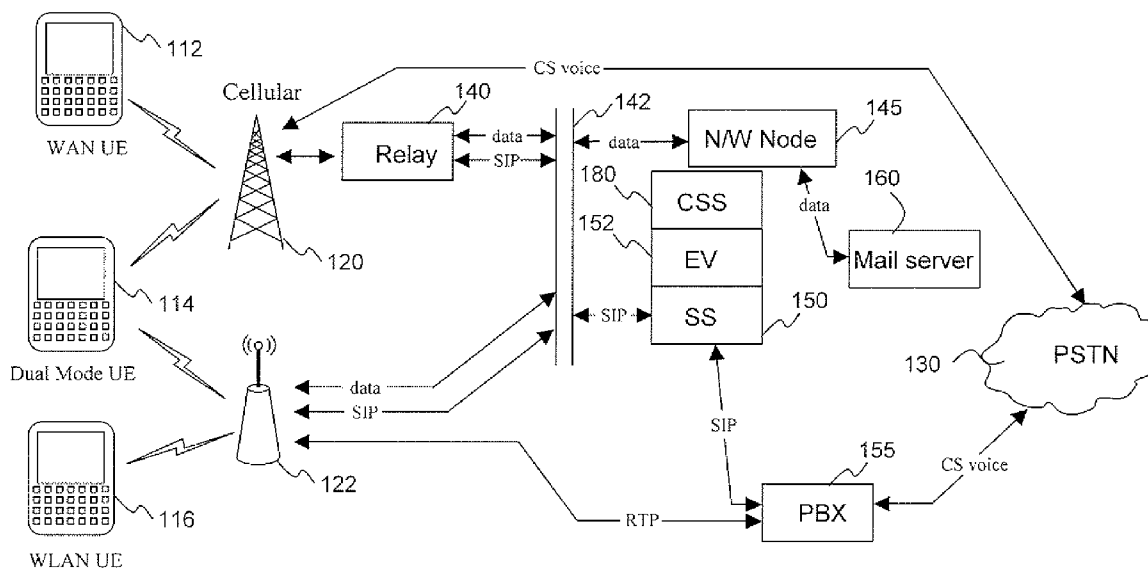




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**Heit et al.**(10) **Pub. No.: US 2012/0302203 A1**(43) **Pub. Date: Nov. 29, 2012**(54) **METHOD AND SYSTEM FOR THE  
COLLECTION OF VOICE CALL STATISTICS  
FOR A MOBILE DEVICE**(60) Provisional application No. 60/862,329, filed on Oct.  
20, 2006.**Publication Classification**(75) Inventors: **David L. Heit**, Waterloo (CA); **Atul  
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LIMITED**, Waterloo (CA)(57) **ABSTRACT**(21) Appl. No.: **13/570,069**(22) Filed: **Aug. 8, 2012****Related U.S. Application Data**(63) Continuation of application No. 11/876,168, filed on  
Oct. 22, 2007, now Pat. No. 8,265,589.

A method and system for collecting and tracking statistics of a mobile device having the steps of: adding a call statistics server at an enterprise, the call statistics server adapted to receive call statistics information from one or more mobile devices or adapted to gather call statistics information directly through monitoring call setup, throughput and disconnection traffic; and providing call statistics information to a recipient. The mobile device can then obtain and display the call statistics.



