APPLICATIONS AND/OR SITUATION RESPOSIVE UTILIZATION OF SILENT PERIODS

The present application claims priority under 35 U.S.C. 119 to prior provisional application serial no. 60/763,520, filed on January 31, 2006, having the same title and inventors as the present application, the entire disclosure of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of the Invention:

The present invention relates generally to wireless networking and more particularly to systems and methods for improved utilization of silent periods in wireless devices.

General Background Discussion:

Wireless Networks

Wireless networks can incorporate a variety of types of mobile devices, such as cellular and wireless telephones, laptop computers, wearable computers, cordless phones, pagers, headsets, and PDAs (Personal Digital Assistants). Such mobile devices may include network interfaces to enable fast wireless transmission and reception of voice and/or data over the wireless network. Typical mobile devices include some or all of the following components: a transceiver (i.e., a transmitter and a receiver, including single chip transceivers having integrated transmitters and receivers); an antenna; a processor; one or more audio transducers (for example, a speaker or a microphone); a data storage medium (such as ROM, RAM, EPROM, hard disk, etc); operational memory; a full chip set or integrated circuit; and interfaces (such as USB, CODEC, UART, PCM, etc.).

Wireless LANs (WLANs) may be employed for wireless communications wherein a user can connect to a local area network (LAN) through a wireless (e.g. radio frequency) connection. Wireless communications also can include signal propagation via light, infrared, and microwave transmission. There are a variety of WLAN standards that currently exist, such as, e.g., Bluetooth, IEEE 802.11, and HomeRF.

Samsung v. Four Batons
IPR2025-00494
Exhibit 1004

The IEEE standard known as 802.11 specifies technologies for wireless LANs and devices. Using 802.11, wireless networking may be accomplished with each single base station supporting several devices. Mobile devices may be pre-equipped with wireless hardware or a user may install a separate piece of hardware, such as a card, that may include an antenna. In addition, Multiple Interface Devices (MIDs) may be utilized in some wireless networks. MIDs may contain two or more independent network interfaces, such as a Bluetooth interface and an 802.11 interface, thus allowing the MID to participate on two separate networks as well as to interface with dedicated Bluetooth devices. The MID may have an IP address and a common IP (network) name associated with the IP address.

Wireless network devices may include Bluetooth devices, Multiple Interface Devices (MIDs), 802.11x devices (i.e., IEEE 802.11 devices including 802.11a, 802.11b and 802.11g devices), HomeRF (Home Radio Frequency) devices, Wi-Fi (Wireless Fidelity) devices, GPRS (General Packet Radio Service) devices, 3G cellular devices, 2.5G cellular devices, GSM (Global System for Mobile Communications) devices, EDGE (Enhanced Data for GSM Evolution) devices, TDMA type (Time Division Multiple Access) devices, or CDMA type (Code Division Multiple Access) devices, including CDMA2000. Each network device may contain addresses of varying types including an IP address, a Bluetooth Device Address, a Bluetooth Common Name, a Bluetooth IP address, a Bluetooth IP Common Name, an 802.11 IP Address, an 802.11 IP common Name, or an IEEE MAC address.

Background References

Each and every one of the following background patent applications and references, References [1] to [6], are incorporated herein by reference in their entireties as though recited herein in full.

[1]. U.S. Patent Application Serial No. 11/096,721, entitled SILENT PROACTIVE HANDOFF FOR FAST ROAMING, filed on April 1, 2005, to T. Zhang, et al.

[2]. U.S. Patent Application Serial No. 11/161,668, entitled REDUCING ENERGY CONSUMPTION ON MOBILE DEVICES WITH WIFI OR OTHRE HIGH ENERGY-CONSUMING NETWORK INTERFACES, filed on August 11, 2005, to T. Zhang, et al.

[3]. U.S. Patent Application Serial No. 11/161,298, entitled PEER-TO-PEER NETWORK AND USER INFORMATION DISCOVERY AND SHARING FOR MOBILE USERS AND DEVICES, filed July 28, 2005, to T. Zhang, et al.

[4]. U.S. Patent Application Serial No. 12/531,814, entitled PACKET LOSS

PREVENTION AND BANDWIDTH ENHANCEMENT FOR MULTIPLE INTERFACE DEVICES (MID) USING DUPLEX COMPARATOR, to R. Yaqub.

[5]. Ryuji Wakikawa, Keisuke Uehara, Thierry Ernst, and Kenichi Nagami, I.E.T.F. Internet Draft, "Multiple Care-of Address Registration" draft-ietf-monami6-multiplecoa-01.txt, October, 2006.

[6]. U.S. Patent Application Serial No. 11/267,590, entitled Network Discovery Mechanisms, filed November 7, 2005, to K. Taniuchi, et al., and U.S. Patent Application Serial No. 11/464,188, filed August 11, 2006, entitled Network Discovery Utilizing Cellular Broadcasts, to R. Yaqub.

SUMMARY

Emerging mobile devices are being equipped with multiple interfaces allowing users to take advantage of heterogeneous radio technologies. However, more advantage could be reaped if the mobile uses its network interfaces according to the applications and situations responsiveness. We perceive that the needs of the devices are different when they are running real-time applications as compared to when they are running non-real-time Applications. Furthermore, the needs of the device may be different when it is on the move as compared to when it is stationary. More precisely when the devices are running applications such as voice-over-IP (VoIP) or streaming media they are bombarded with continuous or heavy data; perhaps without much pause or break thus not leaving long and useable mute periods. Under this situation devices may use multiple interfaces for Bandwidth or Quality of Service (QoS) enhancement. Whereas while running non-real-time applications, they are not heavily flooded with continuous stream of data, rather the data flow is bursty and thus there may appear intervals when the devices can take a momentary pause (i.e., the Device has no traffic to send or receive). These short pauses are dubbed in available literature as "Silent Periods".

Depending on the application, the length of silent periods may vary. If the silent periods exist and are of sufficient lengths and the device can predict their lengths, they can be used to perform several tasks. For example, if the Device is moving at pedestrian speeds, it can use the silent periods for connecting to target neighboring networks temporarily and performing proactive handoff actions. These actions may involve connecting to a target network for acquiring IP-layer and/or high layer information necessary to connect to or authenticate with a target network. And, if the Device is stationary, it can use these silent periods for either Battery Life Saving or for chatting with fellow devices for sharing

information. Use of Silent Periods has been suggested in our previous work for (i) Performing Proactive Handoff Actions (see Reference [1] cited above) and (ii) Energy Saving (see Reference No. [2] cited above). However, how to make use of silent periods based on application's needs and in a situation awareness manner has not been discussed in prior arts. Furthermore, peer-to-peer information sharing has been suggested but not utilizing the Silent Periods.

This document describes methods for efficient utilization of Silent Periods for multiple tasks such as Proactive Handoff, Energy Saving, and Device Chat. This document also explains switching/shifting between the tasks based on the current application running on the device and the current situation of the Device within which it is operating. Thus based on the Application and Situation, the device will select and operate in one of the following four appropriate modes of operation and also will be capable of switching from one mode of operation to another automatically.

- QoS Enhancement Through Multiple Address Mode (abbreviated as QEM);
- Network Discovery/Proactive Handoff Mode (abbreviated as NDM);
- Energy Saving Mode, (abbreviated as ESM); and
- Chat with Devices Mode (abbreviated as CDM).

According to some embodiments, a method of controlling a wireless mobile having multiple interfaces, comprising: having the mobile be aware of its applications running on it; having the mobile be aware of its operating situation, and having the mobile control processes of the mobile during silent periods based on one or more of its application awareness and its operating situation awareness. In some embodiments, the method further includes having the mobile control radio interface processes based on one or more of the application awareness and the operating situation awareness. In some embodiments, the method further includes having the mobile control radio interface processes based on both of the application awareness and the operating situation awareness. In some embodiments, the method further includes having the mobile make use of silent periods based on needs of applications running on the mobile and/or based on the operating situation of the mobile. In some embodiments, the method further includes having the mobile control processes of the mobile during silent periods based on the mobile running a non-real-time application thereon or a real-time application thereon. In some embodiments, the method further includes having the mobile control processes of the mobile during silent

periods based on the mobile moving or not moving. In some embodiments, the method further includes having the mobile perform certain processes based on: a) if it is running a real-time application and it is stationary; b) if it is running a non-real-time application and it is moving; c) if it is running a non-real-time application and it is stationary; and d) if it is stationary and power consumption is not an issue.

In some embodiments, the method further includes having the mobile perform:

a) QoS enhancement if it is running a real-time application and it is stationary;

b) network discovery if it is running a non-real-time application and it is moving;

c) energy conservation if it is running a non-real-time application and it is stationary; and

d) information sharing if it is stationary and power consumption is not an issue.

In some embodiments, the method further includes having the mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

In some embodiments, the method further includes having the mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level. In some embodiments, the method further includes having the mobile compare one or more parameters for both a primary interface and a secondary interface of the mobile and determining if the secondary interface qualifies to assist.

In some embodiments, the method further includes that if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

According to some other embodiments, a mobile apparatus is provided that includes: a plurality of network interfaces; a processor; the mobile being configured to monitor applications running on it, including real time or non real time nature of the applications; the mobile being configured to monitor its operating situation, including moving or non moving status; and the mobile being configured to control processes of the mobile during silent periods based on one or more of its application awareness and its operating situation awareness. In some embodiments, the mobile is configured to switch between modes of operation of based on the application awareness and the situation awareness, including to switch between one or more of the following modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

Exhibit 1004
Page 005 of 324

According to some other embodiments, a method of controlling a mobile apparatus includes: controlling the mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed during the silent periods depending on a traffic volume of at least one application running on the mobile apparatus and a motion condition of the mobile.

The above and/or other aspects, features and/or advantages of various embodiments will be further appreciated in view of the following description in conjunction with the accompanying figures. Various embodiments can include and/or exclude different aspects, features and/or advantages where applicable. In addition, various embodiments can combine one or more aspect or feature of other embodiments where applicable. The descriptions of aspects, features and/or advantages of particular embodiments should not be construed as limiting other embodiments or the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The preferred embodiments of the present invention are shown by a way of example, and not limitation, in the accompanying figures, in which:

FIG. 1(A) is an architectural diagram depicting an illustrative environment in which a mobile device having a plurality of interfaces communicates with a plurality of networks;

FIG. 1(B) is another architectural diagram depicting an illustrative environment in which a mobile device having a plurality of interfaces communicates with a plurality of networks, and also illustrating some components of an illustrative mobile device and an illustrative access point with which the mobile device communicates in a first network;

FIG. 2 is a block diagram of a network-enabled mobile communication device according to one embodiment of the present invention;

FIG. 3 is a schematic diagram illustrating applications and situation aware utilization of silent periods;

FIG. 4 is an illustrative flow diagram related to an automatic mode selector according to some illustrative embodiments of the invention;

FIG. 5 is an illustrative flow diagram related to a quality of service (through multi-addresses) mode according to some illustrative embodiments of the invention;

Exhibit 1004
Page 006 of 324

FIG. 6 is an illustrative flow diagram related to a network discover/silent proactive handover mode according to some illustrative embodiments of the invention;

FIG. 7 is an illustrative flow diagram related to an energy saving mode according to some illustrative embodiments of the invention; and

FIG. 8 is an illustrative flow diagram related to a chat with devices mode according to some illustrative embodiments of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

While the present invention may be embodied in many different forms, a number of illustrative embodiments are described herein with the understanding that the present disclosure is to be considered as providing examples of the principles of the invention and that such examples are not intended to limit the invention to preferred embodiments described herein and/or illustrated herein.

Multiple Interface Devices

Once again, emerging mobile devices are being equipped with multiple interfaces allowing users to take advantage of heterogeneous radio technologies (such as, by way of example, cellular networks and wireless LANs). For purposes of illustration and explanation, some examples may be described, e.g., with respect to a mobile device with a WiFi or other high energy-consuming network interface. Throughout the remainder of the disclosure, for purposes of simplicity, the term WiFi is used to represent a high energy-consuming interface on a mobile device. The mobile device also may have additional network interfaces such as cellular network interfaces (e.g., GPRS, CDMA2000, 3GPP, 3GPP2). Examples of such mobile devices include WiFi phones and PDAs, and WiFi-cellular dual-mode phones and PDAs.

It is contemplated that future wireless networks will use multiple radio technologies to meet different communication needs. For example, short-range radio technologies (e.g., Bluetooth) may be used to connect nearby devices (e.g., devices carried by a person or inside an office, vehicle, or home); private or public wireless LANs (e.g., IEEE 802.11) for continuous coverage throughout a building, a campus, an airport, a shopping mall, and cellular radio systems (e.g., GSM, GPRS, cdma2000, WCDMA) for wide-area coverage. Therefore, mobile devices (also referred to herein as mobiles) are being equipped with multiple radio interfaces, each supporting a different radio technology.

By way of example, FIG. 1(A) shows an illustrative network configuration in which a mobile device 1 is shown as having interfaces for communicating with base stations 2A, 2B and access points 3A, 3B. In this illustrative example, the base stations 2A and 2B are shown as communicating with a base station controller 4 that in turn communicates with a call agent 7 which is in communication with the public switched telephone network (PSTN) 12. As also shown, the access points 3A and 3B can include, e.g., IP network access points and can be in communication with a gateway 5 that communicates, in turn to a router 6 that communicates via an IP network 10, such as, e.g., the Internet, via a trunking gateway 11 to the public switched telephone network 12.

With reference to FIG. 1(B), in some illustrative examples a mobile device 1 can include a plurality of interfaces. In the illustrated example, three interfaces are shown: Interface 1; Interface 2 and Interface 3. However, in various embodiments any number of interfaces can be employed. In illustrative embodiments, a mobile device can include, e.g., portable computers, personal desk-top computers, PDAs, portable voice-over-IP telephones and/or other devices. Typically, such mobile devices will include a transceiver (including an antenna for communication with the access point), a processor, memory (including, e.g., program memory and Random Access Memory). As also shown, the memory can include programs or modules for carrying out functionality as described herein-below. In various embodiments, processes to be carried out by the mobile device can be performed via software, hardware and/or firmware as may be appropriate based on circumstances.

In an illustrative embodiment shown in FIG. 1(B), a mobile device 1 is shown that is capable of communicating via a plurality of networks, such as, e.g., via Interface 1-3. For example, the mobile device can communicate via the Access Point 22 or via a Base Station 2, similar to that shown in FIG. 1(B). Additionally, FIG. 1(B) also schematically depicts an example in which the mobile device 1 can also communicate with another network, such as, e.g., another wireless network or a wired networks. With reference to FIG. 1(B), in some illustrative and non-limiting embodiments, the access point 22 can be within a wireless local area network (WLAN) connected to a wireline network 20. In some examples, the wireline network 20 can include the Internet or a corporate data processing network. In some examples, the access point 22 can be a wireless router. In some embodiments, the access point 22 can have a network interface 25 linked to the wireline network 21 and a wireless transceiver in communication with the mobile device 1 and with other mobile devices. By way of example, the wireless transceiver 26 can include an antenna 27 for radio or microwave frequency communication with the mobile devices. The access point 22 preferably also has a processor 28, a program memory 29, and a random access

memory 31.

Fig. 2 is a block diagram of a generic mobile device 40 of an illustrative type that may incorporate one or more of the concepts and features of embodiments of the present invention. In this illustrative example, the device 40 includes a processor 42 and storage medium 44 in the form of a disk, ROM, RAM, flash memory, etc. The storage medium may store processor-executable application instructions for performing the silent period prediction according to the invention as described above. The device 40 further includes a power supply 46 and network interface device 48, which may be an internal Network Interface Card (NIC), external network interface device or integrated network interface. Power supply 46 provides power to the processor 42 and to the network interface device, as well as to other components of the mobile device (not shown).

Introduction to the Preferred Embodiments

Once again, over time more and more emerging mobile devices will be equipped with multiple interfaces, such as, e.g., Wireless Local Area Networks, abbreviated as WLANs (such as, e.g., IEEE 802.11 family) and Wide Area Networks, abbreviated as WANs (such as, e.g., GSM, GPRS, cdma2000, WCDMA, WiMax). These Multiple Interface Devices (MID) allow users to take advantage of heterogeneous radio technologies – for example, they may use WLANs for higher data rates and WANs for better coverage. However, more advantage could be reaped if the MID use its network interfaces in response to the Application running on and or Situations they are operating in. For example, the response of the MID should be different when they are running Real-time Applications (RTA) as compared to when they are running non-Real-time Applications (NRTA). For example, when the devices are running applications such as VoIP or streaming media, it should be appreciated that the MID is overwhelmed with heavy data. Under this situation, it may use the multiple interfaces for Bandwidth/QoS enhancement. Whereas, while running NRTA, the MID is not heavily flooded with bits and bytes, and there may appear intervals when the MID can take a brief pause (e.g., in which the mobile has no traffic to send or receive). These unoccupied brief intervals are referred to as "Silent Periods." Depending on the application, the duration of these silent periods may vary. The Silent Periods, "if available", and "if of reasonable duration", and also "if accurately predicted" (for example, by monitoring the incoming and outgoing user traffic though a network interface) can be used to perform several tasks. For example:

(a). Consider a moving MID inside the overlapping radio coverage areas of multiple radio networks. It desires session continuity, with minimum packet loss, when it hands off from one radio

Access Point to another. Under this condition, if it could get the necessary IP and higher layer parameter values necessary to connect to or authenticate with a target network in advance, it could conduct a quick handoff. To get the required information in advance, it may use the silent periods to connect to target neighboring networks temporarily i.e., only during these silent periods and use the temporary connectivity to get the desired information and perform key actions needed for handoff into the target network.

