof as described above.

The configuration transfer module **508** can include a transfer mode module **530**, a configuration generator module **532**, or a combination thereof for communicating the transferable configuration setting **220**. The transfer mode module **530** is configured to determine the communication mode **238** based on the access privilege **234** for communicating the transferable configuration setting **220**.

The transfer mode module **530** can determine the communication mode **238** based on receiving the preliminary information including the access privilege **234**. The transfer mode module **530** can determine the communication mode **238** using the first communication interface **328**, the second communication interface **350**, the neighboring communication interface **428**, or a combination thereof. The transfer mode module **530** can determine the communication mode **238** by selecting a communication protocol or a medium, such as WiFi or short-range communication, establishing a connection or a network between devices, or a combination thereof.

For example, the transfer mode module **530** can determine the communication mode **238** as the short-range communication method if the membership information, the identification information of the device in the proximity zone **214**, the access privilege of the user's device, or a combination thereof do not coincide. Also for example, the transfer mode module **530** can establish or connect to a network based a common instance of the membership information, identification information matching a trusted device list or a previous connection history, an authentication information, such as a user name or password, or a combination thereof on the first device **102**, the second device **106**, the neighboring device **108**, or a combination thereof.

The configuration generator module **532** is configured to generate the transferable configuration setting **220**. The configuration generator module **532** can generate the transferable configuration setting **220** in a variety of ways.

For example, the configuration generator module **532** can generate a configuration data request for communicating from the downloading device to the uploading device. The configuration data request can be for a specific identification of the configuration setting or a category of the configuration setting. The configuration data request can also be for all available or sharable data. The configuration generator module **532** can further generate the transferable configuration setting **220** as the setting value in the uploading-device profile **222** corresponding to the configuration data request.

Also for example, the configuration generator module **532** can generate the transferable configuration setting **220** based on comparing the uploading-device profile **222** and the downloading-device profile **224**. The transferable configuration setting **220** can compare the accessible setting **226**, including the identification information for the device or the owner the access privilege, communicated and determined by the surroundings module **506** as described above.

As a more specific example, the configuration generator module **532** can generate the transferable configuration setting **220** to include up to the private setting **230** when the uploading-device profile **222** and the downloading-device profile **224** indicate common ownership by the user. As a further specific example, the configuration generator module **532** can generate the transferable configuration setting **220** to include up to the limited-access setting **228** in the uploading-device profile **222** based on the membership or identification information of the communicating devices, the access privilege **234** of the downloading-device profile **224**, or a combination thereof.

For further example, the configuration generator module **532** can generate the transferable configuration setting **220** based on multiple instances of the device configuration **207** for multiple devices in the proximity zone **214**. The configuration generator module **532** can generate the transferable configuration setting **220** including a value for the setting based on an average, a mean, a most commonly occurring, or

a combination thereof value for the corresponding values among the multiple instances of the device configuration **207**.

The configuration generator module **532** can further adjust the value based on a similarity between devices. The configuration generator module **532** can determine the similarity level as a score or a match. The configuration generator module **532** can use the device identification, the device categorization, a list of corresponding features or settings, the owner identification, a manufacturer identification, or a combination thereof. The configuration generator module **532** can compare the uploading-device profile **222**, the downloading-device profile **224**, initially exchanged and determined information from the surroundings module **504**, or a combination thereof.

The configuration generator module **532** can use the setting values from the uploading device having the highest similarity level or setting values above a similarity threshold as compared to the downloading device to generate or adjust the value for the transferable configuration setting **220**. The configuration generator module **532** can include the similarity threshold, a method or a process for determining the similarity level, the list of features corresponding to devices and associated similarities there-between, or a combination thereof for generating or adjusting the value for the transferable configuration setting **220** based on similarity between devices.