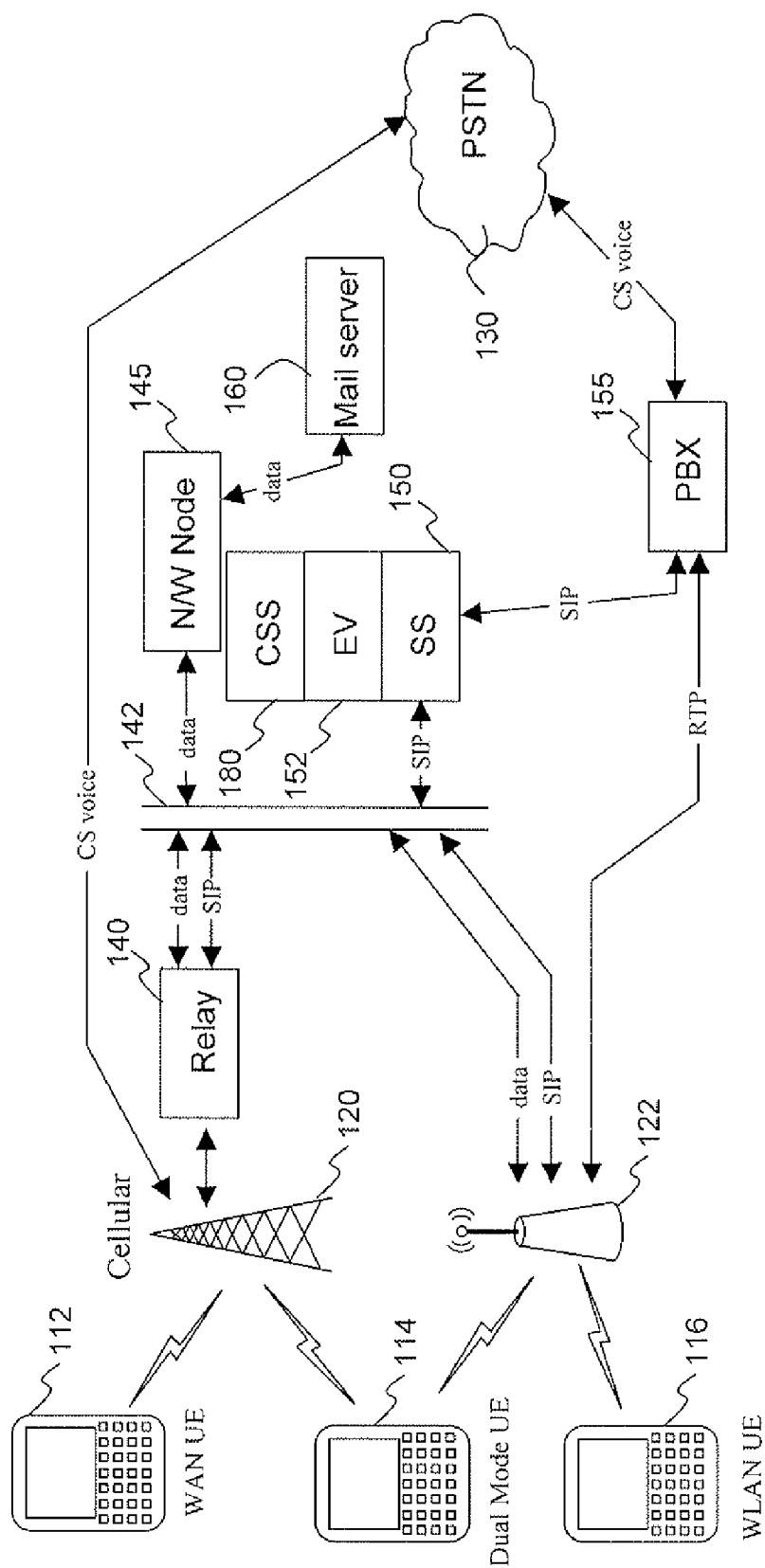
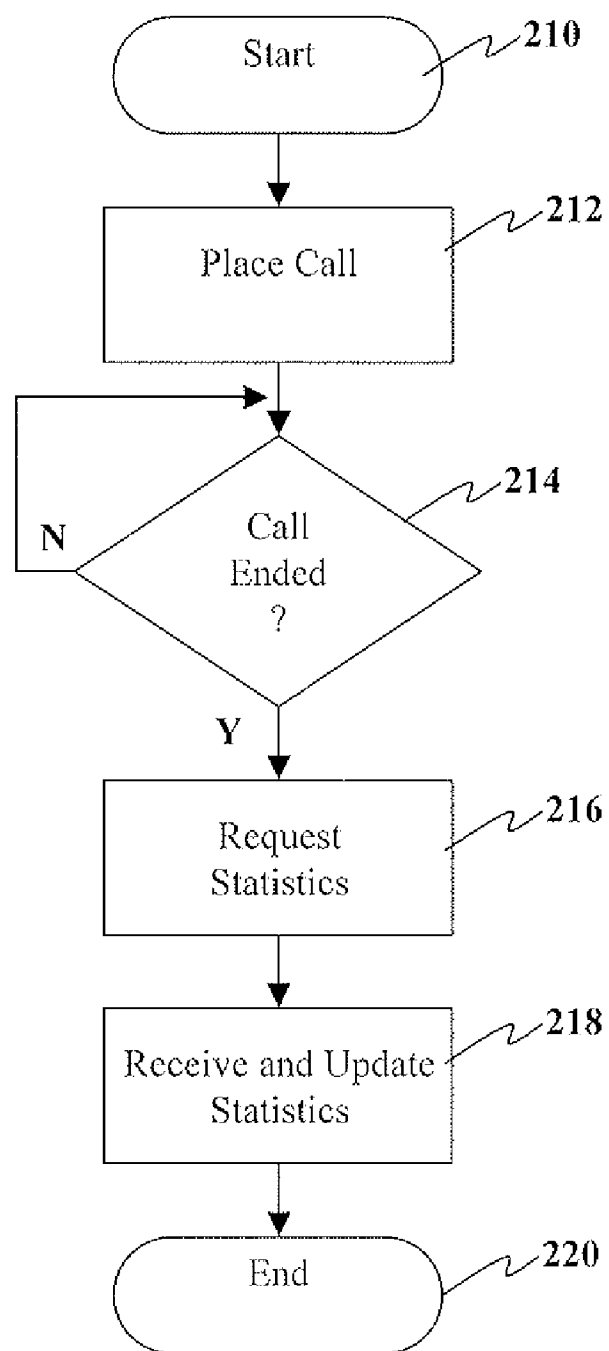