(b). Consider an MID is Stationary. When a device is stationary, and if one network interface provides sufficient support for the applications running on the device, the device may power off the other network interfaces to save battery energy. Furthermore, if the device could accurately predict the silent periods, it may also power off the network interface it is currently using to transport application traffic during the silent periods. Powering down an interface during silent periods will not lead to missing or delaying any traffic that needs to come into and go out of this interface.

(c). Consider an MID is Stationary and Electrical Power is Not a Constraint. If the device is stationary and power saving is not a real concern (e.g., because the device is connected to the power outlet, or it has additional batteries), the MID may use silent periods to chat with other MIDs to share the information they collected about the networks they visited in the past. For example, a MID visited a Network "A" in the past and learned the parameters needed by a MID to authenticate with that network (from the radio signals it received from "Network-A" or as a result of connecting to the "Network-A"). It preserved the information, primarily for its own future use, and carried this information with it into a neighboring network "Network-B". Here it can share the information directly, in a peer-to-peer fashion, with those who wish to know that sort of information. Thus the interested devices obtain the desired information through chatting with peer MIDs without actually connecting to any network. These devices can save the shared information for future use for accessing services or for performing pre-handoff processing to Network-B, if they happen to visit Network-B.

(d). Consider MID is stationary and is running real-time application say for example using WLAN. MID perceives that available bandwidth does not meet the present need of his time sensitive applications (because, e.g., several users are contending for the WLAN bandwidth and the Silent periods are unacceptably long). To cope with this situation, MID may turn WAN Interface ON in addition to WLAN for bandwidth increment. Turning ON WAN in addition to WLAN would require (i) having dual addresses one for WAN and one for WLAN, (ii) binding association of both the addresses with home network, (iii)

informing home network about preferred packet forwarding policy on two different paths/ addresses. (iv) and having coverage of both WLAN and WAN. Thus using multiple interfaces (Multiple Addresses or in other words multiple data paths), the MID will lead to enhance bandwidth.

This document suggests the efficient use of silent periods for multiple tasks depending on the nature of application (real-time or non real-time) and on the condition of state/situation (stationary or moving). If the application in non real-time and the device is stationary, and also if the silent periods of sufficient lengths exist and can be accurately predicted they can be used to either save the battery life or for indulging in the chat with peer devices to get information of interest. If the device is moving and if the silent periods of sufficient lengths can be accurately predicted they can be used to perform proactive handoff actions. Furthermore this document also explains as to how a device can perform switching/shifting to accomplish afore mentioned multiple tasks.

In the preferred embodiments, the approach should detect:

(i) Presently Running Application (RTA or NRTA) on MID,

(ii) Present "Situation (Mobile or Stationary)" of MID, and

(iii) Occurrences and lengths of Silent Periods.

Preferably, this is done by watching incoming and outgoing user traffic though a network interface and providing the appropriate set of services accordingly. Thus, introducing flexibility to switching between different modes automatically based on the above noted observations.

In the preferred embodiments, the approach offers several desirable features, including, e.g., as outlined below.

- Notion of Situation Awareness diversifies the use of Silent Periods. Thus utilization of silent periods becomes manifold which was not exposed previously.

- Notion of Application Awareness makes MID smart so that it could harness available capabilities on it in a more organized way. This enables the device to tackle diversified needs in a well prepared and judicious manner, and thus provides another venue for performance enhancement and resources utilization.

- Notion of both Applications and Situation awareness enables MID for watchful Multitasking. Thus it becomes capable of QoS Enhancement (if it is running real-time application and it is stationary), Network Discovery ((if it is running non real-time application and is moving), Energy Conservation (if it is running non real-time application and it is stationary) and Information Sharing ((if it is stationary and is not bothered about power consumption).

In the following sections, some aspects of the preferred embodiments are set forth in greater detail.

Detailed Description

The present inventors have found that if a MID becomes aware of the applications running on it, and also the situation it is operating in, most of the complex processes, circuitries, and algorithms running in the device, including radio interfaces, can be either run more efficiently or used for watchful multitasking. FIG. 3 shows an illustrative embodiment of the overall concept.

In the preferred embodiments of the present invention, situations under consideration (e.g., "Application Type", "Device Mobility" and "Battery Health") lead MID to operate in following Four Modes according to the preferred embodiments. These Modes are depicted in FIG. 4 and are of significant importance for this innovation:

- QoS Enhancement Through Multiple Address Mode (abbreviated as QEM);
- Network Discovery/Proactive Handoff Mode (abbreviated as NDM);
- Energy Saving Mode, (abbreviated as ESM); and
- Chat with Devices Mode (abbreviated as CDM).

FIG. 4 also reveals that according to the present invention, MID becomes capable of switching to appropriate mode automatically, triggered by output from the Mobility Detector and or PHY Layer Parameters. In addition, FIG. 4 also shows that the proposed scheme has the capability to check the stability of the current operating mode and to adjust (decease or increase) the frequency of running the algorithm. Thus if the current operating mode is stable, the Mode Stability Index (MSI) is upgraded and mode checking can be performed less frequently; and if not, MSI is downgraded and mode checking can

be performed more frequently.

Next, we explain how each mode works separately. However, before that some of the terms used in this document are explained below.

"Primary Interface (PI)" is the network interface a device selects as default based on user's policy.

"Secondary Interface (SI)"is a network interface a device selects either in the Absence of PI, or to Assist PI for performance enhancement. Performance enhancement may include provisioning of additional bandwidth particularly if the application is bandwidth hungry, or if the available throughput/bandwidth/SNR is declining due to radio signal deterioration.

The term MID used in this document may mean the device itself, or the user who is possessing an MID. Also, in this disclosure, the term MID presents (i.e., encompasses) solitary as well as a plurality. The meaning will be clear in reference to the context in which they are used.

ASP stands for Actionable Silent Periods, meaning the brief durations between successive packets that are useable for conducting a task or a subset of any task.

Operation of QoS through Multiple Address Mode (QEM):

Operation of QEM is illustrated in flow diagrams FIG. 5. This Figure shows that the process receives a trigger from the Automatic Mode Selector of FIG. 4. The spirit of this mode is to bring SI ON primarily to offer enhanced bandwidth if either application is bandwidth hungry or data reception is not up to user's expectations for bandwidth increment. To achieve these objectives the algorithm brings SI ON if either the user is not 100% satisfied with PI as it is not offering adequate bandwidth for the presently running application or if PI is not available at all (i.e. 0% user's acceptability). To make out if the SI truly qualifies to offer bandwidth increment, the algorithm compares following parameters of both the PI and the SI.

1. Present Condition of Signal to Noise Ratio (SNR) and Signal Strength (SS);

2. Near Future Predicted SNR and SS received from the Prediction Unit; and

3. User's Policy, established by user in User Policy Repository (not shown in the figures).

In case SI qualifies to assist PI for bandwidth increment, the "**QoS through Multiple Address Mode**" algorithm issues a trigger to SI. This makes SI to send a binding request to Home Agent for Secondary Care of Address (CoA). A home agent is a router on a mobile node's home network. It uses tunneling mechanisms to forward Internet traffic so that the device's IP address doesn't have to be changed each time it connects from a different location. It maintains information about the device's current location, as identified in its care-of address. CoA is a temporary IP address for a mobile device that enables device to connect from a different location without changing the device's home address (permanent IP address). CoA may be acquired through some means such as Dynamic Host Configuration Protocol (DHCP). When a message for the mobile node is delivered to the home network, the home agent intercepts the message and tunnels it to the recipient at the care-of address. These terms are defined in the Internet Engineering Task Force (IETF) RFC 2002 specification. In binding request it also informs HA the preferred packet forwarding policy by specifying ratio (e.g. PI:SI = 75:25) and order in which it wants to receive packets on two interfaces (by way of example, packet with even sequence numbers on PI and packets with odd sequence numbers on SI, or flow type, or port number, etc).

In case SI does not qualify, it is turned off for time "(Ts + Δs)" which stands for Sleep Time. Since the device is stationary and the SI is WAN (we assume in this paper WLAN to be the PI as it offers more bandwidth at less cost, even though geographical coverage is less; and WAN to be the secondary as it offers less bandwidth and more cost even though geographical coverage is better. However, the assumed preference can be changed as defined by user in User policy). it is assumed that radio characteristics may not change drastically over a short period of time. Therefore value of (Ts + Δs) can be set higher to allow more sleep time. The Δs is the amount of increment or decrement on PHY layer predictor's input (as described in section 2.6 of this document). It can also be made a function of behavioral historical log of the MID through learning process.

In case PI does not meet user's expectations at all (0% acceptability), the algorithm issues a trigger to SI. This makes SI to send a binding request to HA for Care of Address (CoA). It also turns off PI and thus HA sends all user packets on SI (i.e. ratio PI:SI = 0: 100). In this case SI acts as PI, however PI is checked at regular time intervals (Ts + Δs) to see if it can provide the required support for the applications.

Exhibit 1004
Page 014 of 324

It is to be noted that if the SNR is below or equal to the PHY layer parameters threshold as shown in FIG. 5, Qualified SI is already triggered ON to stay standby acquiring an IP address but not having binding/registration with HA yet. Binding will be performed when binding trigger is issued. De-registration of any deteriorating or unavailable interface will be done through any available interface.

According to the current Mobile IPv6 specification, a mobile node may have several care-of-addresses, but only one, termed as "primary care-of-address", can be registered with its HA. To have multiple active IPv6 Care-of-addresses, some extensions to Mobile IPv6 are needed. One possible way, as discussed in Reference No. [5] cited above suggests using a new "Unique Binding ID" that must be carried in each binding request. The home address thus identifies a mobile node itself where as Unique Binding ID identifies each binding registered by the mobile node. If the care of address is a primary one, it may set the P flag in the Unique Binding ID. If a mobile decides to delete all bindings for its home address, it sends a regular de-registration binding update i.e., unset of b flag and excludes Unique Binding ID. If a mobile wants to delete a particular binding that could be done by specifying that address.

Results of comparison to the Prediction Processing Unit are also sent.

Operation of Network Discovery/Proactive Handoff Mode (NDM):

Operation of NDM is explained in FIG. 6. This Figure shows that the process receives a trigger from Automatic Mode Selector of FIG. 4. On receiving the trigger, Traffic Monitor starts monitoring the time-gaps in between packets entering and leaving the MID over the network the MID is currently using. Actionable Silent Period Predictor uses the output from the Traffic Monitor and a prediction model to detect the next ASP and the duration of that ASP. Any prediction model, e.g., Wiener Process Models, or Time Series Models (such as the auto-regression) as explained in Reference No. [1] cited above may be used.

The ASP Predictor can dynamically estimate the ASP Thresholds based on the times the MID took to perform handoff actions in the recent past. The ASP Thresholds are estimated dynamically by an ASP Threshold Estimator and an ASP Prediction Model. The ASP Threshold Estimator takes as input the times the MID took to perform the handoff actions in the recent past as illustrated in FIG. 6. It can then use statistical models, to estimate the minimal time it has recently taken the MID to perform each handoff action and use it as the ASP threshold for each handoff action. The estimated ASP Thresholds are then

sent to the ASP Prediction Model, which uses these thresholds and the inter-packet times from the Traffic Monitor to detect the next silent period, predict if this next silent period will be an ASP, and predict the length of the next ASP.

In parallel, a functional component Target Network Selector selects a target network to which the MID may switch to next. Target network selection can be based on any criteria deemed appropriate to satisfy the requirements of the MID and the applications running on the device. These criteria may include the detection of a new radio network, when the radio signal strength of the current network drops to a threshold.

When a target network is selected and an actionable silent period is detected, the MID switches its radio connection and layer-2 connection to the target network. If it fails to establish a connection to the target network (e.g., if its layer-2 authentication fails), the Target Network Selector is notified and it will start to select second a new target network.

After the MID connects successfully to the target network and the current ASP has not yet expired, the MID enters the Information Discovery phase to listen to the target network's layer-2, IP-layer, and/or application-layer advertisement messages to learn about the necessary information needed to perform handoffs at different protocol layers to the target network. If the MID has already acquired the information it needed about this target network, it will skip this information discovery phase and go directly to the next step as shown in FIG. 6.

If the current ASP does not expire after the information discovery phase, the MID starts a handoff action, e.g., to obtain a local IP address from the target network. A local IP address from a target network is an IP address the MID can use to receive unicast packets from the target network. If the MID has already had a local IP address from this target network, the MID will go directly to the next step shown in FIG. 6.

If the current ASP does not expire after the MID acquires and configures itself with a local IP address from the target network, it will start to perform a new handoff action, e.g., to perform the necessary authentication at the IP and application layers with the target network if these authentications are required by the target network. If the authentications fail (indicating that the MID may not be allowed to use the target network), the Target Network Selector is notified and it selects a new target network.

Exhibit 1004
Page 016 of 324

If after finishing some or all of the above steps, the MID is still not yet ready to handoff into the target network (e.g., if the current network continues to satisfy the MID's requirements), the MID will switch its network connection back to the old/current network.

Since the above process of switching to the target network and then switching back to the old/current network is done during the otherwise silent periods of the MID, the switching is transparent to the applications on the MID and will not cause interruptions to the applications.

As shown in FIG. 3, If an ASP, is too small, the MID will perform part or subset of side task and use the subsequent ASPs to perform the remaining task. (e.g., during one ASP, the MID may discover the addresses of the IP access router, the IP address allocation server, and the authentication server, and during the next ASP, the MID can obtain a local IP address from the target network, and perform IP or application-layer authentication with the target network).

Energy Saving Mode (Abbreviated as ESM):

FIG. 7 shows the flowchart for ESM. In this regard, the Figure shows that when this process receives a trigger from Automatic Mode Selector of FIG. 4, it starts prediction of ASP. The algorithm monitors the MID activities at the current interface to determine the ASP and its duration. Predictions are made periodically after every Silence Detection Interval (SDI). We subtract the times the MID takes to shut down and then turn back on an interface from every silent period we observe. If the result is zero or negative, we do not consider this silent period an actual or actionable silent period. If the result is positive, we consider the silent period an actionable Silent Period.

During an initial period of time, the MID constructs a histogram that describes the network activities over interface currently operating. Once the initial histogram is built, the MID starts to use the histogram to predict silent periods. It shuts down the interface during each ASP. Whenever the interface is on, the MID monitors network activities over the interface and uses the new observations of silent periods to update its histogram. The mathematical models we use for predictions, is given Reference [2] cited above. The selection of currently operating interface may be governed by user's policy. The policy may define to select the least-power-consuming interface when the device is running with critical battery life.

Chat with Devices Mode (abbreviated as CDM):

FIG. 7 shows the flowchart for CDM. Figure shows that when this process receives a trigger from Automatic Mode Selector of FIG. 4, the Traffic Monitor starts monitoring the time-gaps in between packets entering and leaving the MID over the network the MID is currently using. Actionable Silent Period Predictor uses the output from the Traffic Monitor and a prediction model to detect the next ASP and the duration of that ASP. The ASP Thresholds are estimated dynamically by an ASP Threshold Estimator and an ASP Prediction Model as described earlier. The ASP Threshold Estimator takes as input the times the MID took to chat and discover useful information in the recent past as illustrated in FIG. 7. It can then use statistical models, to estimate the minimal time it has recently taken the device to connect to the neighbor device and get the desired information from it. The information may be of Device Interest (e.g., the addresses of the radio access points and the parameters needed to connect to them, the IP addresses of the IP access routers, the DHCP server, the authentication server and authentication protocols supported, local content, and other network) or of Human interest (e.g., Location based information about Restaurants, or Gas Stations etc). The estimated ASP Thresholds are then sent to the ASP Prediction Model, which uses these thresholds and the inter-packet times from the Traffic Monitor to detect the next silent period, predict if this next silent period will be an ASP by predicting the length of the next ASP. Thus in any ASP, the MID firstly, connect the neighbor device, and then exchange/collect device-interest/user-interest information regarding each network they visit as part of their routine use of the network.

As described earlier, If an ASP is too small, the MID will perform part or subset of side task and use the subsequent ASPs to perform the remaining task. (e.g., during one ASP, the MID may discover the device willing to share the information, and during the next ASP, the MID can obtain desirable information, and yet during the next ASP the device obtains the rest of the information, if not completely obtained in the previous ASP.

Description of Motion Detector Processor (MDP):

Mobility Detector is a software processor abbreviated as MDP. It performs significant role in this scheme. As shown in FIG. 4, MDP dynamically guides MID for using most effective mode of operation, i.e.:

- If MID is stationary, it triggers either ESM or CDM Mode depending on the battery health. This mode resolves to turn off unneeded interfaces, algorithm etc. (i.e. pertaining to mobility management). Only one interface is kept ON unless the application calls for any of other interface for bandwidth increment.