The configuration generator module **532** can generate the transferable configuration setting **220** by encrypting the device configuration **207** information. The configuration generator module **532** can encrypt for all instances of the transferable configuration setting **220**, based on ownership, based on the access privilege **234**, based on membership or grouping information, based on the content of the transferable configuration setting **220**, such as including the limited-access setting **228** or the private setting **230**, based on the device location **536** and the current context, based on the future context **204**, or a combination thereof.

The configuration generator module **532** can further generate the transferable configuration setting **220** to include a sequential information set. For example, the access privilege **234** or access information can be communicated first. The access privilege **234** or the access information can be used by the transfer mode module **530** for adjusting the communication mode **238** with a higher instance of the communication rate **239**. The transferable configuration setting **220** can include other information subsequent to the initial communication for communicating using the communication mode **238** with the higher instance of the communication rate **239** established with the initial communication.

It has been discovered that the transferable configuration setting **220** provides contextually relevant configurations with minimal burden on the user. The transferable configuration setting **220** can provide contextual relevance based on determining the future context **204**, the settings for nearby devices, or a combination thereof. The transferable configuration setting **220** based on the nearby devices can further adapt to an unknown context, or a change or a determination error in the context. The computing system **100** can use the transferable configuration setting **220** to adapt the devices without requiring the user to determine individual settings.

It has also been discovered that the transferable configuration setting **220** and the future context **204** provide timely and contextually relevant features to the user. The transferable configuration setting **220** and the future context **204** can anticipate and implement the necessary changes for the event **202** occurring at a later time. The anticipation and earlier implementation of setting changes can provide the necessary functions at the time of the event **202** instead of reacting to the event **202** itself.

After generating the transferable configuration setting **220**, the control flow can pass from the configuration transfer module **508** to the device configuration module **510**. The control flow can pass similarly as described above between the context module **502** and the surroundings module **504**.

Alternatively, the computing system **100** can be based on communicating information between devices within the proximity zone **214**. For example, the surroundings module **504** can establish a connection, a protocol, a local-impromptu network, or a combination thereof between the devices within the proximity zone **214**, using the proximate-device identity **216**, or a combination thereof. Also for example, the event identification module **506**, the transfer trigger **208**, or a combination thereof can be based on the connection, the protocol, the local-impromptu network, or a combination thereof.

The configuration transfer module **508** can poll the devices, or transmit and receive broadcasts from the devices based on various conditions. The transfer trigger **208**, such as for the crowd-sourcing threshold, can be compared to the polled response or the broadcasted response for implementing the transferable configuration setting **220**.

For example, the event identification module **506** can establish the connection, the protocol, the localized network, or a combination thereof for the devices within the proximity zone **214** to broadcast the transferable configuration setting **220** based on a change in setting or value therein, or at a periodic basis. Also for example, the event identification module **506** can poll the devices for the transferable configuration setting **220** on a periodic basis, such as based on a time associated with the event **202**. The device configuration module **510** can use the polled responses or the broadcasted instances of the transferable configuration setting **220** to implement the transferable configuration setting **220**.

The device configuration module **510** is configured to implement the changes in the device configuration **207**. The device configuration module **510** can adjust the downloading-device profile **224** based on the transferable configuration setting **220** for configuring the downloading device.

For example, the device configuration module **510** can change the downloading-device profile **224** of the first device **102**. The device configuration module **510** can use the transferable configuration setting **220** based on one or more devices in the proximity zone **214** around the first device **102**. Also for example, the device configuration module **510** can use the downloading-device profile **224** from the neighboring device **108** having the proximate-device identity **216**.

The device configuration module **510** can use the first control unit **312**, the second control unit **334**, the neighboring control unit **412**, or a combination thereof to change the downloading-device profile **224** according to the transferable configuration setting **220**. The updated instance of the downloading-device profile **224** can be stored in the first storage unit **314**, the second storage unit **346**, the neighboring storage unit **414**, or a combination thereof.