FIG. 1

**Fig. 2**

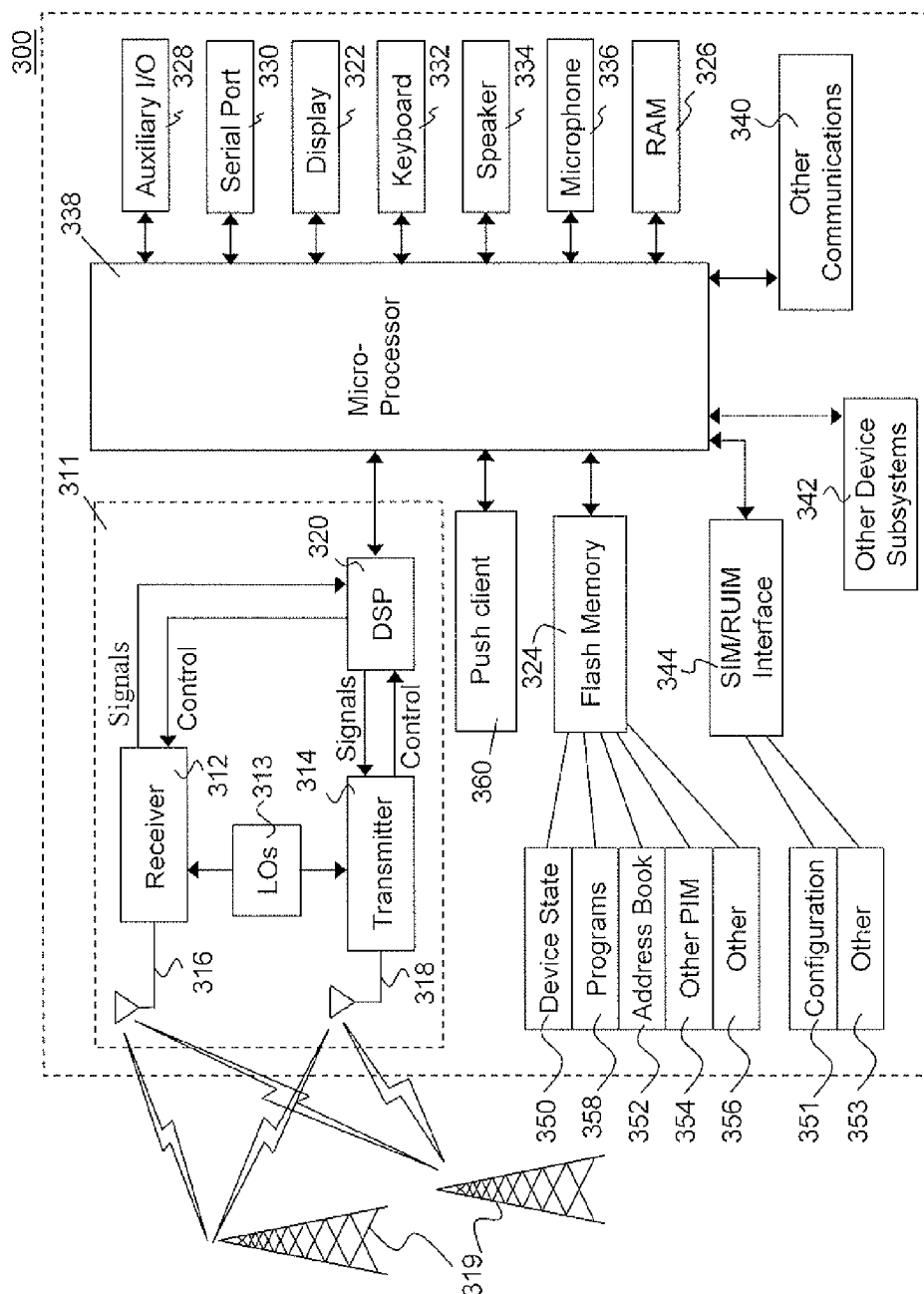


FIG. 3

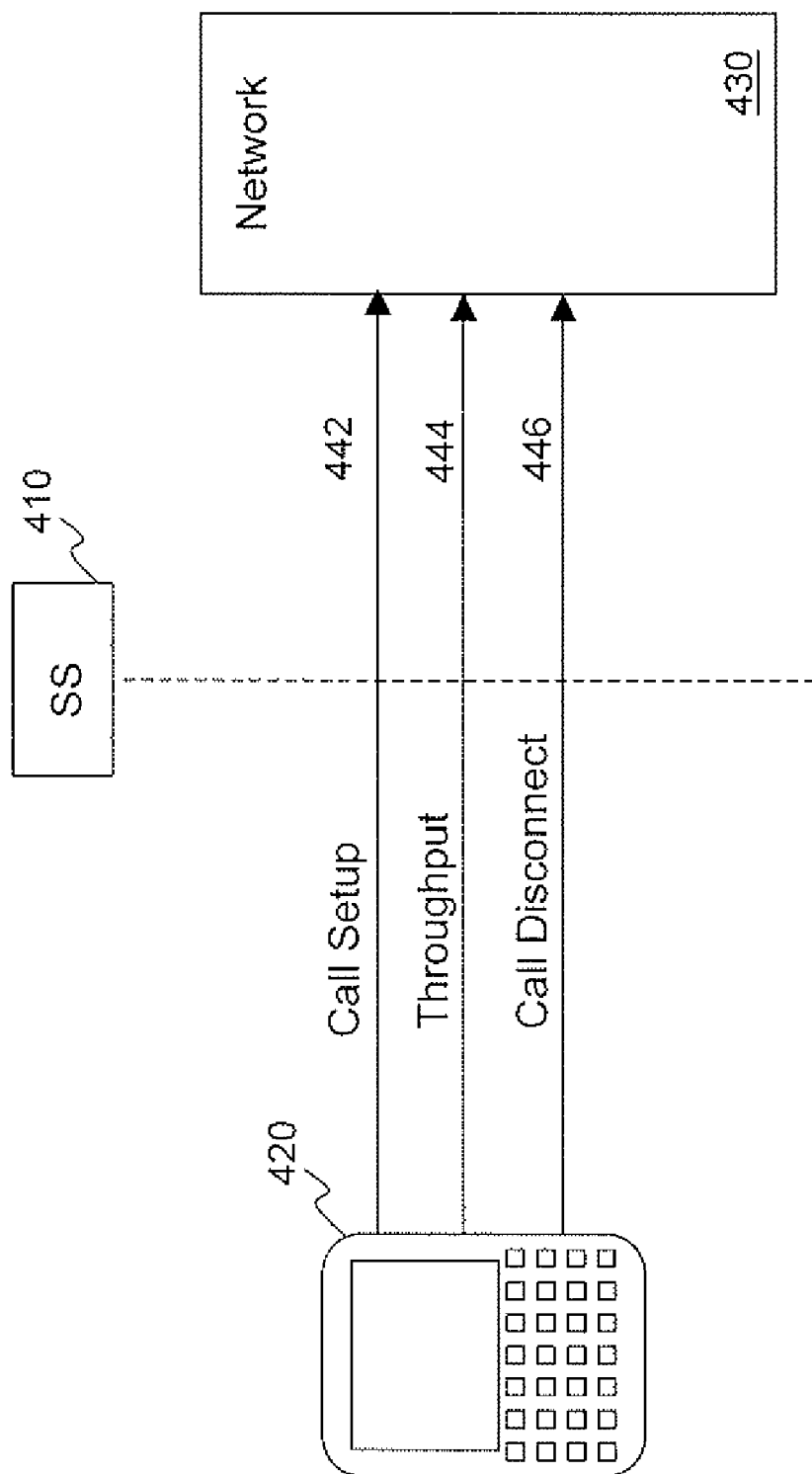


FIG. 4

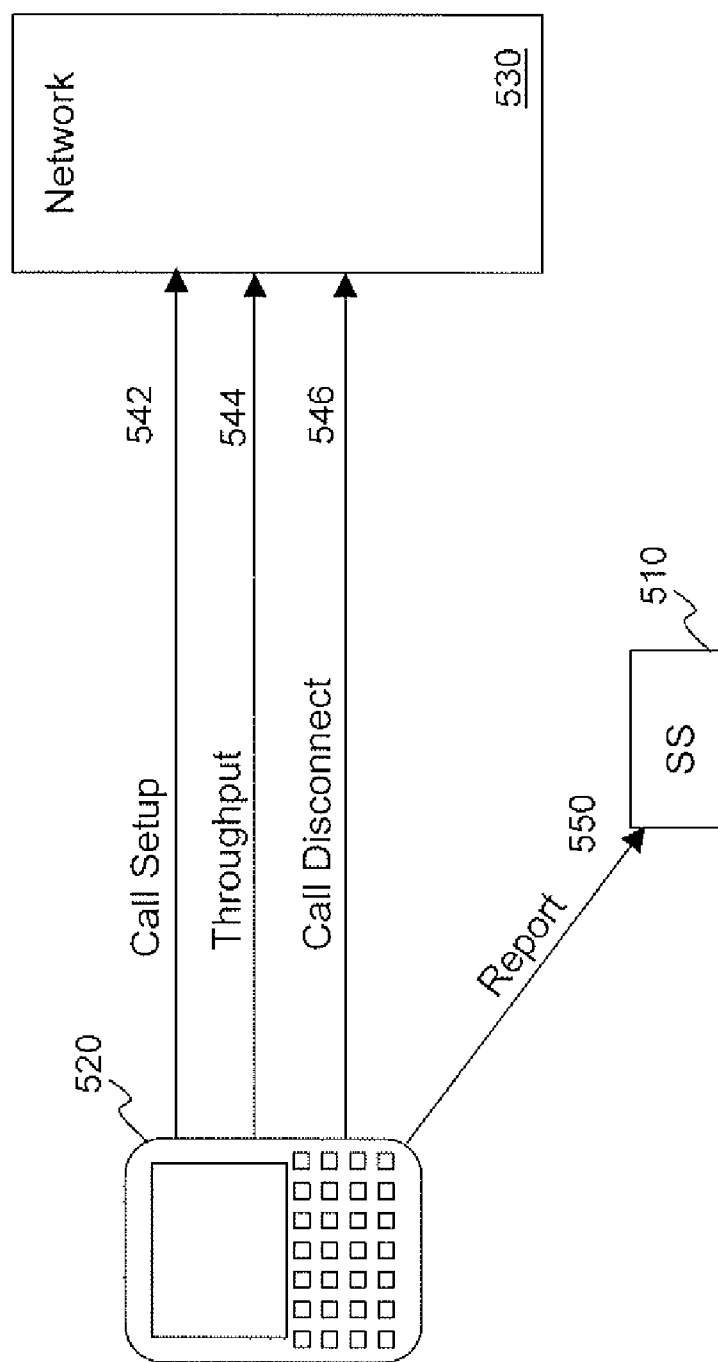


FIG. 5

# METHOD AND SYSTEM FOR THE COLLECTION OF VOICE CALL STATISTICS FOR A MOBILE DEVICE

## CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** The present application is a continuation application of U.S. application Ser. No. 11/876,168, filed Oct. 22, 2007, which claims priority from U.S. Provisional Patent Application Ser. No. 60/862,329 filed Oct. 20, 2006, the disclosures of said applications are incorporated herein by reference.

## FIELD OF THE DISCLOSURE

**[0002]** The present application relates to call statistics collection, and in particular, to the collection of call statistics information for a mobile device capable of transmitting voice and data.

## BACKGROUND

**[0003]** Mobile devices capable of transmitting voice and data are becoming increasingly common in the marketplace and are referred to as Smartphones, personal digital systems or other similar names. Examples include the Research in Motion Blackberry™, Palm Treo™, among others.

**[0004]** The capability of transmitting voice over a data connection is what is called "Voice Over Internet Protocol" (VoIP) and allows such devices to carry voice traffic over an Internet connection, bypassing the traditional circuit switched voice service offered over a wide area wireless networks.