- If the MID is moving with a pedestrian speed (say 1 – 10 KMH), it triggers on NDM Mode. NDM resolves to turn on Proactive Handoff mechanism for packet loss recovery and smooth session transition between heterogeneous interfaces (e.g., from WLAN to WAN or from WLAN to WLAN) if needed.

- If MID is moving with the vehicular speed (10 – 100 MPH), it triggers on ESM mode. ESM resolves to conserve battery life.

Mobility Detection Process can use one or plurality of the following methods to estimate the MID's speed. Since determining exact speed is not the objective, but coarse estimate (e.g., Zero, between 1 and 10KMH, and more than 10KMH) the following methods can solve our purpose quite effectively.

MDP can easily determine if the device is almost stationary from one of the following measurements.

1. Use the predicted diameter of networks and estimate the time it takes a MID to traverse that network. Record the time the MID traversed similar types of networks in the recent past. For example, IEEE 802.11 networks have similar coverage ranges. Therefore, the MID can estimate the time it will spend in the next 802.11 network based on the times it has just spent in each 802.11 network in the recent past.

2. Checking Mapping with Subnet address could be another way of finding if the device is stationary or not. If the Subnet Address does not change MPD can have an educated guess that the device is almost stationary.

3. The MAC (Media Access Control) layer signals in most radio networks allow a MID to determine when it will receive the next radio beacon from a certain network. For example, an IEEE 802.11 Basic Service Set (BSS), which is a set of Access Points that form a local area wireless network, typically sends beacons in 100 ms intervals. If the MID receives all the

consecutive beacon signals at regular time intervals, for example, (100.+ ΔT) ms where ΔT is the beacon propagation time from an access point to the MID. If ΔT stays constant, it indicates that MID is stationary. If ΔT decreases or increases it means the MID is moving in the direction or away from the AP from which the radio beacon is received. If ΔT is increasing, it means the MID is going away from that access point that is sending the beacons and reverse is also true. The rate at which ΔT increases or decreases can be therefore be the predictor of the MID's speed as well as the direction. Using the MID's estimated moving speed and the estimated coverage range of a network, the MID can estimate the time it will take to go through the network.

MPD can easily find out if the device is moving below 10KMH or above by getting the knowledge from one of the followings.

4. Using Cell Global Identity (CGI) from Cellular networks can be another way of measuring speed as described in Reference No. [6] cited above. Location parameters are broadcast on a Broadcast Control Channel in the cellular network and are used by the MS's cellular network interface for mobility management in the cellular network. The (U)SIM (which is specific to cellular network) in MS stores these parameters and updates them periodically as the MS traverses the cells of a cellular network. Mobility can be estimated how rapidly the MID is traversing the networks.

5. Having a Personal Area Network (e.g., Bluetooth) interfaced with the vehicles electronic odometer.

6. Getting and estimating how rapidly geographical coordinates, received from GPS device, are changing. It is also assumed that most of the MID in future may also have GPS integrated in them.

Description of PHY Layer Predictor

Although modeling the traffic correlation structure or predicting channel conditions is difficult in itself, we believe that traffic-assisted channel and channel-assisted traffic estimation can be used for prediction in wireless networks. Thus locally prepared database of "RF Transmission", "Typical Traffic Statistics", "Packet Size Distribution", and "User Behavior" can be used for future or near future

predictions. Thus making a log of following parameters dully mapped with "Location" and "Time" can be used to prepare prediction about any interface.

1. Radio Frequency (RF) Transmission;
2. Traffic Time-Series;
3. Packet Size Distribution and Network Usage Pattern;
4. Typical Applications.

RF Transmission: Wireless networks' signal-to-noise-ration (SNR) and SS are affected by the RF transmission characteristics. These transmissions characteristics change with time, location, building layouts, obstacles, surrounding environments and antenna characteristics. Thus, empirical model can be prepared based on site-and time specific information. These models can be used later on for prediction of SNR at a WLAN/WAN receiver. Similar models have been widely used in the cellular industry for propagation predictions. See References [7-8] cited above.

Traffic Time-series: Traffic Time Series Log, mapped with given location (office, home, cafeteria, etc.) can be prepared. Thus, throughput spikes and periods of high throughput demand can be recorded to find out the distribution of hourly network usage varied from day to day. This is important because total traffic load might not be necessarily proportional to the number of users (employees in an office or family members in a house) but on their usage behavior.

Packet Size Distribution and Network Usage Pattern: and: It describes ratio of outbound traffic volume to inbound traffic volume. This is important because most outbound packets are "request" packets, which are generally smaller than inbound "respond" packets. For example, Internet users generate smaller request packets and wait for larger response packets (e.g., web browsing, and news downloads). Such activities are generally seen more at public places (e.g., like home, cafeteria, hotspot, libraries etc), and during leisure hours (like early morning, lunch break, weekends etc). Thus, making a log of cumulative distribution function of packet sizes and traffic volume mapped with location and time will have positive impact on the prediction.

Typical Applications: Though TCP/UDP traffic load is typical but with the fast growth of real-time video/audio applications, especially voice over IP (VoIP), gaming, NNTP news reading and file

Exhibit 1004
Page 021 of 324

sharing, the traffic load generated by several well-known applications will be large. However, usage of such applications will vary with many factors, such as user locations, surrounding environments and time of the day. Thus, mapping this kind of information may help make effective prediction.

For reference, descriptions of ASP detection are set forth in Reference [1] and Reference [2] incorporated herein by reference above.

Broad Scope of the Invention:

While illustrative embodiments of the invention have been described herein, the present invention is not limited to the various preferred embodiments described herein, but includes any and all embodiments having equivalent elements, modifications, omissions, combinations (e.g., of aspects across various embodiments), adaptations and/or alterations as would be appreciated by those in the art based on the present disclosure. The limitations in the claims are to be interpreted broadly based on the language employed in the claims and not limited to examples described in the present specification or during the prosecution of the application, which examples are to be construed as non-exclusive. For example, in the present disclosure, the term "preferably" is non-exclusive and means "preferably, but not limited to." In this disclosure and during the prosecution of this application, means-plus-function or step-plus-function limitations will only be employed where for a specific claim limitation all of the following conditions are present in that limitation: a) "means for" or "step for" is expressly recited; b) a corresponding function is expressly recited; and c) structure, material or acts that support that structure are not recited. In this disclosure and during the prosecution of this application, the terminology "present invention" or "invention" may be used as a reference to one or more aspect within the present disclosure. The language present invention or invention should not be improperly interpreted as an identification of criticality, should not be improperly interpreted as applying across all aspects or embodiments (i.e., it should be understood that the present invention has a number of aspects and embodiments), and should not be improperly interpreted as limiting the scope of the application or claims. In this disclosure and during the prosecution of this application, the terminology "embodiment" can be used to describe any aspect, feature, process or step, any combination thereof, and/or any portion thereof, etc. In some examples, various embodiments may include overlapping features. In this disclosure, the following abbreviated terminology may be employed: "e.g." which means "for example."

What is claimed is:

1. A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation, and

having said mobile control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

2. The method of claim 1, further including having said mobile control processes based on both of said application awareness and said operating situation awareness.

3. The method of claim 1, further including having said mobile control radio interface processes based on one or more of said application awareness and said operating situation awareness.

4. The method of claim 3, further including having said mobile control radio interface processes based on both of said application awareness and said operating situation awareness.

5. The method of claim 4, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

6. The method of claim 4, further including having said mobile make use of silent periods based on the operating situation of said mobile.

7. The method of claim 6, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

8. The method of claim 1, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

9. The method of claim 1, further including having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

10. The method of claim 8, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

11. The method of claim 10, further including having said mobile perform certain processes based on:

e) if it is running a real-time application and it is stationary;

f) if it is running a non-real-time application and it is moving;

g) if it is running a non-real-time application and it is stationary; and

h) if it is stationary and power consumption is not an issue.

12. The method of claim 11, further including having said mobile perform:

i) QoS enhancement if it is running a real-time application and it is stationary;

j) network discovery if it is running a non-real-time application and it is moving;

k) energy conservation if it is running a non-real-time application and it is stationary; and

l) information sharing if it is stationary and power consumption is not an issue.

13. The method of claim 11, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

14. The method of claim 1, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

15. The method of claim 1, further including having said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level.

16. The method of claim 15, further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist.

17. The method of claim 16, further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

18. A mobile apparatus, comprising:

a plurality of network interfaces;

a processor;

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications;

said mobile being configured to monitor its operating situation, including moving or non moving status; and

said mobile being configured to control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

19. The mobile apparatus of claim 18, wherein said mobile is configured to switch between modes of operation of based on said application awareness and said situation awareness, including to switch between one or more of the following modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

20. A method of controlling a mobile apparatus, comprising:

controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile.

ABSTRACT OF THE DISCLOSURE

A mobile apparatus is disclosed that includes: a plurality of network interfaces; a processor; the mobile being configured to monitor applications running on it, including real time or non real time nature of said applications; the mobile being configured to monitor its operating situation, including moving or non moving status; and the mobile being configured to control processes of the mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

Exhibit 1004
Page 026 of 324

FIG. 1(A)

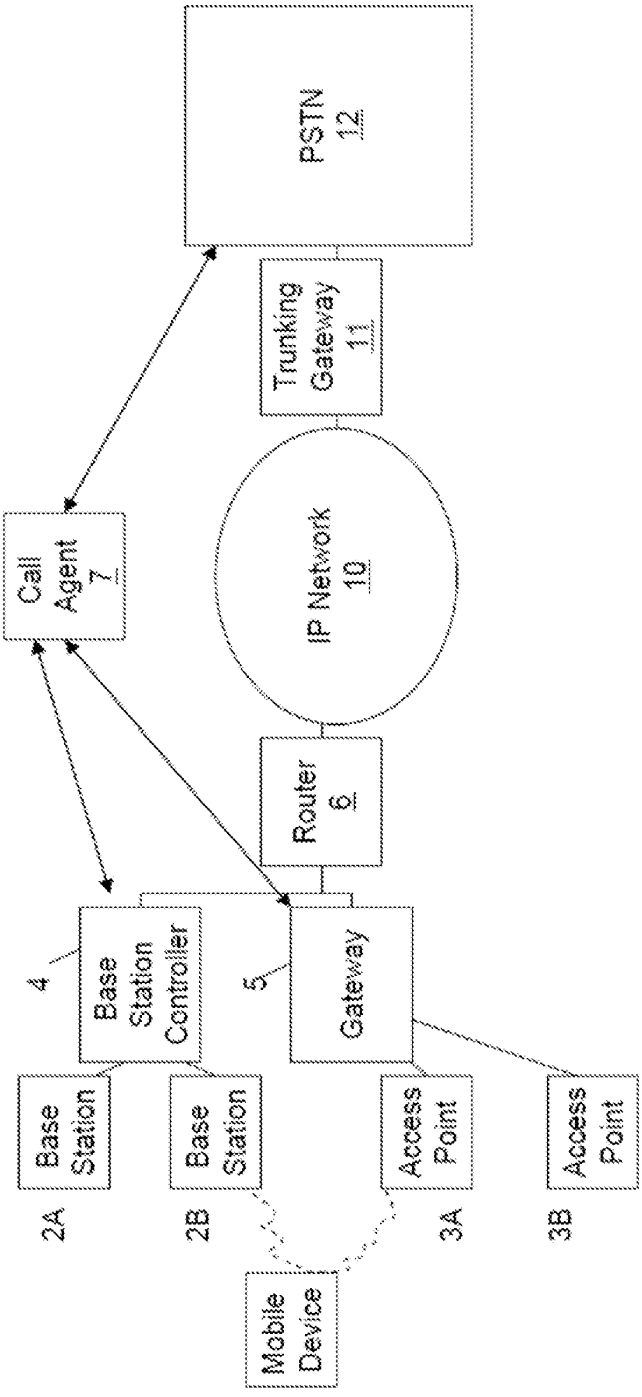
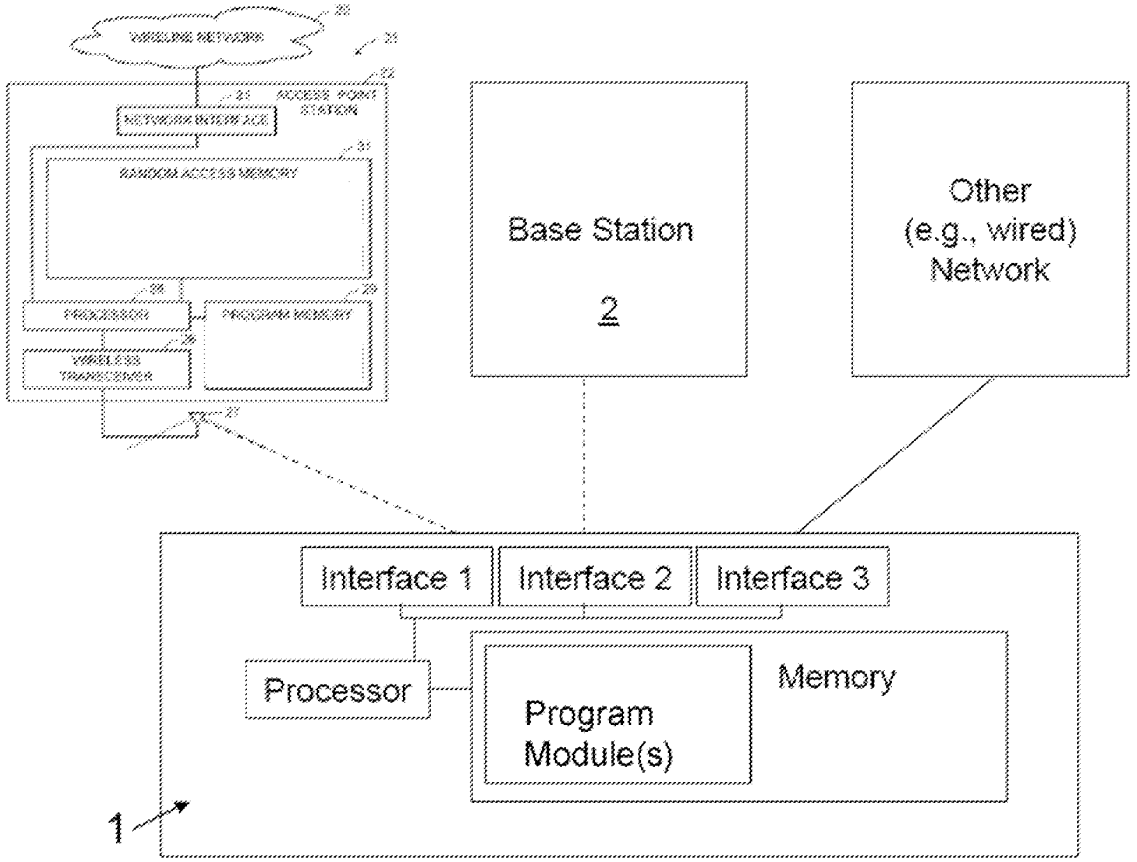

PSTN
12
Trunking Gateway
11
IP Network
10
Call Agent
7
Router
6
4
Base Station Controller
5
Gateway
Base Station
Base Station
Access Point
Access Point
2A
2B
3A
3B
Mobile Device
1

FIG. 1(B)


Base Station
2
Other
(e.g., wired)
Network
Interface 1
Interface 2
Interface 3
Processor
Memory
Program
Module(s)
1