The device configuration module **510** can further generate the configuration notification **240** associated with adjusting the downloading-device profile **224**. The device configuration module **510** can generate the configuration notification **240** using the first user interface **318**, the second user interface **338**, the neighboring user interface **418**, or a combination thereof for communicating with the user, such as by audibly recreating sounds or displaying a message. The device con-

figuration module **510** can generate the configuration notification **240** before or after adjusting the downloading-device profile **224**.

For example, the device configuration module **510** can generate the configuration notification **240** to notify the user of a common setting found in devices nearby and query the user for approval to adjust the downloading-device profile **224** according to the transferable configuration setting **220**. As a more specific example, the device configuration module **510** can generate the configuration notification **240** to notify the user that a majority of the nearby devices or a percentage of the devices are in "silent mode" or connected to a specific network. The device configuration module **510** can adjust the downloading-device profile **224** to conform to the other devices based on the user's approval.

Also for example, the device configuration module **510** can generate the configuration notification **240** to notify the user of various available settings across multiple nearby devices and highlight a setting based on the most common setting value, the similarity level between the user's device and others, the confidence value **522** of the setting values for the uploading-device profile **222**, a variance between the setting value across the multiple instances of the other devices, or a combination thereof. The device configuration module **510** can adjust the downloading-device profile **224** based on the user's selection in response to the configuration notification **240**.

As a further example, the device configuration module **510** can generate the configuration notification **240**, adjust the downloading-device profile **224**, or a combination thereof when the user accesses a relevant feature of the device. The device configuration module **510** can generate the configuration notification **240**, adjust the downloading-device profile **224**, or a combination thereof contemporaneous with the user's access based on the priority condition **528**.

For further example, the device configuration module **510** can adjust the downloading-device profile **224** and subsequently generate the configuration notification **240**. The device configuration module **510** can adjust the downloading-device profile **224** prior to generating the configuration notification **240** based on the setting identification or category, the future context **204** or the current context, the priority condition **528**, the magnitude difference **526**, or a combination thereof. The device configuration module **510** can subsequently generate the configuration notification **240** to notify the user that the downloading-device profile **224** has been adjusted according to the transferable configuration setting **220**.

The updated instance of the downloading-device profile **224** can change or adjust the criteria for determining the proximity zone **214**, the proximate-device identity **216**, or a combination thereof. The computing system **100** can repeat the above described process to further update the downloading-device profile **224** using a different instance of the transferable configuration setting **220** based on adjusting the device configuration **207**.

It has been discovered that the transferable configuration setting **220**, the proximity zone **214**, and the device profile provides contextually aware usability for the user. The transferable configuration setting **220**, the proximity zone **214**, and the device profile can be used to recognize new devices being added on to an existing network by the user and to configure the devices appropriately.

For example, the user can install a new printer. The transferable configuration setting **220**, the proximity zone **214**, and the device profile can be used to recognize the context and appropriately load the configuration settings for the new printer, other devices in the network belonging to the user, or a combination thereof.

Also for example, the user can check into a hotel or a conference. The transferable configuration setting **220**, the proximity zone **214**, and the device profile can be used to recognize the context appropriately load the configuration settings for connecting to the network in the hotel or the conference.

For illustrative purposes, the various modules have been described as being specific to the first device **102** or the second device **106**. However, it is understood that the modules can be distributed differently. For example, the various modules can be implemented in a different device, or the functionalities of the modules can be distributed across multiple devices. Also as an example, the various modules can be stored in a non-transitory memory medium.

For a more specific example, the functions of the event identification module **506** and the configuration transfer module **508** can be merged and be specific to the first device **102** or the second device **106**. Also for a more specific example, the function for determining the device profile and determining the proximate-device identity **216** of the proximate-device module **520** can be separated into different modules, separated across the first device **102** and the second device **106**, or a combination thereof. As a further specific example, one or more modules show in FIG. **5** can be stored in the non-transitory memory medium for distribution to a different system, a different device, a different user, or a combination thereof.