**[0005]** Mobile devices are also becoming multi-mode, meaning that they can use multiple radio technologies such as Global System for Mobile communication (GSM), Code Division Multiple Access (CDMA), third generation (3G) and wireless fidelity (WiFi), among others, to transmit voice calls and data traffic. Using the data capability available on Smartphones, the user may wish to view historical data associated with calls made from his/her handset.

**[0006]** The collection of historical data or statistics for voice calls is essential to any telecommunications provider, as it is the basis for billing. But is also a tool that can be used for network configuration and planning as well as troubleshooting specific problems with specific handset makes or specific users. This information, if available to the user, could also aid the user in better understanding how to use their mobile device in a more cost effective way, as well as providing information on how they have used the mobile device in the past.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0007]** The present disclosure will be better understood with reference to the drawings in which:

**[0008]** FIG. 1 is a block diagram showing an architecture of an exemplary mobile device network;

**[0009]** FIG. 2 is a flow chart for a method of a mobile device to collect call statistics;

**[0010]** FIG. 3 is a block diagram of an exemplary mobile device for use in association with the present method and system;

**[0011]** FIG. 4 is a data flow diagram illustrating a call statistics server monitoring communications between a mobile device and a network; and

**[0012]** FIG. 5 is a data flow diagram illustrating a call statistics server receiving statistics reports from a mobile device.