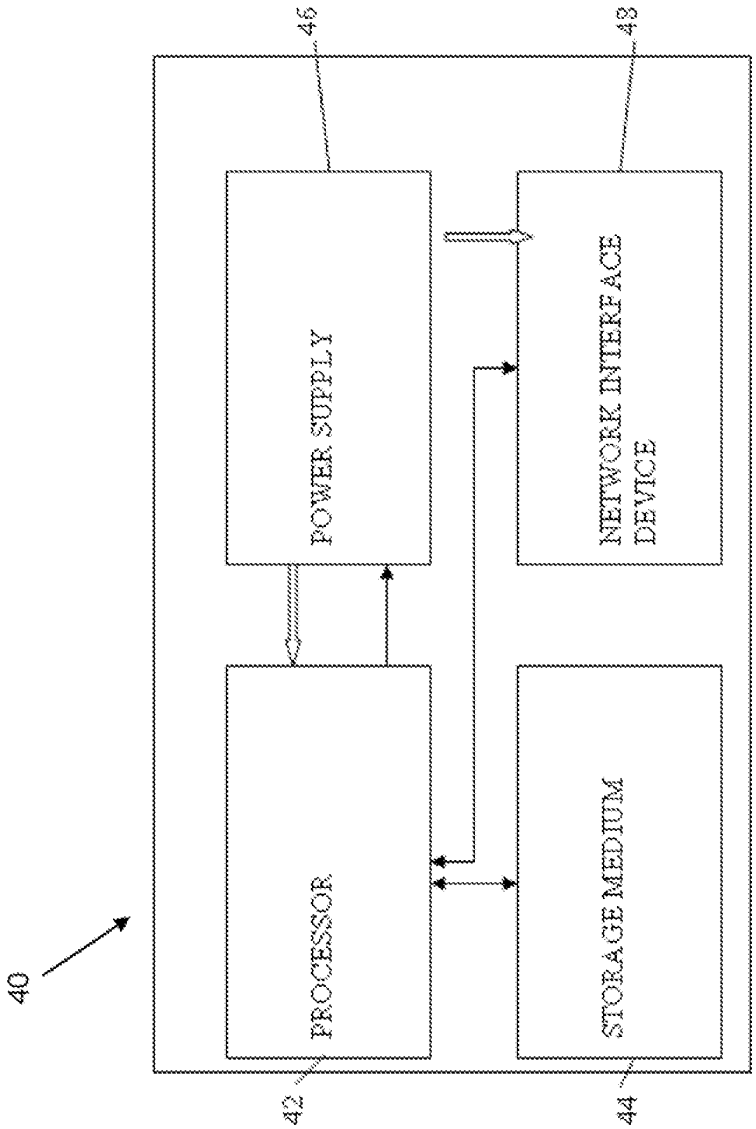

40
46
48
POWER SUPPLY
NETWORK INTERFACE DEVICE
PROCESSOR
STORAGE MEDIUM
42
44

FIG. 2

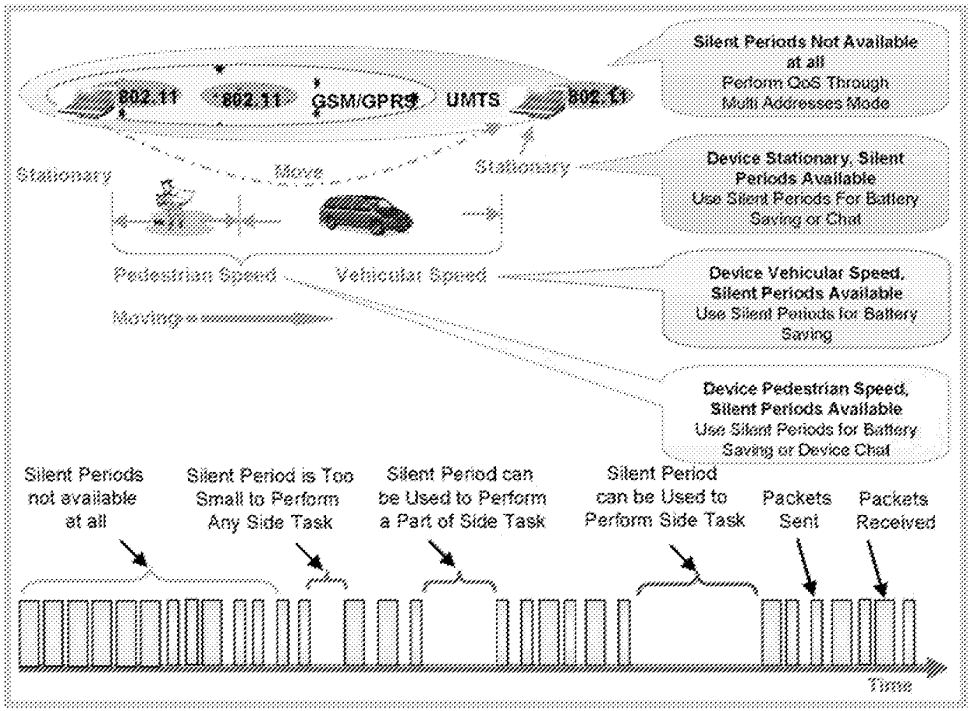


FIG. 3 : Applications and Situation Aware Utilization of Silent Periods

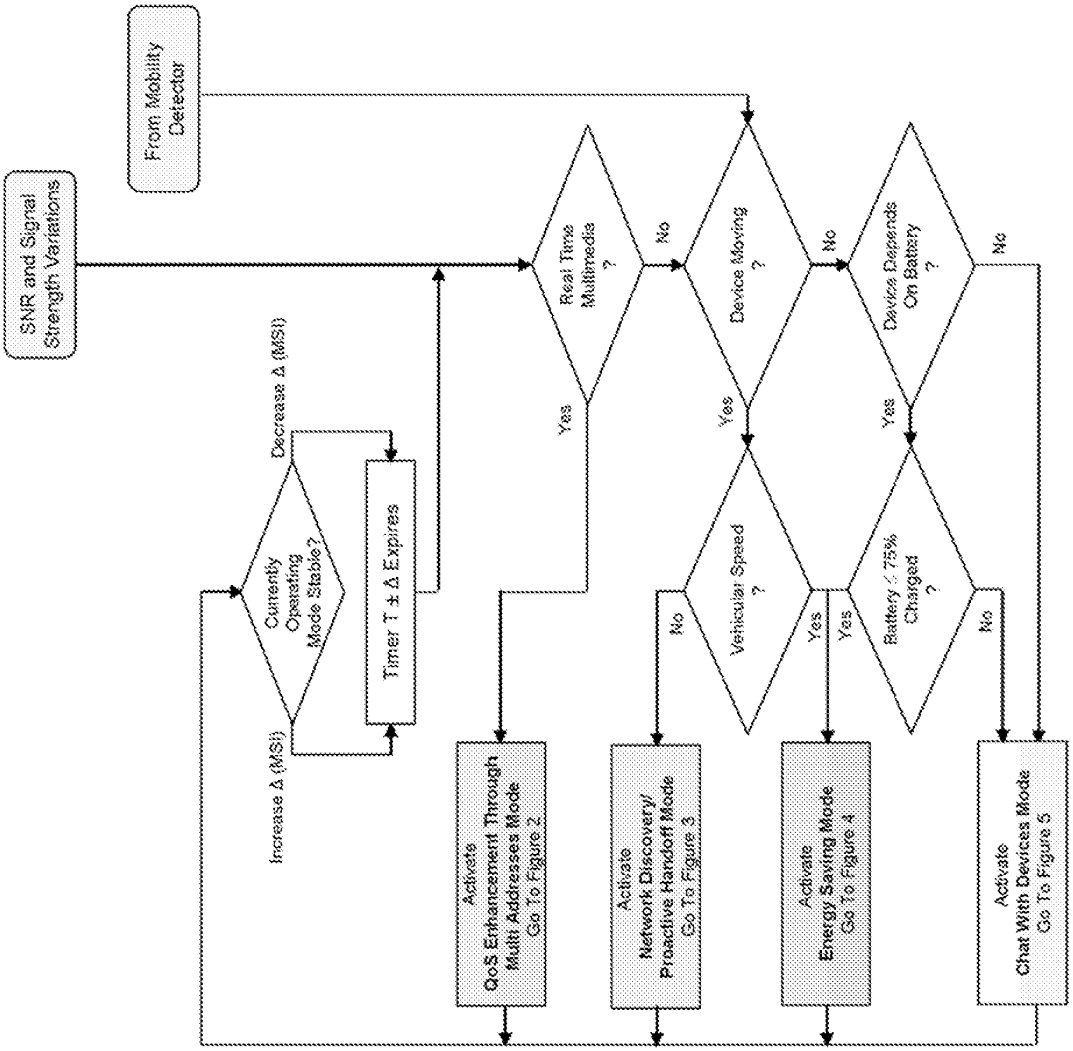


FIG. 4: Automatic Mode Selector

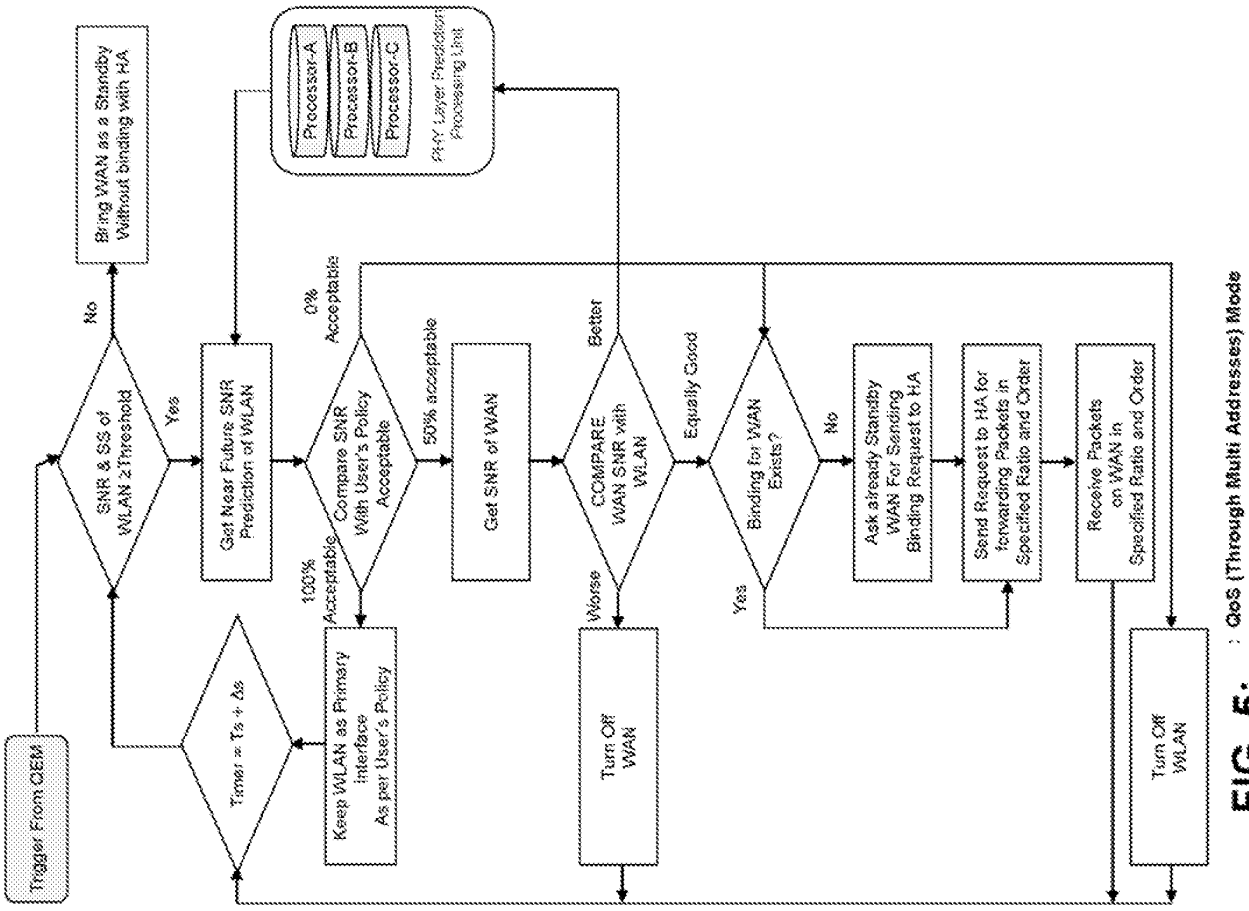


FIG. 5: : QoS (Through Multi Addresses) Mode

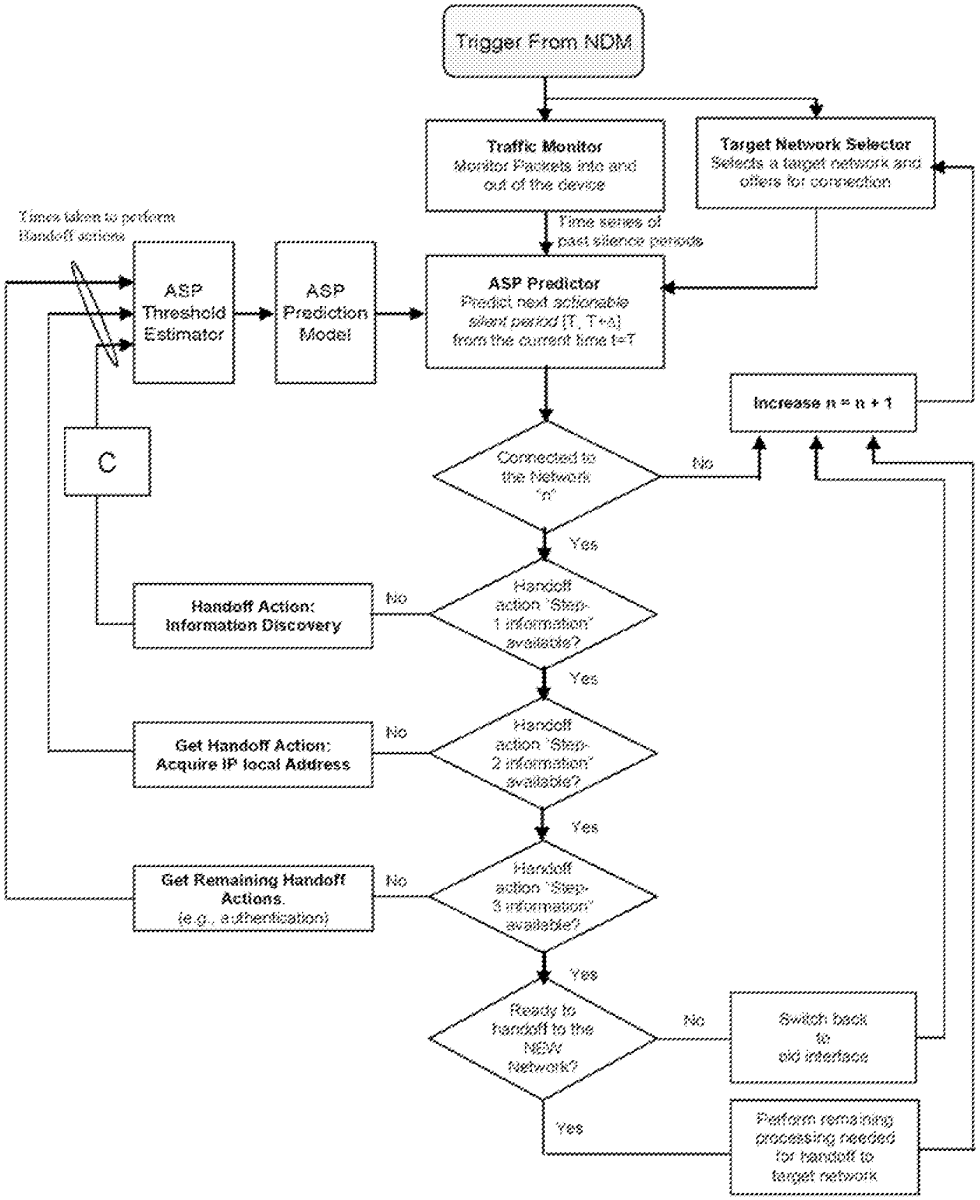


FIG. 6: Network Discovery/Silent Proactive Handover Mode

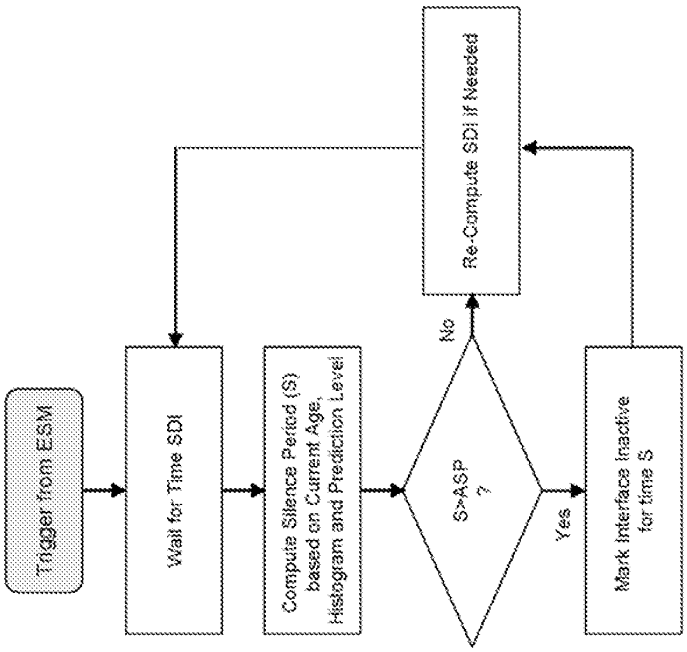


FIG. 7: Energy Saving Mode

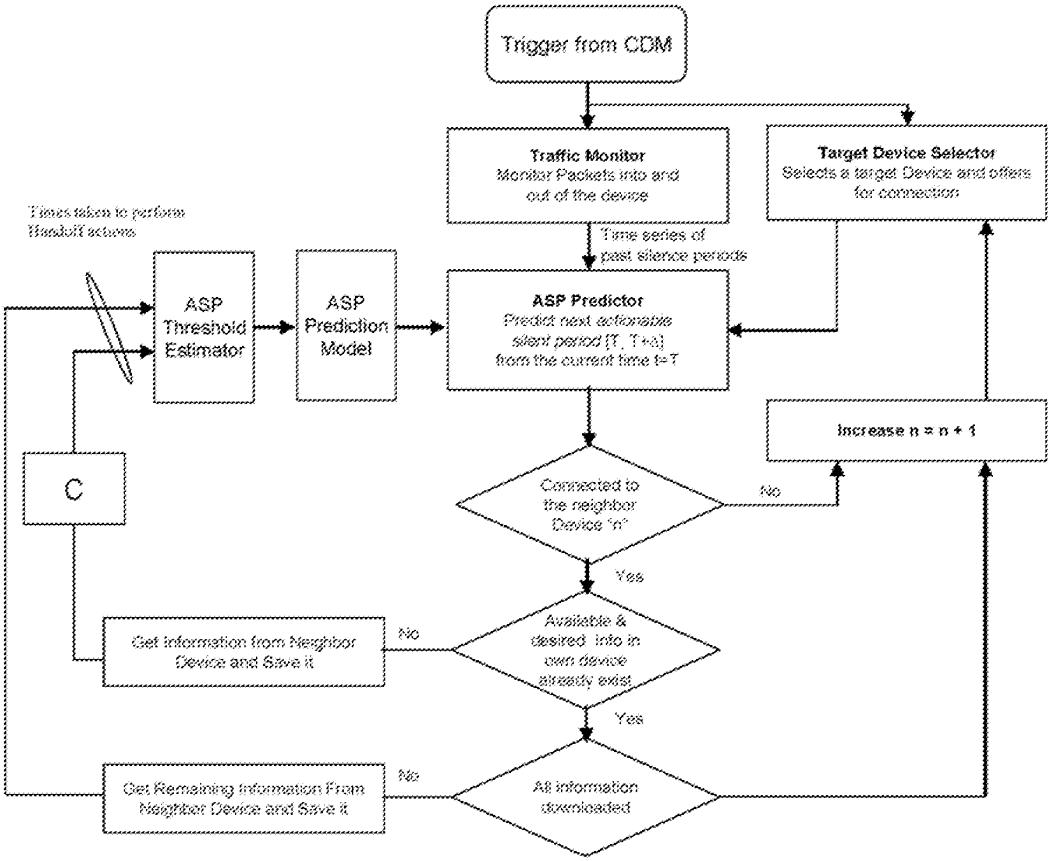


FIG. 8: Chat with devices mode

APPLICATION DATA SHEET

Inventors:

1. Raziq Yaqub, of Stewartsville, N.J. (Citizen of Pakistan).
2. Tao Zhang, of Fort Lee, N.J. (Citizen of the United States).