The modules described in this application can be stored in the non-transitory computer readable medium. The first storage unit **314**, the second storage unit **346**, the neighboring storage unit **414**, or a combination thereof can represent the non-transitory computer readable medium. The first storage unit **314**, the second storage unit **346**, the neighboring storage unit **414**, or a combination thereof or a portion thereof can be removable from the first device **102** or the second device **106**. Examples of the non-transitory computer readable medium can be a non-volatile memory card or stick, an external hard disk drive, a tape cassette, or an optical disk.

Referring now to FIG. **6**, therein is shown a flow chart of a method **600** of operation of a computing system **100** in a further embodiment of the present invention. The method **600** includes: determining a contextual information for representing the contextual information relative to a device in a block **602**; determining a proximity zone for identifying further devices within the proximity zone relative to a device in a block **604**; determining proximate-device identities for identifying the further devices relative to the device in a block **606**; and communicating a transferable configuration setting with a communication unit using the proximate-device identity for updating the device based on the transferable configuration setting for displaying on the device.

It has been discovered that the transferable configuration setting **220** of FIG. **2** provides contextually relevant configurations with minimal burden on the user. It has also been discovered that the transferable configuration setting **220** and the future context **204** of FIG. **2** provide timely and contextually relevant features to the user.

It has been discovered that the transfer trigger **208** of FIG. **2** can provide contextually relevant and situation-appropriate and timely adaptations and features for the computing system **100**. It has also been discovered that the proximate-device identity **216** of FIG. **2** and the proximity zone **214** of FIG. **2** provide improved usability for the user. It has further been discovered that the magnitude difference **526** between the

uploading-device profile **222** and the downloading-device profile **224** provides optimization for the user and reduces unintended circumstances.

The physical transformation from the transferable configuration setting **220** results in movement in the physical world, such as changing a volume level or displaying a notice on the first device **102**. Movement in the physical world results in updates to the trigger metric **218**, which can be fed back into the computing system **100** and used to further update the downloading-device profile **224** using the transferable configuration setting **220** according to the future context **204**.

The resulting method, process, apparatus, device, product, and/or system is straightforward, cost-effective, uncomplicated, highly versatile, accurate, sensitive, and effective, and can be implemented by adapting known components for ready, efficient, and economical manufacturing, application, and utilization. Another important aspect of the present invention is that it valuably supports and services the historical trend of reducing costs, simplifying systems, and increasing performance.

These and other valuable aspects of the present invention consequently further the state of the technology to at least the next level.

While the invention has been described in conjunction with a specific best mode, it is to be understood that many alternatives, modifications, and variations will be apparent to those skilled in the art in light of the aforegoing description. Accordingly, it is intended to embrace all such alternatives, modifications, and variations that fall within the scope of the included claims. All matters set forth herein or shown in the accompanying drawings are to be interpreted in an illustrative and non-limiting sense.

What is claimed is:

1. A computing system comprising:

a processor configured to:

determine a contextual information for representing the contextual information relative to a device;

determine a proximity zone for identifying further devices within the proximity zone relative to the device;

determine proximate-device identities for identifying the further devices relative to the device;

determine an uploading-device profile and a downloading-device profile for representing the device and the further devices;

generate a transferable configuration setting based on the uploading-device profile and the downloading-device profile for communicating the transferable configuration setting; and

a communication unit including microelectronics, coupled to the processor, configured to communicate the transferable configuration setting using the proximate-device identities for updating the device based on the transferable configuration setting and the contextual information.

2. The system as claimed in claim **1** wherein:

the processor is configured to determine a future context for updating the device;

the communication unit is configured to communicate the transferable configuration setting based on the future context.

3. The system as claimed in claim **1** wherein:

the processor is configured to:

determine a contextual time-mark for temporally representing a future context;

calculate a transfer offset relative to the contextual time-mark; and

the communication unit is configured to communicate the transferable configuration setting according to the transfer offset and the contextual time-mark.