## DETAILED DESCRIPTION

**[0013]** The advent of data capable mobile device allows an enterprise to provide a server to collect statistics that are reported to it from mobile devices using data connectivity available. These statistics can be viewed by corporate telecom management. The information allows a corporate information technology (IT) group to configure its network through a corporate IT policy, planning for future growth and troubleshooting voice calls.

**[0014]** With the mix of radio technologies available and used, corporate IT management needs information on network service interplay, such as hand-off between network services using different technologies. The collection of statistics in this new environment therefore becomes an important tool to help the users and owners of multi-mode mobile devices to manage and control usage and costs.

**[0015]** The present disclosure provides a method for collecting and tracking statistics of a mobile device comprising the steps of: adding a statistics server at an enterprise, said statistics server adapted to receive call statistics information from one or more mobile devices or adapted to gather call statistics information directly through monitoring call set-up, throughput and disconnection traffic; and, providing call statistics information to a recipient.

**[0016]** The present disclosure further provides a method on a mobile device for maintaining a call statistics information repository comprising the steps of: after a call has ended, requesting statistics from a call statistics server, receiving the statistics from the call statistics server, and updating the repository with the received statistics.

**[0017]** The present disclosure further provides a mobile device adapted to show call history, comprising a communications subsystem adapted to communicate with one or more networks and further adapted to communicate with a call statistics server; a repository, the repository adapted to store call statistics received from the call statistics server; and a user interface, said user interface comprising a display for selectively showing call history on the mobile device.

**[0018]** The present disclosure further provides a call statistics server located within an enterprise, the call statistics server comprising: a processor adapted to monitor call setup, throughput and disconnection traffic of one or more mobile devices and/or to receive call statistics from the one or more mobile devices; and storage, said storage adapted to store statistics found or received by the processor, wherein said call statistics server is adapted to provide stored statistics to a recipient.

**[0019]** The present disclosure further provides a system for collecting and providing call statistics information to a mobile device comprising: a call statistics server, said call statistics server having: a processor adapted to monitor call setup, throughput and disconnection traffic of one or more mobile devices or to receive call statistics from the one or more mobile devices; and storage, said storage adapted to store statistics found or received by the processor; and one or more mobile devices, each of said one or more mobile devices having: a communications subsystem adapted to communicate with one or more networks and further adapted to communicate with the call statistics server; a repository, the repository adapted to store call statistics received from the

call statistics server; and a user interface, said user interface comprising a display for selectively showing call history on the mobile device.

[0020] Reference is now made to FIG. 1. FIG. 1 illustrates an architectural overview for voice and data. Three mobile devices, 112, 114 and 116 are illustrated.

[0021] Mobile device 112 is a single mode wide area network mobile device (WAN) which communicates with a cellular network 120.

[0022] Mobile device 116 is a single mode wireless local area network (WLAN) mobile device which communicates with the data access point 122.

[0023] Mobile device 114 is a dual mode mobile device which communicates both with the cellular network 120 and the data access point 122.

[0024] The present disclosure will use mobile device 114, which is a dual mode mobile device, for illustration purposes.

[0025] Mobile device 114 may connect through cellular network 120 to provide either voice or data services. As will be appreciated, various cellular networks exist including, but not limited to, GSM, General Packet Radio Service (GPRS), CDMA, Universal Mobile Telecommunications System (UMTS), Wideband Code Division Multiple Access (WCDMA), among others. These technologies allow the use of voice, data or both at one time.

[0026] A circuit switched call, as seen from FIG. 1, will proceed through a circuit switched voice channel to public switched telephone network 130.

[0027] Data proceeds through a relay 140, preferably through a firewall 142 to one of several servers servicing the data call.

[0028] As is seen in FIG. 1, data proceeds through the firewall 142 to a network node 145 and potentially out to a Mail Server 160, depending on the nature of the data.

[0029] If the call is a transmission of voice over a data connection using VoIP, the data proceeds over session initiation protocol (SIP) to a SIP server 150.

[0030] From SIP server 150, the VoIP call proceeds over a private branch exchange (PBX) 155 and then becomes a circuit-switched voice call over Public Switched Telephone Network (PSTN) 130.

[0031] Mobile device 114 can further communicate over a data access point for a wireless local area network (WLAN). Examples of WLAN technologies include Wireless Fidelity (WiFi) or Worldwide Interoperability for Microwave Access (WiMax) as underlying technologies of wireless local area networks.

[0032] As with the cellular connection, data and VoIP calls can be routed through a firewall 142 to either the network node 145 or to SIP server 150. The VoIP call then would proceed again through PBX 155 to PSTN 130.

[0033] Alternatively, the VoIP call can be routed through a real time transport protocol (RTP) directly to the private branch exchange 155, at which point it is converted to a circuit switched call and routed through the public switched telephone network (PSTN) 130.

[0034] An Enterprise Voice Server 152 could be included for various functionality including monitoring voice calls, providing call statistics, call costs, policy usage, among others.

[0035] For a handheld mobile device user, access to call statistics can be very helpful to know, for example, how many calls were made to a specific number or person in the last month, and how many minutes did these calls last. This can be

used to verify charges for certain types of calls that are billable, such as calls to a solicitor. Other information, such as calls made over a specific network, provider or technology; calls from a specific geographic location; calls that were handed over across network services; calls unanswered; missed incoming calls; and calls made while outside the home network (roaming) are a few examples.