Priority Claim:

Priority is claimed under 35 USC 119 to U.S. Application Serial No. 60/763,520, filed on January 31, 2006.

Electronic Acknowledgement Receipt

EFS ID:	1304230
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	66458
Filer:	Stephen B. Parker
Filer Authorized By:	
Attorney Docket Number:	3119.137
Receipt Date:	09-NOV-2006
Filing Date:	
Time Stamp:	17:02:13
Application Type:	Utility

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Specification	3119x137xApplicationFiled.pdf	3429636	no	26
Warnings:					

Information:					
2	Drawings	3119x137dwgs.pdf	1098434	no	9
Warnings:					
Information:					
3	Application Data Sheet	3119x137xADS.pdf	31572	no	1
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
		Total Files Size (in bytes):	4559642		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

PTO/SB/06 (12-04)
Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

Application or Docket Number: 11/558,273

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	500
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	200
TOTAL CLAIMS (37 CFR 1.16(i))	20	*	X 25=		OR	X 50=	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	*	X 100=			X 200=	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			N/A			N/A	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	X =		OR	X =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X =		OR	X =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	X =		OR	X =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X =		OR	X =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					N/A		OR	N/A	
						TOTAL ADD'T FEE		OR	TOTAL ADD'T FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
11/558,273	11/09/2006	2618	0.00	3119.137	9	20	3

CONFIRMATION NO. 1960

66458
WATCHSTONE P+D, PLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC20036-2657

FILING RECEIPT

Date Mailed: 12/15/2006

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Raziq Yaqub, Stewartsville, NJ;
Tao Zhang, Fort Lee, NJ;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/763,520 01/31/2006

Foreign Applications

If Required, Foreign Filing License Granted: 12/15/2006

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US11/558,273**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

Title

APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

Preliminary Class

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to

espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/558,273	11/09/2006	Raziq Yaqub	3119.137

CONFIRMATION NO. 1960

66458
WATCHSTONE P+D, PLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC 20036-2657

FORMALITIES LETTER

Date Mailed: 12/15/2006

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  Applicant must submit $ **300** *to complete the basic filing fee for a non-small entity. If appropriate, applicant may make a written assertion of entitlement to small entity status and pay the small entity filing fee (37 CFR 1.27).*
- The oath or declaration is missing. *A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.*
  Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $130 for a non-small entity, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **$1130** for a non-small entity

- **$300** Statutory basic filing fee.

- **$130** Surcharge.

- The application search fee has not been paid. Applicant must submit **$500** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit **$200** to complete the examination fee for a non-small entity.

Replies should be mailed to: Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199, or 1-800-972-6382
PART 3 - OFFICE COPY

JAN 25 2007

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/558,273	11/09/2006	Raziq Yaqub	3119.137

CONFIRMATION NO. 1960
FORMALITIES LETTER

66458
WATCHSTONE P+D, PLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC 20036-2657

Date Mailed: 12/15/2006

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

01/26/2007 CNGUYEN2 00000090 11558273

01 FC:1011	300.00 OP
02 FC:1111	500.00 OP
03 FC:1311	200.00 OP
04 FC:1051	130.00 OP

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  Applicant must submit $ **300** *to complete the basic filing fee for a non-small entity. If appropriate, applicant may make a written assertion of entitlement to small entity status and pay the small entity filing fee (37 CFR 1.27).*
- The oath or declaration is missing. *A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.*
  Note: If a petition under 37 CFR 1.47 is being filed, an oath or declaration in compliance with 37 CFR 1.63 signed by all available joint inventors, or if no inventor is available by a party with sufficient proprietary interest, is required.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $130 for a non-small entity, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **$1130** for a non-small entity

- **$300** Statutory basic filing fee.

RECEIVED
DEC 18 2006
BY:
docketing

- **$130** Surcharge.

- The application search fee has not been paid. Applicant must submit **$500** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit **$200** to complete the examination fee for a non-small entity.

Replies should be mailed to: Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199, or 1-800-972-6382
PART 1 - ATTORNEY/APPLICANT COPY

JAN 25 2007
PATENT & TRADEMARK OFFICE

Appl. No.: 11/558,273 Confirmation No. 1960
Applicant: R. YAQUB
Filed: November 9, 2006
TC/A.U.: To be assigned
Examiner: To be assigned

Title: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

Docket No. : 3119.137

RESPONSE TO NOTICE TO FILE MISSING PARTS

Mail Stop Missing Parts
Director of the United States Patent
and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to a Notice to File Missing Parts of Application under 37 CFR 1.53(b), response copy attached, a Declaration and Power of Attorney identifying the above-referenced application by Serial Number and Filing Date is being herewith submitted. Also attached is a Credit Card Payment Form for the following fees:

$ 130.00 (fees under 37 C.F.R. 1.16(e))
$ 1,000.00 (basic filing fee, search fee, examination fee)
$ 1,130.00 **TOTAL**

Respectfully submitted,

By _____
Stephen B. Parker, Attorney for Applicants
Registration No. 36,631
Watchstone P+D, plc, 1250 Connecticut Ave, N.W. (Suite 700), Washington, D.C. 20036
202-419-1518

I, Stephen Parker, hereby certify that this document is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop Missing Parts address above, or being facsimile transmitted to the USPTO (571) 273-8300, on January 23, 2007.

PTO/SB/01 (4-06)
JAN 25 2007
PATENT & TRADEMARK OFFICE

DECLARATION AND POWER OF ATTORNEY FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)			
Declaration Submitted with Initial Filing	Declaration Submitted after Initial Filing		
		Attorney Docket No. (entered if known)	3119-137
		First Named Inventor	Raziq YAQUB, *et al.*
	X	**Application Number (entered if known)**	11/558,273
		Filing Date (filed herewith if no date entered)	November 9, 2006
		Group Art Unit (entered if known)	To Be Assigned
		Examiner Name (entered if known)	To Be Assigned

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS**, the specification of which is attached hereto or was filed on the above-noted filing date.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Numbers	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Claimed	Certified Copy Attached? YES NO

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)
60/763,520	01-31-2006

I or we hereby appoint Stephen B. Parker, Reg. No. 36,631 power of attorney and the registered practitioner(s) associated with Customer No. **66458** power of attorney, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. Direct all correspondence to Customer Number **66458, attention Stephen B. Parker.**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF FIRST INVENTOR:			
Given Name (first and middle [if any]) Raziq		Family Name or Surname YAQUB	
Inventor's Signature:		**Date:** Dec. 4th. '06	
Residence: ~~Fort Lee~~ STEWARTSVILLE	State: NJ	Country: USA	Citizenship: Pakistan
Mailing Address: 15-Cook Court			
City: Stewartsville	State: NJ	Zip Code:	08886

NAME OF SECOND INVENTOR:			
Given Name (first and middle [if any]) Tao		Family Name or Surname ZHANG	
Inventor's Signature:		Date: 12/05/2006	
Residence: ~~Fort Lee~~	State: NJ	Country: USA	Citizenship: USA
Mailing Address: 247 Harmon Avenue			
City: Fort Lee	State: NJ	Zip Code:	07024

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
11/558,273	11/09/2006	2618	1130	3119.137	9	20	3

CONFIRMATION NO. 1960

UPDATED FILING RECEIPT

66458
WATCHSTONE P+D, PLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC20036-2657

Date Mailed: 02/05/2007

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Raziq Yaqub, Stewartsville, NJ;
Tao Zhang, Fort Lee, NJ;

Power of Attorney: The patent practitioners associated with Customer Number 66458

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/763,520 01/31/2006

Foreign Applications

If Required, Foreign Filing License Granted: 12/15/2006

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US11/558,273**

Projected Publication Date: 08/02/2007

Non-Publication Request: No

Early Publication Request: No

Title

APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

Preliminary Class

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to

espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/558,273	11/09/2006	Raziq Yaqub	3119.137

CONFIRMATION NO. 1960

66458
WATCHSTONE P+D, PLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC20036-2657

Title: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

Publication No. US-2007-0178876-A1
Publication Date: 08/02/2007

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Pre-Grant Publication Division, 703-605-4283

PTO/SB/08a (03-08)
Approved for use through 06/30/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	11558273
	Filing Date	2008-07-11
	First Named Inventor	R. Yaqub
	Art Unit	
	Examiner Name	
	Attorney Docket Number	3119-137

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	11096721		2005-04-11	T. Zhang	
	2	11161668		2005-08-11	T. Zhang	
	3	11161298		2005-07-28	R. Yaqub	
	4	12531814		2006-01-31	R. Yaqub	
	5	11267590		2005-11-07	K. Taniuchi	
	6	11464188		2006-08-11	R. Yaqub	
If you wish to add additional U.S. Patent citation information please click the Add button.						Add
U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	11558273
	Filing Date	2008-07-11
	First Named Inventor	R. Yaqub
	Art Unit	
	Examiner Name	
	Attorney Docket Number	3119-137

	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	R. WAKIKAWA, I.E.T.F. "Multiple Care-of Address Registration", Internet Draft, October 2006, Page 1-36, Monami6 Working Group, USA.	☐
	2		☐
	3		☐
	4		☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EFS Web 2.1.2

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	11558273
	Filing Date	2008-07-11
	First Named Inventor	R. Yaqub
	Art Unit	
	Examiner Name	
	Attorney Docket Number	3119-137

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	11558273
	Filing Date	2008-07-11
	First Named Inventor	R. Yaqub
	Art Unit	
	Examiner Name	
	Attorney Docket Number	3119-137

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Stephen B. Parker Reg. No. 36631/	Date (YYYY-MM-DD)	2008-07-11
Name/Print	Stephen B. Parker	Registration Number	

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	3640927
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	66458
Filer:	Stephen B. Parker/Frangca Paek
Filer Authorized By:	Stephen B. Parker
Attorney Docket Number:	3119.137
Receipt Date:	18-JUL-2008
Filing Date:	09-NOV-2006
Time Stamp:	14:19:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement Letter	form137.pdf	935775 b85273f4df0e95800aaaf29ebb20b138cb7d5f70	no	5
Warnings:					
Information:					

2	NPL Documents	REF5.pdf	179802 cb9cc1b42d1dbfeb43b615b615bf8dd010db363f	no	36
Warnings:					
Information:					
			Total Files Size (in bytes):	1115577	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

66458 7590 05/15/2009

WATCHSTONE P+D, PLLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC 20036-2657

EXAMINER	
ZHANG, XIANG	

ART UNIT	PAPER NUMBER
4125	

NOTIFICATION DATE	DELIVERY MODE
05/15/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATENTS@W-PD-A.COM
JanicePringle@system.foundationip.com
wpdonline@yahoo.com

Office Action Summary	Application No.	Applicant(s)	
	11/558,273	YAQUB ET AL.	
	Examiner	Art Unit	
	XIANG ZHANG	4125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 November 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/18/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form

Claim 10 fails to add further limitations to parent claim 8.

Claims 3 and 4 are objected to because of the following informalities: The term "radio interface" in claim 3 and 4 lacks antecedent basis.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) in view of Karlsson (US Pat 5640677).

Regarding claims 1 and 3, Barany discloses the method of controlling ("control messages for maintenance purposes", Col 7, line 17) a wireless mobile ("mobile station B", Col 7, line 16) having multiple interfaces ("GPRS network 11", Col 3, line 55, which is compatible with multiple interfaces), comprising:

having said mobile be aware of its applications running on it ("Instead of voice, the mobile stations 34 and 40 are also capable of communicating

other types of real-time, interactive data, such as video data, multimedia data, and so forth", Col 4, line 43-46); Barany further teaches the method of controlling processes of said mobile during silent periods ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) base on its applications awareness ("control messages for maintenance purposes are still needed for mobile station A. For that reason, such control messages are communicated at set periods in the uplink path. The control messages include the SID_UPDATE message, which is used to communicate comfort noise parameters. Also, during the set periods, mobile station A can transmit PTCCH packet timing advance control channel to maintain time alignment; PACCH packet associated control channel to transmit control messages such as a channel quality message that includes parameters for link adaptation; RTCP Real-Time Protocol Control Protocol messages to provide feedback on the quality of real-time data communicated in the downlink path", Col 7, line 17-29).

One skilled in the art will recognize the mobile device is required to be operated via the microprocessor as described (Barany, Col 15, line 43-54) which also includes user interface for selecting application and operating system having the awareness of the selected applications.

However, Barany lacks the teaching of having said mobile be aware of its operating situation. On the other hand, Karlsson discloses the method of having the mobile be aware of its operating situation ("evaluation of handoff likelihood in

the mobile during an idle period", Col 13, line 42); and having said mobile control processes such as handoff as described of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness. As a result, it would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of its applications running on the mobile device of Barany in order to optimize the efficiency of monitoring the operating situation of the mobile terminal while minimizing the power usage implicitly taught by Karlsson.

Regarding claim 8, Barany in view of Karlsson discloses the method of claim 1. Barany further including having said mobile control processes of said mobile during silent periods ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) based on said mobile running a non-real-time application (“non-real-time traffic flows, Col 5, line 67) thereon or a real-time application (“real-time traffic flows, Col 5, line 64) thereon.

Regarding claim 10, Barany in view of Karlsson as discussed above shows the limitations claimed in claim 8. Barany further teaches the including having said mobile control processes of said mobile during silent periods ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) based on said mobile running a non-real-time application (“non-real-time traffic flows, Col 5, line 67) thereon or a real-time application (“real-time

traffic flows, Col 5, line 64) thereon.

Claims 2, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) in view of Karlsson (US Pat 5640677) and further in view of Sen (US Pat 6947399).

Regarding claims 2 and 4, Barany in view of Karlsson as discussed above shows the limitations in claim 1. However, neither Barany nor Karlsson teach the method of having the mobile control processes based on both of said application awareness and said operating situation awareness.

In the same field of endeavor, Sen discloses in his method and mobile control radio interface for using the mobile control processes ("during handoff process, it is important to maintain the user's QoS", Col 3, line 28-29; it will be appreciated that maintaining QoS relies upon an interface process in the mobile) based on both of said application awareness and operating awareness ("Minimizing the handoff delay for real-time, non-elastic applications (such as voice and video)", Col 3, line 34-35; Prioritizing handoffs based on the user's Service Level Agreement *and application being used*; Col. 3, lines 38-39).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention was made to not only use the method of running application or situation awareness control process as taught by Barany in view of Karlsson but also the method of using both application and situation awareness control process in order to jointly address the issue of application and mobility which provides optimal traffic utilization as taught by Sen implicitly.

Regarding claim 5, Barany in view of Karlsson and further in view of Sen disclose the method of claim 4, Barany further including having said mobile make use of silent periods based on needs of applications running on said mobile ("to take advantage of this unused bandwidth, traffic from other mobile stations, such as the mobile station 102, can be multiplexed into the silent periods 104, 106, and 108. For optimal performance, the traffic that is multiplexed into the DTX periods includes traffic that is not sensitive to delays", Col 6, line 39-41).