4. The system as claimed in claim **1** wherein:

the processor is configured to detect a trigger metric; and

the communication unit is configured to communicate the transferable configuration setting based on the trigger metric without previously displaying a configuration notification.

5. The system as claimed in claim **1** wherein:

the processor is configured to:

determine a future context for describing an event surrounding the device, the further devices, or a combination thereof;

set a downloading-device profile based on the transferable configuration setting for configuring the device based on the transferable configuration setting; and

the communication unit is configured to communicate the transferable configuration setting based on the future context for communicating the transferable configuration setting from the further devices to the device.

6. The system as claimed in claim **5** wherein the processor configured to:

determine an access privilege for describing the device, the further devices, or a combination thereof; and

determine a communication mode based on the access privilege for communicating the transferable configuration setting.

7. The system as claimed in claim **5** wherein the processor configured to:

determine an uploading-device profile for representing the further devices, the uploading-device profile including an accessible setting, a limited-access setting, or a combination thereof; and

generate the transferable configuration setting based on the accessible setting, the limited-access setting, or a combination thereof.

8. The system as claimed in claim **5** wherein the processor is configured to determine the proximate-device identities based on a device-selection mechanism for selecting the further devices.

9. The system as claimed in claim **5**, wherein:

the processor is configured to identify a setting-change flag for representing a change in the further devices; and

the communication unit is configured to communicate the transferable configuration setting based on the setting-change flag.

10. A method of operation of a computing system comprising:

determining a contextual information for representing the contextual information relative to a device;

determining a proximity zone for identifying further devices within the proximity zone relative to a device;

determining a proximate-device identities for identifying the further devices relative to the device;

determining an uploading-device profile and the downloading-device profile for representing the device and the further devices;

generating a transferable configuration setting based on the uploading-device profile and the downloading-device profile for communicating the transferable configuration setting; and

communicating the transferable configuration setting with a communication unit using the proximate-device identities for updating the device based on the transferable configuration setting.

11. The method as claimed in claim **10** wherein:

determining the contextual information includes determining a future context for updating the device; and

communicating the transferable configuration setting includes communicating the transferable configuration setting based on the future context.

12. The method as claimed in claim **10** further comprising:

determining a contextual time-mark for temporally representing a future context;

calculating a transfer offset relative to the contextual time-mark; and

wherein:

communicating the transferable configuration setting includes communicating the transferable configuration setting according to the transfer offset and the contextual time-mark.

13. The method as claimed in claim **10** further comprising:

detecting a trigger metric; and

wherein:

communicating the transferable configuration setting includes communicating the transferable configuration setting based on the trigger metric without previously displaying a configuration notification.

14. A non-transitory computer readable medium including instructions comprising:

determining a contextual information for representing the contextual information relative to a device;

determining a proximity zone for identifying further devices within the proximity zone relative to a device;

determining proximate-device identities for identifying the further devices relative to the device;

determining an uploading-device profile and the downloading-device profile for representing the device and the further devices;

generating a transferable configuration setting based on the uploading-device profile and the downloading-device profile for communicating the transferable configuration setting; and

communicating the transferable configuration setting using the proximate-device identities for updating the device based on the transferable configuration setting.

15. The non-transitory computer readable medium as claimed in claim **14** wherein:

determining the contextual information includes determining a future context for updating the device; and

communicating the transferable configuration setting includes communicating the transferable configuration setting based on the future context.

16. The non-transitory computer readable medium as claimed in claim **14** further comprising:

determining a contextual time-mark for temporally representing the future context;

calculating a transfer offset relative to the contextual time-mark; and

wherein:

communicating the transferable configuration setting includes communicating the transferable configuration setting according to the transfer offset and the contextual time-mark.

17. The non-transitory computer readable medium as claimed in claim **14** further comprising:

detecting a trigger metric; and

wherein:

communicating the transferable configuration setting includes communicating the transferable configuration setting based on the trigger metric without previously displaying a configuration notification.

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