[0036] Also, call history could be integrated with a customer relationship management system where the handheld user can request further information about a specific call. For example, if a salesman takes notes about a conversation, those notes could be reviewed before a follow-up call is made. Call tracking can be very complicated for sales personnel, and such a tool would greatly assist them in managing their time.

[0037] Presenting call history information in a user friendly format on a mobile device display can be an invaluable tool for mobile workers.

[0038] In a further embodiment, a corporate IT group can also access all of the above listed information and may generate statistic reports for a group of users or makes of handsets and also specific voice call patterns. If a number of users complain of dropped calls on a specific network provider in a specific location, the voice call statistics could provide evidence of that behavior, which can then be reported back to the carrier in question. Significant numbers of examples exist where call statistics access will be helpful in managing corporate IT voice call costs.

[0039] Referring again to FIG. 1, a call statistics server 180 is located within an enterprise. As will be appreciated by those skilled in the art, call statistics server 180 may be part of a network node 145 or can be a separate server communicating with the network node 145.

[0040] Call statistics server 180 can receive call statistic information from handheld mobile devices or gather these statistics directly through the monitoring of voice call set-up, throughput and disconnection traffic, and hold this information for use by corporate IT and handheld users.

[0041] Reference is now made to FIG. 4. FIG. 4 shows a data flow diagram in which a call statistics server 410 monitors communications between a mobile device 420 and a network 430. As will be appreciated by those skilled in the art network 430 could be any network that a mobile device communicates with, and reference is made, for example, to FIG. 1 to show exemplary networks.

[0042] Mobile device 420 sends various messages to network 430. These include a call set up message 442, data and/or voice throughput message 444 and call disconnection message 446, among others. In the embodiment of FIG. 4 call statistics server 410 monitors messages 442, 444 and 446 to compile call statistics for mobile device 420. These statistics can then be stored on call statistics server 410 and provided to a mobile device 420 or to a corporate information technology department as required.

[0043] Alternatively, a call statistic server could receive the statistics directly from a mobile device. Reference is now made to FIG. 5.

[0044] In the embodiment of FIG. 5 a call statistics server 510 collects statistics from a mobile device 520. Mobile device 520 communicates with a network 530. Message traffic between mobile device 520 and network 530 could include, for example, a call set up message 542, data and/or voice throughput 544 and call disconnection message 546.

[0045] In the embodiment of FIG. 5, once a mobile device 520 sends a call disconnection message 546, or the call is



disconnected for any other reason, a reporting message **550** is sent to a call statistics server **510**. Such a reporting message **550** could include the duration of the call, data throughput, network used, networks the call was transferred to and the time of the transfer, and destination phone number, among others. Call statistics server can then compile call statistics for mobile device **520** based on the received reporting messages **550**.

**[0046]** Alternatively, a reporting message **550** could be sent after each of the stages illustrated by messages **542**, **544** and **546**. In particular, a reporting message could be sent after the call setup, periodic reporting messages could be sent to indicate call throughput and a message could be sent at call disconnection. In this case, call statistics server **510** would compile the various reporting messages to produce call statistics for mobile device **520**.

**[0047]** Once call statistics are compiled, they are in many cases useful to the user of a mobile device. Reference is now made to FIG. 2. FIG. 2 shows a flow chart illustrating a method for a mobile device to obtain call statistics. As will be appreciated by those skilled in the art, FIG. 2 is merely one method of obtaining call statistics and other methods are possible. In particular, call statistics can either be stored on the mobile device or, if a user is accessing call statistics information, it can be obtained from the network at that time.

**[0048]** If the call statistics are being kept on the mobile device, the call statistics can be updated periodically, for example, once a day, once an hour or after each call has been made. FIG. 2 shows the last option, but is not meant to limit the present disclosure.

**[0049]** Referring to FIG. 2, the process starts at step **210**. The process then proceeds to step **212** in which the mobile device places a call. Step **214** monitors whether the call has ended.

**[0050]** Once the call has ended, the process proceeds to step **216** in which the statistics are requested from the statistics server (for example, call statistics server **180** from FIG. 1).

**[0051]** The process proceeds to step **218** in which it receives the statistics from the statistic server **180** and updates the storage of the statistics on the mobile device. As will be appreciated, step **218** allows the updating of locally stored call statistics by the mobile device by only receiving call statistics for the call that has just ended. This allows the mobile device to maintain an up-to-date database and limits the amount of data that needs to be sent over the air each time a statistics storage on the mobile device is updated.

**[0052]** Once the mobile device has call statistics, a user interface to display the cost statistics can be presented. This interface aids the user in better understanding how to use their handheld device in a more cost effective way. The user interface on a mobile device can, in one embodiment, exploit a high quality display to show call history. The call history may be viewed from a number of historical perspectives such as:

- [0053]** number of calls made from mobile device, duration, time, and date and cost of each call;
- [0054]** total number of minutes, total costs;
- [0055]** calls made to a specific number showing time, date, duration and cost;
- [0056]** all of the above showing calls made using a specific network service;
- [0057]** all of the above showing calls handed over across network services.

**[0058]** In one embodiment, dual mode devices such as mobile device **114** from FIG. 1 provide the option of showing

the number of minutes of voice over a WiFi versus a circuit switched call. Further information can be provided about calls dropped from WiFi and reconnected on circuit switched networks; statistics on circuit switched call set-ups that are rerouted to WiFi; statistics on ongoing circuit switched calls automatically switched to WiFi.

**[0059]** The present statistics also can show calls that are rerouted to 800 service numbers as opposed to direct dial numbers.