Regarding claim 6, Barany in view of Karlsson and further in view of Sen disclose the method of claim 4. However, Barany and Sen lack the teaching of mobile *making use of silent periods* based on needs of operating situation of said mobile. On the other hand, Karlsson teaches the method of use of silent periods ("evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42). It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of both of its operating and application situation as taught by Barany and Karlsson in order to prioritize the procedure to improve the readiness of the handoff during the power saving mode.

Regarding claim 7, Barany in view of Karlsson and further in view of Sen discloses the method that shows the limitation in claim 6. Barany further teaches the method of said mobile make use of silent periods based on needs of applications running on said mobile ("to take advantage of this unused

bandwidth, traffic from other mobile stations, such as the mobile station 102, can be multiplexed into the silent periods 104, 106, and 108. For optimal performance, the traffic that is multiplexed into the DTX periods includes traffic that is not sensitive to delays", Col 6, line 39-41).

Claims 9, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) and Karlsson (US Pat 5640677) in view of Ranta (US PGPub 20030081657).

Regarding claim 9, Barany in view of Karlsson as discussed above shows the limitations claimed, except they do not specifically disclose that the mobile control processes of said mobile during silent periods based on said mobile moving or not moving. On the other hand, in the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving ("whether the MS 100 is in motion or whether is stationary, "Pg 5-6, [0062-0063]) during silent periods ("idle mode", Pg 5, [0062], line 10). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta with the teaching of using control processes of operating situation awareness and/or application awareness of said mobile during silent period in order to achieve the aggregate result in term of minimizing the overall power consumption utilizing the silent period using the integrated approach of allocating the adequate amount of network resource according to the

motion of the mobile device taking despite the amount of power consumed by the GPS receiver.

Regarding claims 13 and 14, Barany in view of Karlsson and further in view

of Ranta disclose the limitations in claim 11. However, Barany and Karlsson lack the teaching of having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters. On the other hand, Ranta discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector ("motion detection system", Pg 5, [0062]). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the mobile device as taught by Ranta in the teaching of claim 11 in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) and Karlsson (US Pat 5640677) in view of Ranta (US PGPub 20030081657) and further in view Buckley (US PGPub 20060160537).

Regarding claim 11, Barany in view of Karlsson as discussed above shows the limitations of mobile control processes running a non-real-time or real-time application during the silent period, except they lack the teaching of said mobile perform certain processes based on: e) if it is running a real-time

application and it is stationary; f) if it is running a non-real-time application and it is moving; g) if it is running a non-real time application and it is stationary; and h) if it is stationary and power consumption is not an issue. On the other hand, Ranta teaches the method of determining whether the mobile device is moving or not moving ("received signal-derived parameters of the cellular system, a position of the mobile station derived from the cellular system positioning function, and a position of the mobile station derived from the satellite-based positioning function to derive a value that is indicative of the presence or absence of motion of the mobile station", Pg 2, [0011], line 5-10). In addition, Buckley teaches running a non-real-time application (“WAP browser”, Pg 3, [0031], line 9) and it is moving (“multi-device roaming", Pg 3, [0031], line 15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of performing network discovery if it is running a non-real-time application and it is moving as taught by Buckley with the method of Barany in order to provide comprehensive options for running various applications in a homogeneous or heterogeneous networks for the mobile. Barany in view of Karlsson and further in view of Ranta and Buckley still lack the teaching of if it is stationary and power consumption is not an issue. However, one skilled in the art will recognize that the scenario whereas the mobile device is stationary and power consumption is not an issue. It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the combination of the scenarios of the application and operating situation awareness as the limitation of e) -- h) as disclosed above in order to implement

the deterministic power allocation in the mobile device taking into the account of different combination of the application and operating situation given that the various scenarios require different power consumption levels.

Regarding claim 12, Barany in view of Karlsson and further in view of Ranta disclose the limitations in claim 11. Barany further discloses the method of having said mobile perform i) QOS enhancement (“To enhance the bandwidth for communications with the various mobile stations in the radio access network 11, multiplexing of traffic is performed”, Col 5, 1-3) if it is running a real-time application and it is stationary (“when the mobile stations 34 and 40 (associated with voice or other real-time, interactive data users) are in discontinuous transmission (DTX) mode and thus not transmitting traffic”, Col 5, line 3-6); k) energy conservation if it is running a non-real-time application ("multiplexed into the DTX periods includes traffic that is not sensitive to delays", Col 6, line 41-44); However, Barany lacks the teaching of i)when the mobile is stationary; j)network discovery if it is running a non-real-time application and it is moving; k) and it is stationary; l) information sharing if it is stationary and power consumption is not an issue. On the other hand, in the same field of endeavor Buckley discloses the method of j) network discovery (“accesses”, Pg 3, [0031], line 4; also see “supports multi-device roaming", line 1) if it is running a non-real-time application (“WAP browser”, Pg 3, [0031], line 9) and it is moving (“multi-device roaming", Pg 3, [0031], line 15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of performing network

discovery if it is running a non-real-time application and it is moving as taught by Buckley with the method of Barany in order to provide comprehensive options for running various applications in a homogeneous or heterogeneous networks for the mobile. Barany in view of Karlsson and Ranta and further in view of Buckley discussed above shows the limitations claimed, except they do not specifically disclose the method of i)when the mobile is stationary; l)information sharing if it is stationary and power consumption is not an issue. The examiner takes official notice that i) the mobile is required to enhance its QOS any time when the user is running the application that is real-time since bandwidth is critical in executing the real time packets such as voice; k) likewise, since bandwidth allocation is not as critical to the non-real-time user application as oppose to the real-time user applications, the corresponding power consumption can be reduced accordingly when the mobile is not in motion; l) when power consumption is not critical as the mobile is not in motion the real-time or non-real-time applications which may require large quantity of information or file exchange between two mobile devices may be run as a result. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of the method of l) in combination of the factor such as whether or not the mobile is moving with the teaching of Barany in view of Karlsson and further in view of Ranta and Buckley in order to provide all the combinatorial mobile power running modes with respect to the motion of the mobile as well as the types of application the mobile runs on.

Claim 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Barany (US Pat 7068623) and Karlsson (US Pat 5640677) and further in view of Feroz (US Pat 7426181).

Regarding claim 15, Barany in view of Karlsson disclose the method as discussed in claim 1. However, Barany and Karlsson lack the teaching of said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level. On the other hand, Feroz teaches the method of said mobile activate a secondary interface (Fig 2, item 72) to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level (“if there is insufficient data to compute the initial rate demand, path rate detection module 88 may subsequently use one or both of these initial rate demands”, Col 14, line 33-36; also see "leaving it to flow control module 84 to determine an appropriate bandwidth allocation for the data flow", Col 14, line 40-41) . One skilled in the art will recognize the mobile device will require the secondary interface to offer enhanced bandwidth according to various data rate demands with respect to different network interfaces ("802.11, Bluetooth, satellite-base interfaces”, Col 7, line 18). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the secondary interface in respond to the additional bandwidth or data reception requirement as taught by Feroz and the teaching of Barany in view of Karlsson as discussed in claim 1 in order to provide additional bandwidth setting.

Regarding claim 16, Barany in view of Karlsson and further in view of Feroz disclose the method as discussed in claim 15. However, Barany and

Karlsson lack the teaching of said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist. On the other hand, in the same field of endeavor Feroz teaches the first (first network interface 71, Col 7, line 3, also see Fig 2) and second (second network interface 72, Col 7, line 3, also see Fig 2) interface of said mobile having said mobile storing one or more parameters ("maintaining one or more measurement variable statistics in connection with the data flows", Col 7, line 36-38) which is configured according to the flow control module (Fig 2, Fig 84) which determines if the secondary interface is qualify to assist. It was well known in the art that the mobile device stores various in parameters such as traffic classes and/or data flow rates in primary and secondary interface and is capable of comparing the corresponding parameters among the interfaces for choosing the adequate interface. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of having the primary and secondary interface in the mobile device with the stored parameters and the method of selecting the secondary interface accordingly in order to create clear distinctions on resource management between various types of traffic with respect to resource management.

Regarding claim 17, Barany in view of Karlsson and further in view of Feroz disclose the method as discussed in claim 16. However, Barany and Karlsson lack the teaching of said further including if the secondary interface

qualifies to assist, a trigger is issued to the secondary interface , and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets. On the other hand, Feroz further teaches the method of if the secondary interface qualities to assist, a trigger is issued to the secondary interface (“all data flows corresponding to a given partition, flow control module 84 allocates bandwidth to a given data flow based on the lower of the target rate, or the rate that would be otherwise allocated to the data flow according to a fair-share, or weighted fair share algorithm”, Col 17, line 7-12), secondary interface sends a binding request (“partition”, Col 21, line 10) to a Home Agent (“traffic classification database 86”, Col 21, line 8) for a Secondary Care of Address (“policy parameters”, Col 21, line 9), and the home agent uses tunneling mechanisms (“traffic class comprises a set of matching rules or attributes allowing for logical grouping of data flows that share the same characteristic or set of characteristics--e.g., a service ID or type (see Section A.1., above), a specific application, protocol, IP address, MAC address" which creates the tunneling and corresponding match between mobile devices and IP addresses, Col 10, line 31-35). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the trigger for activating the secondary interface in handling the

traffic upon binding request signaling when the traffic condition is met as taught by Feroz with the teaching of implementing the bandwidth enhancement in conjunction to the application and operating situation awareness as taught by Barany in view of Karlsson in order to accomplish the adequate bandwidth enhancement according to the traffic condition. On the other hand, Feroz lacks the teaching of if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets. The examiner takes official notice that it was well known a particular type of traffic must be directed to either the first or the second interface. In the case when the traffic condition of the secondary interface is met, the primary interface is shut down and the secondary interface is used for all user packets It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of having the secondary interface to handle all the user packets when the trigger command is received by the Home Agent for a Secondary Care of Address as taught by Feroz with the teaching of implementing the bandwidth enhancement in conjunction to the application and operating situation awareness as taught by Barany in view of Karlsson in order to provide the single conduit for traffic according to the access technology requirement as well as the application requirement.

Claim 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Barany (US Pat 7068623) in view of Ranta (US PGPub 2003/0081657) .

Regarding claim 18, Barany discloses the mobile apparatus, comprising: a processor (“microprocessor”, Col 15, line 48);

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications (“Instead of voice, the mobile stations 34 and 40 are also capable of communicating other types of real-time, interactive data, such as video data, multimedia data, and so forth" Col 4, line 43-46).

Barany further teaches the mobile apparatus being configured to control process of said mobile during silent periods (“during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) based on its application awareness ("control messages for Item 104, 106, and 108).
However, Barany does not teach the method wherein mobile being configured to monitor its operating situation, including moving or non moving status.
On the other hand, in the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving (“whether the MS 100 is in motion or whether is stationary, "Pg 5-6, [0062-0063]) during silent periods (“idle mode”, Pg 5, [0062], line 10). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta with the teaching of using control processes of operating situation awareness and/or application awareness of said mobile during silent period in

order to achieve the aggregate result in term of minimizing the overall power consumption utilizing the silent period using the integrated approach of allocating the adequate amount of network resource according to the motion of the mobile device taking despite the amount of power consumed by the GPS receiver. Ranta further discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector ("motion detection system", Pg 5, [0062], line 9). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the mobile device as taught by San as discussed supra, re: claim 11 in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Regarding claim 20, Barany discloses the method of controlling a mobile apparatus, comprising:

Controlling said mobile to make efficient use of silent periods (“take advantage of this unused bandwidth, traffic from other mobile stations, such as the mobile station 102, can be multiplexed into the silent periods”, Col 6, line 39-42)due to unoccupied brief intervals ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) of wireless traffic data. However, Barany lacks the teaching of automatically switching between multiple tasks performed during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion

condition of the mobile. On the other hand, Ranta further discloses the method of having said mobile switch to a certain tasks automatically based on motion condition of the mobile ("motion detection system", Pg 5, [0062], line 9) during the silent periods (“idle mode”, Pg 5, [0062] depending on a traffic volume (“comparing the value to a motion threshold and, when an absence of motion is detected, said controller being responsive for reducing power consumption of the mobile station by selectively decreasing usage of the mobile station cellular system reception", claim 17, line 10-13). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the motion condition of the mobile device as taught by Ranta with the teaching of the switching condition depending on a traffic volume of at least one application running on said mobile apparatus (Barany, Col 2, line 43-46) as taught by Barany in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIANG ZHANG whose telephone number is (571)270-7693. The examiner can normally be reached on Monday-Thursday, 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Mark Robinson can be reached on (571)272-2319. The

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X.Z/
Examiner, Art Unit 4125

/Mark A. Robinson/
Supervisory Patent Examiner, Art Unit 4125

Notice of References Cited	Application/Control No. 11/558,273	Applicant(s)/Patent Under Reexamination YAQUB ET AL.	
	Examiner XIANG ZHANG	Art Unit 4125	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,640,677 A	06-1997	Karlsson, Bror .ANG.ke	455/434
*	B	US-2003/0081657 A1	05-2003	Ranta, Jukka	375/147
*	C	US-6,947,399 B1	09-2005	Sen et al.	370/331
*	D	US-7,068,623 B1	06-2006	Barany et al.	370/329
*	E	US-2006/0160537 A1	07-2006	Buckley et al.	455/435.2
*	F	US-2008/0298391 A1	12-2008	Feroz et al.	370/468
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/29/2009								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

SEARCHED			
Class	Subclass	Date	Examiner
370	311	04/27/09	Xiang Zhang
455	343.2,435.2,515,574	04/27/09	Xiang Zhang

SEARCH NOTES		
Search Notes	Date	Examiner
Consulted Vladimir Maggloire at TC 2617	04/28/09	X.Z
TC 2617 QEM discussion	04/30/09	X.Z
EAST notes attached	4/30/09	X.Z

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

Doc code :IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-08)
Approved for use through 06/30/2008. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	11558273
Filing Date	2008-07-11
First Named Inventor	R. Yaqub
Art Unit	
Examiner Name	
Attorney Docket Number	3119-137

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	11096721		2005-04-11	T. Zhang	
	2	11161668		2005-08-11	T. Zhang	
	3	11161298		2005-07-28	R. Yaqub	
	4	12531814		2006-01-31	R. Yaqub	
	5	11267590		2005-11-07	K. Taniuchi	
	6	11464188		2006-08-11	R. Yaqub	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /X.Z./

Receipt date: 07/18/2008	Application Number	11558273	11558273 - GAU: 4125
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2008-07-11	
(Not for submission under 37 CFR 1.99)	First Named Inventor	R. Yaqub	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	3119-137	

	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	R. WAKIKAWA, I.E.T.F. "Multiple Care-of Address Registration", Internet Draft, October 2006, Page 1-36, Monami6 Working Group, USA.	☐
	2		☐
	3		☐
	4		☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/Xiang Zhang/	Date Considered	04/30/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

EFS Web 2.1.2

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /X.Z./

Receipt date: 07/18/2008	Application Number	11558273 11558273 - GAU: 4125
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-07-11
	First Named Inventor	R. Yaqub
	Art Unit	
	Examiner Name	
	Attorney Docket Number	3119-137

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

EFS Web 2.1.2 ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /X.Z./

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S46	0	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin$3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management).ab. and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:02
S47	0	(silent period or standby or shut off or mode) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin $3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management).ab. and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:02
S48	1	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin$3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:03
S49	175	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((real-time or real time)same (non-real-time or non real time)) and (power management) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:04
S50	146312	S49 and "370".clas. or "455".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:05
S51	237	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav $4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:21
S52	27	S51 and "455".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:21

S53	27	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam $4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and ("455".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:30
S54	138869	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam $4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and ("455".clas.) or ("370".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:32
S55	34	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam $4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and (("455".clas.) or ("370".clas.))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:32
S56	25	yaqub-raziq.IN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 09:37
S57	217	zhang-tao.IN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:34
S58	3042	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:59
S59	869	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:59
S60	3670	S58 or S59	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:00

S61	253	(silent period or standby or shut off) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:01
S62	2	S61 and S60	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:02
S63	17	prioritiz$6.ab. and S60	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 13:15
S64	3065	S60 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 14:27
S65	22	((determ$6 or discover$4) same (roam$4 or handover or handoff) same (communicat$4 near3 device)) and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 15:26
S66	33	((sleep or idle or standby) same mode same handoff) and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 16:51
S67	3	"7068623"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:19
S68	27	"6477176"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:44
S69	288	(silent period or standby or shut off or dtx or discontinuous transmission) and (mov$4 or roam $4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:53
S70	39	(dtx or discontinuous transmission) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:53

S71	3049	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S72	871	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S73	3678	S71 or S72	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S74	0	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe) and S73	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S75	0	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S76	2	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe or inter frame)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:30
S77	3071	S73 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 16:54

4/29/2009 9:38:35 AM
C:\Documents and Settings\xzhang\My Documents\EAST\Workspaces\Default EAST Workspace (Flat Panel).wsp

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S46	0	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin$3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management).ab. and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:02
S47	0	(silent period or standby or shut off or mode) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin $3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management).ab. and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:02
S48	1	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin$3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:03
S49	175	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((real-time or real time) same (non-real-time or non real time)) and (power management) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:04
S50	146312	S49 and "370".clas. or "455".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:05
S51	237	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((real-time or real time) same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:21
S52	27	S51 and "455".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:21

S53	27	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam$4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and ("455".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:30
S54	138869	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam$4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and ("455".clas.) or ("370".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:32
S55	34	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam$4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and (("455".clas.) or ("370".clas.))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:32
S56	25	yaqub-raziq.IN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 09:37
S57	217	zhang-tao.IN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:34
S58	3042	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:59
S59	869	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:59
S60	3670	S58 or S59	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:00
S61	253	(silent period or standby or shut off) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:01

S62	2	S61 and S60	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:02
S63	17	prioritiz$6.ab. and S60	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 13:15
S64	3065	S60 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 14:27
S65	22	((determ$6 or discover$4) same (roam$4 or handover or handoff) same (communicat$4 near3 device)) and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 15:26
S66	33	((sleep or idle or standby) same mode same handoff) and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 16:51
S67	3	"7068623"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:19
S68	27	"6477176"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:44
S69	288	(silent period or standby or shut off or dtx or discontinuous transmission) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:53
S70	39	(dtx or discontinuous transmission) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:53
S71	3049	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S72	871	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S73	3678	S71 or S72	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29

S74	0	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe) and S73	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S75	0	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S76	2	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe or inter frame)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:30
S77	3071	S73 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 16:54
S78	68	"6512919"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 09:39
S79	2	"20020102966"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 10:09
S80	3	"20050040230"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 10:21
S81	380	(dtx or discontinuous transmission) and (handoff or handover or roam$4) and (aware$4 or monitor$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 18:41
S82	6	(dtx or discontinuous transmission) same (handoff or handover or roam $4) same (aware$4 or monitor$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 18:54
S83	0	(dtx or discontinuous transmission) same (handoff or handover or roam $4) same (aware$4 or monitor$4) same (mov$4 or roam$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 18:57
S84	15	(idle period or standby period) same (handoff or handover or roam$4) same (aware$4 or monitor$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 19:02
S85	2	(idle period or standby period) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ$5) same (mov$6 or roam$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 19:48
S86	53	(power saving or sleep mode or power reservation) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ$5) same (mov$6 or roam$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:12

S87	4	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware $4 or monitor$4 or determ$5) same (mov$6 or roam$4) same (switch$4 near5 mode) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:25
S88	168	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware $4 or monitor$4 or determ$5) same (mov$6 or roam$4) same (control$4 or select$4 or switch$4)and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:28
S89	2	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware $4 or monitor$4 or determ$5) same (mov$6 or roam$4) same (control$4 or select$4 or switch$4)same (real $time or voice data or picture or e $mail) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:32
S90	12	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware $4 or monitor$4 or determ$5) same (mov$6 or roam$4) same (control$4 or select$4 or switch$4)same2 (real $time or voice data or picture or e $mail) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:35
S91	1	(prioriti$6 same (handoff or hand$off or handover or hand$over or roam $4) same real$time).ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 22:17
S92	15	(prioriti$6 same (handoff or hand$off or handover or hand$over or roam $4) same real$time) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 22:17
S93	7	"096721".AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 11:15
S94	5	"161668".AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 11:25
S95	6	"161298".AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 11:57
S96	6	"161298".AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 12:00

S97	6	"531814".AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 12:00
S98	5	"267590".AP.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 12:01
S99	6	"7022663"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 12:18
S100	6	"7072663"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 12:18
S101	2	"20070110016"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 13:35
S102	7	(prioriti$6 same (handoff or hand$off or handover or hand$over or roam $4) same real$time) and @rlad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 15:01
S103	5	"6947399"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 15:54
S104	5	"542934".ap.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 16:10
S105	0	("2007/0076684").URPN.	USPAT	ADJ	ON	2009/04/30 16:13
S106	75	"5640677"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:09
S107	1	(MAHO or mobile assist$2 handoff or mobile assist$2 handover) same (idle or sleep or standby or silent) same (stationary or still)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:16
S108	15568182	s	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:16
S109	1	(MAHO or mobile assist$2 handoff or mobile assist$2 handover) same (idle or sleep or standby or silent) same (stationary or still)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:17
S110	3	(MAHO or mobile assist$2 handoff or mobile assist$2 handover) same2 ((idle or sleep or standby or silent) same (stationary or still))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:18
S111	0	(MAHO or mobile assist$2 handoff or mobile assist$2 handover).ab. and ((idle or sleep or standby or silent) same (stationary))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:19

S112	0	(MAHO or mobile assist$2 handoff or mobile assist$2 handover).ab. and ((idle or sleep or standby or silent) same (determin$5 near2 motion))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:19
S113	0	(MAHO or mobile assist$2 handoff or mobile assist$2 handover) and ((idle or sleep or standby or silent) same (determin$5 near2 motion))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:19
S114	0	(handoff or handover) and ((idle or sleep or standby or silent) same (determin$5 near2 motion))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:20
S115	4	(handoff or handover) and ((idle or sleep or standby or silent) same2 (determin$5 near2 motion))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 18:20
S116	2	(handoff or handover) and ((idle or sleep or standby or silent) same2 (determin$5 near2 motion)and (gps or global position$3 system))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 19:19
S117	2	"20030081657"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 14:34
S118	36581	((battery near conserv$6) or (power near conserv$6) or (battery near sav $4) or (power near sav$4)).ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 17:38
S119	2	S118 and (GPS or global position$4 system) same2 stationary same2 (real $time or voice) same3 (non$real $time or browsing or file shar$4 or file transfer$4 or mail or e-mail or email) and ("370".clas. or "455". clas.) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 17:38
S120	0	S118 and (GPS or global position$4 system) and (stationary same2 (real $time or voice) same3 (non$real $time or browsing or file shar$4 or file transfer$4 or mail or e-mail or email) and ("370".clas. or "455". clas.)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 17:40
S121	0	S118 and (GPS or global position$4 system) and (stationary same2 (real $time or voice) same3 (non$real $time or browsing or file shar$4 or file transfer$4 or mail or e-mail or email)) and ("370".clas. or "455". clas.) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 17:40
S122	41	(GPS or global position$4 system) same2 stationary same2 (real$time or voice) same3 (non$real$time or browsing or file shar$4 or file transfer $4 or mail or e-mail or email)and ("370".clas. or "455".clas.) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 17:42

S123	3051	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 18:06
S124	875	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 18:06
S125	3684	S123 or S124	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 18:06
S126	3071	S125 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 18:06
S127	5	S126 and (GPS or global position$4 system) and (stationary same3 (non $real$time or browsing or file shar$4 or file transfer$4 or mail or e-mail or email)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 18:11
S128	2	"20070178876"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/01 18:42

5/3/2009 2:20:23 PM
C:\Documents and Settings\xzhang\My Documents\EAST\Workspaces\Default EAST Workspace (Flat Panel).wsp

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S46	0	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin$3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management).ab. and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:02
S47	0	(silent period or standby or shut off or mode) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin $3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management).ab. and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:02
S48	1	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((determin$3 or recogniz$4 or distinguish$4) same (real-time or real time)same (non-real-time or non real time)) and (power management) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:03
S49	175	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((real-time or real time)same (non-real-time or non real time)) and (power management) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:04
S50	146312	S49 and "370".clas. or "455".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:05
S51	237	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (moving or roaming) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav $4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:21
S52	27	S51 and "455".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:21

S53	27	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam $4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and ("455".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:30
S54	138869	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam $4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and ("455".clas.) or ("370".clas.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:32
S55	34	(silent period or standby or shut off) and (awareness or autonomous or automatic$4) and (mov$4 or roam $4 or in motion or travel$4) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131" and (("455".clas.) or ("370".clas.))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/26 19:32
S56	25	yaqub-raziq.IN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 09:37
S57	217	zhang-tao.IN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:34
S58	3042	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:59
S59	869	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 10:59
S60	3670	S58 or S59	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:00

S61	253	(silent period or standby or shut off) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:01
S62	2	S61 and S60	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 11:02
S63	17	prioritiz$6.ab. and S60	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 13:15
S64	3065	S60 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 14:27
S65	22	((determ$6 or discover$4) same (roam$4 or handover or handoff) same (communicat$4 near3 device)) and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 15:26
S66	33	((sleep or idle or standby) same mode same handoff) and S64	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/27 16:51
S67	3	"7068623"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:19
S68	27	"6477176"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:44
S69	288	(silent period or standby or shut off or dtx or discontinuous transmission) and (mov$4 or roam $4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:53
S70	39	(dtx or discontinuous transmission) and (mov$4 or roam$4 or in motion or travel$4 or handoff or handover) and (application or mode) and ((real-time or real time)same (non-real-time or non real time)) and (power management or power control or power conservation and (power near1 sav$4)) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 13:53

S71	3049	455/343.2,435.2,515,574.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S72	871	370/311.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S73	3678	S71 or S72	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S74	0	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe) and S73	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S75	0	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:29
S76	2	(handoff or handover or hand-off or hand-over or roam$4) near2 (interframe or inter frame)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 14:30
S77	3071	S73 and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/28 16:54
S78	68	"6512919"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 09:39
S79	2	"20020102966"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 10:09
S80	3	"20050040230"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 10:21
S81	380	(dtx or discontinuous transmission) and (handoff or handover or roam $4) and (aware$4 or monitor$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 18:41
S82	6	(dtx or discontinuous transmission) same (handoff or handover or roam $4) same (aware$4 or monitor$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 18:54
S83	0	(dtx or discontinuous transmission) same (handoff or handover or roam $4) same (aware$4 or monitor$4) same (mov$4 or roam$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 18:57

S84	15	(idle period or standby period) same (handoff or handover or roam$4) same (aware$4 or monitor$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 19:02
S85	2	(idle period or standby period) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ$5) same (mov$6 or roam$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 19:48
S86	53	(power saving or sleep mode or power reservation) same (handoff or handover or roam$4) same (aware $4 or monitor$4 or determ$5) same (mov$6 or roam$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:12
S87	4	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ $5) same (mov$6 or roam$4) same (switch$4 near5 mode) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:25
S88	168	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ $5) same (mov$6 or roam$4) same (control$4 or select$4 or switch$4) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:28
S89	2	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ $5) same (mov$6 or roam$4) same (control$4 or select$4 or switch$4) same (real$time or voice data or picture or e$mail) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:32
S90	12	(power saving or sleep mode or power reservation or dtx or discontinuous or idle) same (handoff or handover or roam$4) same (aware$4 or monitor$4 or determ $5) same (mov$6 or roam$4) same (control$4 or select$4 or switch$4) same2 (real$time or voice data or picture or e$mail) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 20:35
S91	1	(prioriti$6 same (handoff or hand $off or handover or hand$over or roam$4) same real$time).ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 22:17

S92	15	(prioriti$6 same (handoff or hand $off or handover or hand$over or roam$4) same real$time) and @ad<"20060131"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/04/29 22:17

4/30/2009 4:55:26 PM
C:\Documents and Settings\xzhang\My Documents\EAST\Workspaces\Default EAST Workspace (Flat Panel).wsp

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 1960

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/558,273	11/09/2006 RULE	455	4125	3119.137

APPLICANTS

Raziq Yaqub, Stewartsville, NJ;
Tao Zhang, Fort Lee, NJ;

**** CONTINUING DATA ***************************

This appln claims benefit of 60/763,520 01/31/2006

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

12/15/2006

Foreign Priority claimed ❑ Yes ☑ No 35 USC 119(a-d) conditions met ❑ Yes ☑ No Verified and Acknowledged /EDWARD ZHANG/ Examiner's Signature	❑ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NJ	9	20	3

ADDRESS

WATCHSTONE P+D, PLLC
1250 CONNECTICUT AVENUE, N.W.
SUITE 700
WASHINGTON, DC 20036-2657
UNITED STATES

TITLE

APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

FILING FEE RECEIVED		
1130	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	❑ All Fees ❑ 1.16 Fees (Filing) ❑ 1.17 Fees (Processing Ext. of time) ❑ 1.18 Fees (Issue) ❑ Other _____ ❑ Credit

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
11/558,273		2617	

OC000000037101812

Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 89739 on 07/27/2009

- **Correspondence Address**
- **Power of Attorney Address**

The address of record for Customer Number 89739 is:

89739
WP&D unit of Westerman Hattori Daniels & Adrian
LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

Appl. No.: 11/558,273 Confirmation No. 1960
Applicant: R. YAQUB
Filed: November 9, 2006
Title: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

Docket No. : 3119.137

RESPONSE

Box Amendment
Director of the United States Patent
and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the Office Action of May 15, 2009, early reconsideration of this application in view of the following amendments and remarks is respectfully requested. In this response:

a) Amendments to the claims begin on ***page 2*** under the Listing of Claims having additions shown in underline and deletions shown in strike-through; and

b) Remarks begin on ***page 8***.

Listing of Claims:

1. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation;

said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

2. (Original) The method of claim 1, further including having said mobile control processes based on both of said application awareness and said operating situation awareness.

3. (Original) The method of claim 1, further including having said mobile control radio interface processes based on one or more of said application awareness and said operating situation awareness.

4. (Original) The method of claim 3, further including having said mobile control radio interface processes based on both of said application awareness and said operating situation awareness.

5. (Original) The method of claim 4, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

6. (Original) The method of claim 4, further including having said mobile make use of silent periods based on the operating situation of said mobile.

7. (Original) The method of claim 6, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

8. (Currently Amended) The method of claim 9~~1~~, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

9. (Original) The method of claim 1, further including having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

10. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation, and

having said mobile control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness;

~~The method of claim 8,~~ further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

11. (Original) The method of claim 10, further including having said mobile perform certain processes based on:

a) if it is running a real-time application and it is stationary;

b) if it is running a non-real-time application and it is moving;

c) if it is running a non-real-time application and it is stationary; and

d) if it is stationary and power consumption is not an issue.

12. (Original) The method of claim 11, further including having said mobile perform:

e) QoS enhancement if it is running a real-time application and it is stationary;

f) network discovery if it is running a non-real-time application

and it is moving;

g) energy conservation if it is running a non-real-time application and it is stationary; and

h) information sharing if it is stationary and power consumption is not an issue.

13. (Original) The method of claim 11, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

14. (Original) The method of claim 1, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

15. (Original) The method of claim 1, further including having said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level.

16. (Original) The method of claim 15, further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist.

.

17. (Original) The method of claim 16, further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

18. (Currently Amended) A mobile apparatus, comprising:

a plurality of heterogeneous network interfaces;

a processor;

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications;

said mobile being configured to monitor its operating situation, including moving or non moving status; and

said mobile being configured to control processes, including use of said heterogeneous network interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

19. (Original) The mobile apparatus of claim 18, wherein said mobile is configured to switch between modes of operation of based on said application awareness and said situation awareness, including to switch between one or more of the following modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

20. (Currently Amended) A method of controlling a mobile apparatus, comprising:

controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed, including use of network interfaces, during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile.

REMARKS

Careful reconsideration of this application in view of the foregoing amendments and the following remarks is most respectfully requested.

Objections to the Claims:

In paragraph 1 of the Office Action, claims 3, 4 and 10 were objected to. It is respectfully submitted that the claims as now amended are proper. Withdrawal of these objections is respectfully requested.

Rejections under 35 U.S.C. 103:

In paragraph 4 of the Office Action, claims 1, 3, 8 and 10 were rejected under 35 U.S.C. 103 over **Barany** (U.S. Patent No. 7,068,623) in view of **Karlsson** (U.S. Patent No. 5,640,677); claims 2 and 4-7 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Sen** (U.S. Patent No. 6,947,399); claims 9, 13 and 14 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Ranta** (U.S. Patent Pub. No. 2003/0081657); claims 11 and 12 were rejected over the first two references above, further in view of **Buckley** (U.S. Patent Pub. No. 2006/0160537); claims 15-17 were rejected over the first two references above, further in view of **Feroz** (U.S. Patent No. 7,426,181); and claims 18-20 were rejected over **Barany** (above) further in view of **Ranta** (above). These rejections are respectfully traversed, as follows.

In the Office Action, the Examiner acknowledges that Barany "lacks the teaching of having said mobile be aware of its operating situation." However, the Examiner asserts that such would have been obvious in view of Karlsson. This assertion is respectfully contested. Barany pertains to a system and method to extract uplink status flag bits in a cellular wireless network. On the other hand, Karlsson pertains to handoff within a cellular radio system. The references do not teach the features recited in the independent claims. First, it is respectfully submitted that the references cannot be combined in the manner suggested by the Patent Examiner. Second, it is respectfully submitted that the references further do not teach the combinations of features as now recited in the claims.

Independent Claim 1:

It is respectfully submitted that ***claim 1*** recites a combination of features not taught by the cited references, including, e.g., "[a] method of controlling a wireless mobile having multiple interfaces, comprising: having said mobile be aware of its applications running on it; having said mobile be aware of its operating situation; said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes***, including use of said heterogeneous radio interfaces,*** of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness."

As set forth in the present specification:

> "The present inventors have found that if a MID becomes aware of the applications running on it, and also the situation it is operating in, most of the complex processes, circuitries, and algorithms running in the device, ***including radio interfaces***, can be either run more efficiently or used for watchful multitasking.."