**[0060]** As will be appreciated by those skilled in the art, the above therefore allows for the collection of statistics for different types of access technologies and can consolidate call history. Thus, whether the mobile uses VoIP over a WiFi network or a circuit switched call through a cellular network, the statistics can be corrected and consolidated. Further, by maintaining a separate dedicated server at the enterprise, both the user can benefit by being provided with up-to-date information in a high quality user interface and the enterprise information technology department can better make policy for the use of the handheld device.

**[0061]** As will be appreciated, the above can be implemented on any mobile device. One exemplary mobile device is described below with reference to FIG. 3. This is not meant to be limiting, but is provided for illustrative purposes.

**[0062]** FIG. 3 is a block diagram illustrating a mobile device apt to be used with preferred embodiments of the apparatus and method of the present application. Mobile device **300** is preferably a two-way wireless communication device having at least voice and data communication capabilities. Mobile device **300** preferably has the capability to communicate with other computer systems on the Internet. Depending on the exact functionality provided, the wireless device may be referred to as a data messaging device, a two-way pager, a wireless e-mail device, a cellular telephone with data messaging capabilities, a wireless Internet appliance, or a data communication device, as examples.

**[0063]** Where mobile device **300** is enabled for two-way communication, it will incorporate a communication subsystem **311**, including both a receiver **312** and a transmitter **314**, as well as associated components such as one or more, preferably embedded or internal, antenna elements **316** and **318**, local oscillators (LOs) **313**, and a processing module such as a digital signal processor (DSP) **320**. As will be apparent to those skilled in the field of communications, the particular design of the communication subsystem **311** will be dependent upon the communication network in which the device is intended to operate.

**[0064]** Network access requirements will also vary depending upon the type of network **319**. In some CDMA networks network access is associated with a subscriber or user of mobile device **300**. A CDMA mobile device may require a removable user identity module (RUIM) or a subscriber identity module (SIM) card in order to operate on a CDMA network. The SIM/RUIM interface **344** is normally similar to a card-slot into which a SIM/RUIM card can be inserted and ejected like a diskette or PCMCIA card. The SIM/RUIM card can have approximately 64K of memory and hold many key configuration **351**, and other information **353** such as identification, and subscriber related information.

**[0065]** When required network registration or activation procedures have been completed, mobile device **300** may send and receive communication signals over the network **319**. As illustrated in FIG. 3, network **319** can consist of multiple base stations communicating with the mobile

device. For example, in a hybrid CDMA 1x EVDO system, a CDMA base station and an EVDO base station communicate with the mobile device and the mobile device is connected to both simultaneously. The EVDO and CDMA 1x base stations use different paging slots to communicate with the mobile device.

[0066] Signals received by antenna 316 through communication network 319 are input to receiver 312, which may perform such common receiver functions as signal amplification, frequency down conversion, filtering, channel selection and the like, and in the example system shown in FIG. 3, analog to digital (A/D) conversion. A/D conversion of a received signal allows more complex communication functions such as demodulation and decoding to be performed in the DSP 320. In a similar manner, signals to be transmitted are processed, including modulation and encoding for example, by DSP 320 and input to transmitter 314 for digital to analog conversion, frequency up conversion, filtering, amplification and transmission over the communication network 319 via antenna 318. DSP 320 not only processes communication signals, but also provides for receiver and transmitter control. For example, the gains applied to communication signals in receiver 312 and transmitter 314 may be adaptively controlled through automatic gain control algorithms implemented in DSP 320.

[0067] Mobile device 300 preferably includes a microprocessor 338 which controls the overall operation of the device. Communication functions, including at least data and voice communications, are performed through communication subsystem 311. Microprocessor 338 also interacts with further device subsystems such as the display 322, flash memory 324, random access memory (RAM) 326, auxiliary input/output (I/O) subsystems 328, serial port 330, one or more keyboards or keypads 332, speaker 334, microphone 336, other communication subsystem 340 such as a short-range communications subsystem and any other device subsystems generally designated as 342. Serial port 330 could include a USB port or other port known to those in the art.

[0068] Some of the subsystems shown in FIG. 3 perform communication-related functions, whereas other subsystems may provide "resident" or on-device functions. Notably, some subsystems, such as keyboard 332 and display 322, for example, may be used for both communication-related functions, such as entering a text message for transmission over a communication network, and device-resident functions such as a calculator or task list.

[0069] Operating system software used by the microprocessor 338 is preferably stored in a persistent store such as flash memory 324, which may instead be a read-only memory (ROM) or similar storage element (not shown). Those skilled in the art will appreciate that the operating system, specific device applications, or parts thereof, may be temporarily loaded into a volatile memory such as RAM 326. Received communication signals may also be stored in RAM 326.

[0070] As shown, flash memory 324 can be segregated into different areas for both computer programs 358 and program data storage 350, 352, 354 and 356. These different storage types indicate that each program can allocate a portion of flash memory 324 for their own data storage requirements. Microprocessor 338, in addition to its operating system functions, preferably enables execution of software applications on the mobile device. A predetermined set of applications that control basic operations, including at least data and voice communication applications for example, will normally be

installed on mobile device 300 during manufacturing. Other applications could be installed subsequently or dynamically.

[0071] A preferred software application may be a personal information manager (PIM) application having the ability to organize and manage data items relating to the user of the mobile device such as, but not limited to, e-mail, calendar events, voice mails, appointments, and task items. Naturally, one or more memory stores would be available on the mobile device to facilitate storage of PIM data items. Such PIM application would preferably have the ability to send and receive data items, via the wireless network 319. In a preferred embodiment, the PIM data items are seamlessly integrated, synchronized and updated, via the wireless network 319, with the mobile device user's corresponding data items stored or associated with a host computer system. Further applications may also be loaded onto the mobile device 300 through the network 319, an auxiliary I/O subsystem 328, serial port 330, short-range communications subsystem 340 or any other suitable subsystem 342, and installed by a user in the RAM 326 or preferably a non-volatile store (not shown) for execution by the microprocessor 338. Such flexibility in application installation increases the functionality of the device and may provide enhanced on-device functions, communication-related functions, or both. For example, secure communication applications may enable electronic commerce functions and other such financial transactions to be performed using the mobile device 300.

[0072] In a data communication mode, a received signal such as a text message or web page download will be processed by the communication subsystem 311 and input to the microprocessor 338, which preferably further processes the received signal for element attributes for output to the display 322, or alternatively to an auxiliary I/O device 328. A push client 360 could also process the input.

[0073] A user of mobile device 300 may also compose data items such as email messages for example, using the keyboard 332, which is preferably a complete alphanumeric keyboard or telephone-type keypad, in conjunction with the display 322 and possibly an auxiliary I/O device 328. Such composed items may then be transmitted over a communication network through the communication subsystem 311.

[0074] For voice communications, overall operation of mobile device 300 is similar, except that received signals would preferably be output to a speaker 334 and signals for transmission would be generated by a microphone 336. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, may also be implemented on mobile device 300. Although voice or audio signal output is preferably accomplished primarily through the speaker 334, display 322 may also be used to provide an indication of the identity of a calling party, the duration of a voice call, or other voice call related information for example.

[0075] Serial port 330 in FIG. 3 would normally be implemented in a personal digital assistant (PDA)-type mobile device for which synchronization with a user's desktop computer (not shown) may be desirable, but is an optional device component. Such a port 330 would enable a user to set preferences through an external device or software application and would extend the capabilities of mobile device 300 by providing for information or software downloads to mobile device 300 other than through a wireless communication network. The alternate download path may for example be used to load an encryption key onto the device through a direct and thus reliable and trusted connection to thereby

enable secure device communication. As will be appreciated by those skilled in the art, serial port 330 can further be used to connect the mobile device to a computer to act as a modem. [0076] Other communications subsystems 340, such as a short-range communications subsystem, is a further optional component which may provide for communication between mobile device 300 and different systems or devices, which need not necessarily be similar devices. For example, the subsystem 340 may include an infrared device and associated circuits and components or a Bluetooth™ communication module to provide for communication with similarly enabled systems and devices. Subsystem 340 may also be used for WiFi communications.

[0077] The embodiments described herein are examples of structures, systems or methods having elements corresponding to elements of the techniques of this application. This written description may enable those skilled in the art to make and use embodiments having alternative elements that likewise correspond to the elements of the techniques of this application. The intended scope of the techniques of this application thus includes other structures, systems or methods that do not differ from the techniques of this application as described herein, and further includes other structures, systems or methods with insubstantial differences from the techniques of this application as described herein.

We claim:

1. A method at a mobile device, comprising:  
after a call has ended, requesting, at the mobile device, statistics from a call statistics server;  
receiving the statistics at the mobile device from the call statistics server; and  
updating a call statistics information repository stored on the mobile device.
2. The method of claim 1, wherein the received statistics only relate to the call that has ended.
3. The method of claim 1, wherein the repository contains statistics for more than one communications mode.
4. The method of claim 3, wherein the repository contains one or more of: a number of minutes of voice over wireless local area network 'WLAN' as compared with the number of minutes of voice over a circuit switched network service; statistics for calls dropped from a WLAN and reconnected on a circuit switch network; information about circuit switched call set-ups that are re-routed to WLAN network services; and ongoing circuit calls automatically switched to WLAN network services.
5. The method of claim 3, wherein the repository contains one or more of: a number of calls made from the mobile device; a duration, time, date and cost of each call; a total number of minutes and total costs of all calls made by the mobile device; calls made to a specific number, showing time, date, duration and cost for that specific number; showing calls

made using specific network service; and showing calls handed over across network services.

6. The method of claim 1, further comprising displaying, on a user interface of the mobile device, the statistics contained in the repository.

7. The method of claim 6, wherein the user interface displays one or more of: a duration, time, date and cost of each call; a total number of minutes and a total cost; calls made to a selected number; calls made using a specific network service; calls handed over across network services.

8. A mobile device comprising:

- a communications subsystem;
- a memory; and
- a processor;

wherein the communications subsystem, the memory and the processor are configured to:

- after a call has ended, request statistics from a call statistics server;
- receive the statistics from the call statistics server; and
- update a repository stored in the memory with the received statistics.

9. The mobile device of claim 8, wherein the received statistics only relate to the call that has ended.

10. The mobile device of claim 9, wherein the repository contains statistics for more than one communications mode.

11. The mobile device of claim 10, wherein the repository contains one or more of: a number of minutes of voice over wireless local area network 'WLAN' as compared with the number of minutes of voice over a circuit switched network service; statistics for calls dropped from a WLAN and reconnected on a circuit switch network;

- information about circuit switched call set-ups that are re-routed to WLAN network services; and ongoing circuit calls automatically switched to WLAN network services.

12. The mobile device of claim 10, wherein said repository contains one or more of: a number of calls made from the mobile device; a duration, time, date and cost of each call; a total number of minutes and total costs of all calls made by the mobile device; calls made to a specific number, showing time, date, duration and cost for that specific number; showing calls made using specific network service;

- and showing calls handed over across network services.

13. The mobile device of claim 8, further comprising a user interface, and wherein the communications subsystem, the memory and the processor further cooperate to display, on the user interface, the statistics contained in the repository.

14. The mobile device of claim 13, wherein the user interface displays one or more of: a duration, time, date and cost of each call; a total number of minutes and a total cost; calls made to a selected number; calls made using a specific network service; calls handed over across network services.

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