It is respectfully submitted that the cited references not only omit the features of the present invention, but also do not achieve the benefits and advantages thereof. Accordingly, claim 1, and the claims depending therefrom, should be in condition for allowance for at least these reasons.

Independent Claim 18:

Similarly, it is respectfully submitted that ***claim 18*** recites a combination of features not taught by the cited references, including, e.g., "[a] mobile apparatus, comprising: a plurality of heterogeneous network interfaces; a processor; said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications; said mobile being configured to monitor its operating situation, including moving or non moving status; and said mobile being configured to control processes***, including use of said heterogeneous network interfaces,*** of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness."

Accordingly, claim 18, and the claims depending therefrom, should be in condition for allowance for at least these reasons.

Independent Claim 20:

Similarly, it is respectfully submitted that ***claim 20*** recites a

combination of features not taught by the cited references, including, e.g., "[a] method of controlling a mobile apparatus, comprising: controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed***, including use of network interfaces,*** during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile."

Independent Claim 10:

In this response, ***claim 10*** is now placed into independent form. It is respectfully submitted that claim 10, and dependent claims 11 to 13 that depend therefrom, are clearly allowable over the cited references. Moreover, it is respectfully submitted that the ***particular combinations of features recited in claims 11 to 12 are not even remotely contemplated by the cited references.*** Withdrawal of these rejections, is most respectfully requested.

Concluding Remarks:

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested.

Respectfully submitted,

/Stephen B. Parker, Reg. 36631/

By _____

Stephen B. Parker, Attorney for Applicants
Registration No. 36,631
Watchstone P+D, pllc, 1250 Connecticut Ave, N.W. (Suite 700), Washington, D.C. 20036
(202) 419-1518

Electronic Patent Application Fee Transmittal

Application Number:	11558273
Filing Date:	09-Nov-2006
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Filer:	Stephen B. Parker
Attorney Docket Number:	3119.137

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Independent claims in excess of 3	1201	1	220	220
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	130	130
Miscellaneous:				
		Total in USD ($)		**350**

Electronic Acknowledgement Receipt

EFS ID:	6077653
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Stephen B. Parker
Filer Authorized By:	
Attorney Docket Number:	3119.137
Receipt Date:	15-SEP-2009
Filing Date:	09-NOV-2006
Time Stamp:	16:47:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$350
RAM confirmation Number	3266
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Amendment/Req. Reconsideration-After Non-Final Reject	3119_137_RESPONSE.pdf	141798 e07a1f4e72a72446efcdedbf135c2adc34caa01e	no	12
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	32455 c33bfe43564e531f78cdd55d3a8c503d1df47c88	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	174253		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/558,273	11/09/2006	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	09/15/2009	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $ =		OR	X $52=	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***3	= 1	X $ =		OR	X $220=	220
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	**220**

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/DENISE HOPKINS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

89739 7590 12/08/2009

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
12/08/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PatentMail@WHDA.com
patents@w-pd-a.com
JanicePringle@system.foundationip.com

Office Action Summary	Application No.	Applicant(s)	
	11/558,273	YAQUB ET AL.	
	Examiner	Art Unit	
	XIANG ZHANG	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09/15/2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) in view of Karlsson (US Pat 5640677).

Regarding claims 1 and 3, Barany discloses the method of controlling (“control messages for maintenance purposes”, Col 7, line 17) a wireless mobile (“mobile station B”, Col 7, line 16) having multiple interfaces (“LANs, WANs” interfaces col. 2, line 5), comprising: having said mobile be aware of its applications running on it (“Instead of voice, the mobile stations 34 and 40 are also capable of communicating other types of real-time, interactive data, such as video data, multimedia data, and so forth", Col 4, line 43-46); Barany further teaches the method of controlling processes of said mobile during silent periods ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) base on its applications awareness ("control messages for maintenance purposes are still needed for mobile station A. For that reason, such control messages are communicated at set periods in the uplink path. The control messages include the SID_UPDATE message, which is used to communicate comfort noise parameters. Also, during the set periods, mobile station A can transmit PTCCH packet timing advance control channel to maintain time alignment; PACCH

packet associated control channel to transmit control messages such as a channel quality message that includes parameters for link adaptation; RTCP Real-Time Protocol Control Protocol messages to provide feedback on the quality of real-time data communicated in the downlink path", Col 7, line 17-29). Barany further teaches a method of controlling a wireless mobile having multiple interfaces, comprising said multiple interfaces including heterogeneous radio interfaces ("LANs, WANs" interfaces col. 2, line 5).

One skilled in the art will recognize the mobile device is required to be operated via the microprocessor as described (Barany, Col 15, line 43-54) which also includes user interfaces for selecting application and operating system having the awareness of the selected applications.

However, Barany lacks the teaching of having said mobile be aware of its operating situation. On the other hand, Karlsson discloses the method of having the mobile be aware of its operating situation ("evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42); and having said mobile control processes such as handoff as described of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of its

applications running on the mobile device of Barany in order to optimize the efficiency of monitoring the operating situation of the mobile terminal while minimizing the power usage implicitly taught by Karlsson.

Regarding claim 8, Barany in view of Karlsson discloses the method of claim 1. Barany further including having said mobile control processes, including use of said heterogeneous radio interfaces of said mobile during silent periods ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) based on said mobile running a non-real-time application (“non-real-time traffic flows, Col 5, line 67) thereon or a real-time application (“real-time traffic flows, Col 5, line 64) thereon.

Regarding claim 10, Barany teaches a method of controlling a wireless mobile having multiple interfaces (“LANs, WANs” interfaces col. 2, line 5), comprising: having said mobile be aware of its applications running on it (“Instead of voice, the mobile stations 34 and 40 are also capable of communicating other types of real-time, interactive data, such as video data, multimedia data, and so forth", Col 4, line 43-46); having said mobile control processes of said mobile during silent periods ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) based on said mobile running a non-real-time application (“non-real-time traffic flows, Col 5, line 67) thereon or a real-time application (“real-time traffic flows, Col 5, line 64) thereon.

In the same field of endeavor, Karlsson discloses a method of controlling a wireless mobile comprising: having said mobile be aware of its operating situation and

having said mobile control processes of said mobile during silent periods based on its operating situation (“evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42).

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of its applications running on the mobile device of Barany in order to optimize the efficiency of monitoring the operating situation of the mobile terminal while minimizing the power usage.

Claims 2, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) in view of Karlsson (US Pat 5640677) and further in view of Sen (US Pat 6947399).

Regarding claims 2 and 4, Barany in view of Karlsson as discussed above shows the limitations in claim 1. However, neither Barany nor Karlsson teach the method of having the mobile control processes based on both of said application awareness and said operating situation awareness.

In the same field of endeavor, Sen discloses in his method and mobile control radio interface for using the mobile control processes (“during handoff process, it is important to maintain the user’s QoS”, Col 3, line 28-29; it will be appreciated that maintaining QoS relies upon an interface process in the mobile) based on both of said application awareness and operating awareness (“Minimizing the handoff delay for real-time, non-elastic applications (such as voice and video)", Col 3,

line 34-35; Prioritizing handoffs based on the user's Service Level Agreement *and application being used*; Col. 3, lines 38-39).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention was made to not only use the method of running application or situation awareness control process as taught by Barany in view of Karlsson but also the method of using both application and situation awareness control process in order to jointly address the issue of application and mobility which provides optimal traffic utilization as taught by Sen implicitly.

Regarding claim 5, Barany in view of Karlsson and further in view of Sen disclose the method of claim 4, Barany further including having said mobile make use of silent periods based on needs of applications running on said mobile ("to take advantage of this unused bandwidth, traffic from other mobile stations, such as the mobile station 102, can be multiplexed into the silent periods 104, 106, and 108. For optimal performance, the traffic that is multiplexed into the DTX periods includes traffic that is not sensitive to delays", Col 6, line 39-41).

Regarding claim 6, Barany in view of Karlsson and further in view of Sen disclose the method of claim 4. However, Barany and Sen lack the teaching of mobile *making use of silent periods* based on needs of operating situation of said mobile. On the other hand, Karlsson teaches the method of use of silent periods ("evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42). It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be

aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of both of its operating and application situation as taught by Barany and Karlsson in order to prioritize the procedure to improve the readiness of the handoff during the power saving mode.

Regarding claim 7, Barany in view of Karlsson and further in view of Sen discloses the method that shows the limitation in claim 6. Barany further teaches the method of said mobile make use of silent periods based on needs of applications running on said mobile ("to take advantage of this unused bandwidth, traffic from other mobile stations, such as the mobile station 102, can be multiplexed into the silent periods 104, 106, and 108. For optimal performance, the traffic that is multiplexed into the DTX periods includes traffic that is not sensitive to delays", Col 6, line 39-41).

Claims 9, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) and Karlsson (US Pat 5640677) in view of Ranta (US PGPub 20030081657).

Regarding claim 9, Barany in view of Karlsson as discussed above shows the limitations claimed, except they do not specifically disclose that the mobile control processes of said mobile during silent periods based on said mobile moving or not moving. On the other hand, in the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving ("whether the MS 100 is in motion or whether is

stationary, "Pg 5-6, [0062-0063]) during silent periods (“idle mode”, Pg 5, [0062], line 10). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta with the teaching of using control processes of operating situation awareness and/or application awareness of said mobile during silent period in order to achieve the aggregate result in term of minimizing the overall power consumption utilizing the silent period using the integrated approach of allocating the adequate amount of network resource according to the motion of the mobile device taking despite the amount of power consumed by the GPS receiver.

Regarding claims 13 and 14, Barany in view of Karlsson and further in view of Ranta disclose the limitations in claim 11. However, Barany and Karlsson lack the teaching of having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters. On the other hand, Ranta discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector ("motion detection system", Pg 5, [0062]). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the mobile device as taught by Ranta in the teaching of claim 11 in order to enable the minimization of the mobile power consumption by having this integrated

switch in the motion detection system as implicitly taught by Ranta.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) and Karlsson (US Pat 5640677) in view of Ranta (US PGPub 20030081657) and further in view Buckley (US PGPub 20060160537).

Regarding claim 11, Barany in view of Karlsson as discussed above shows the limitations of mobile control processes running a non-real-time or real-time application during the silent period, except they lack the teaching of said mobile perform certain processes based on: e) if it is running a real-time application and it is stationary; f) if it is running a non-real-time application and it is moving; g) if it is running a non-real time application and it is stationary; and h) if it is stationary and power consumption is not an issue. On the other hand, Ranta teaches the method of determining whether the mobile device is moving or not moving ("received signal-derived parameters of the cellular system, a position of the mobile station derived from the cellular system positioning function, and a position of the mobile station derived from the satellite-based positioning function to derive a value that is indicative of the presence or absence of motion of the mobile station", Pg 2, [0011], line 5-10). In addition, Buckley teaches running a non-real-time application (“WAP browser”, Pg 3, [0031], line 9) and it is moving (“multi-device roaming", Pg 3, [0031], line 15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of performing network discovery if it is running a non-real-time

application and it is moving as taught by Buckley with the method of Barany in order to provide comprehensive options for running various applications in a homogeneous or heterogeneous networks for the mobile. Barany in view of Karlsson and further in view of Ranta and Buckley still lack the teaching of if it is stationary and power consumption is not an issue. However, one skilled in the art will recognize that the scenario whereas the mobile device is stationary and power consumption is not an issue. It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the combination of the scenarios of the application and operating situation awareness as the limitation of e) -- h) as disclosed above in order to implement the deterministic power allocation in the mobile device taking into the account of different combination of the application and operating situation given that the various scenarios require different power consumption levels.

Regarding claim 12, Barany in view of Karlsson and further in view of Ranta disclose the limitations in claim 11. Barany further discloses the method of having said mobile perform i) QOS enhancement ("To enhance the bandwidth for communications with the various mobile stations in the radio access network 11, multiplexing of traffic is performed", Col 5, 1-3) if it is running a real-time application and it is stationary ("when the mobile stations 34 and 40 (associated with voice or other real-time, interactive data users) are in discontinuous transmission (DTX) mode and thus not transmitting traffic", Col 5, line 3-6); k) energy conservation if it is running a non-real-time application ("multiplexed into

the DTX periods includes traffic that is not sensitive to delays", Col 6, line 41-44); However, Barany lacks the teaching of i)when the mobile is stationary; j)network discovery if it is running a non-real-time application and it is moving; k) and it is stationary; l) information sharing if it is stationary and power consumption is not an issue. On the other hand, in the same field of endeavor Buckley discloses the method of j) network discovery ("accesses", Pg 3, [0031], line 4; also see "supports multi-device roaming", line 1) if it is running a non-real-time application ("WAP browser", Pg 3, [0031], line 9) and it is moving ("multi-device roaming", Pg 3, [0031], line 15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of performing network discovery if it is running a non-real-time application and it is moving as taught by Buckley with the method of Barany in order to provide comprehensive options for running various applications in a homogeneous or heterogeneous networks for the mobile. Barany in view of Karlsson and Ranta and further in view of Buckley discussed above shows the limitations claimed, except they do not specifically disclose the method of i)when the mobile is stationary; l)information sharing if it is stationary and power consumption is not an issue. The examiner takes official notice that i) the mobile is required to enhance its QOS any time when the user is running the application that is real-time since bandwidth is critical in executing the real time packets such as voice; k) likewise, since bandwidth allocation is not as critical to the non-real-time user application as oppose to the real-time user applications, the corresponding power consumption can be reduced accordingly

when the mobile is not in motion; l) when power consumption is not critical as the mobile is not in motion the real-time or non-real-time applications which may require large quantity of information or file exchange between two mobile devices may be run as a result. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of the method of l) in combination of the factor such as whether or not the mobile is moving with the teaching of Barany in view of Karlsson and further in view of Ranta and Buckley in order to provide all the combinatorial mobile power running modes with respect to the motion of the mobile as well as the types of application the mobile runs on.

Claim 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) and Karlsson (US Pat 5640677) and further in view of Feroz (US Pat 7426181).

Regarding claim 15, Barany in view of Karlsson disclose the method as discussed in claim 1. However, Barany and Karlsson lack the teaching of said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level. On the other hand, Feroz teaches the method of said mobile activate a secondary interface (Fig 2, item 72) to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level ("if there is insufficient data to compute the initial rate demand, path rate detection module 88 may subsequently use one or both of these initial rate demands", Col 14, line 33-36; also see "leaving it to flow control module 84 to

determine an appropriate bandwidth allocation for the data flow", Col 14, line 40-41) . One skilled in the art will recognize the mobile device will require the secondary interface to offer enhanced bandwidth according to various data rate demands with respect to different network interfaces ("802.11, Bluetooth, satellite-base interfaces", Col 7, line 18). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the secondary interface in respond to the additional bandwidth or data reception requirement as taught by Feroz and the teaching of Barany in view of Karlsson as discussed in claim 1 in order to provide additional bandwidth setting.

Regarding claim 16, Barany in view of Karlsson and further in view of Feroz disclose the method as discussed in claim 15. However, Barany and Karlsson lack the teaching of said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist. On the other hand, in the same field of endeavor Feroz teaches the first (first network interface 71, Col 7, line 3, also see Fig 2) and second (second network interface 72, Col 7, line 3, also see Fig 2) interface of said mobile having said mobile storing one or more parameters ("maintaining one or more measurement variable statistics in connection with the data flows", Col 7, line 36-38) which is configured according to the flow control module (Fig 2, Fig 84) which determines if the secondary interface is qualified to assist. It was well known in the art that the mobile device stores various in parameters such as traffic classes and/or data flow rates in

primary and secondary interface and is capable of comparing the corresponding parameters among the interfaces for choosing the adequate interface. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of having the primary and secondary interface in the mobile device with the stored parameters and the method of selecting the secondary interface accordingly in order to create clear distinctions on resource management between various types of traffic with respect to resource management.

Regarding claim 17, Barany in view of Karlsson and further in view of Feroz disclose the method as discussed in claim 16. However, Barany and Karlsson lack the teaching of said further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface , and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets. On the other hand, Feroz further teaches the method of if the secondary interface qualities to assist, a trigger is issued to the secondary interface (“all data flows corresponding to a given partition, flow control module 84 allocates bandwidth to a given data flow based on the lower of the target rate, or the rate that would be

otherwise allocated to the data flow according to a fair-share, or weighted fair share algorithm", Col 17, line 7-12), secondary interface sends a binding request ("partition", Col 21, line 10) to a Home Agent ("traffic classification database 86", Col 21, line 8) for a Secondary Care of Address ("policy parameters", Col 21, line 9), and the home agent uses tunneling mechanisms ("traffic class comprises a set of matching rules or attributes allowing for logical grouping of data flows that share the same characteristic or set of characteristics--e.g., a service ID or type (see Section A.1., above), a specific application, protocol, IP address, MAC address" which creates the tunneling and corresponding match between mobile devices and IP addresses, Col 10, line 31-35). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the trigger for activating the secondary interface in handling the traffic upon binding request signaling when the traffic condition is met as taught by Feroz with the teaching of implementing the bandwidth enhancement in conjunction to the application and operating situation awareness as taught by Barany in view of Karlsson in order to accomplish the adequate bandwidth enhancement according to the traffic condition. On the other hand, Feroz lacks the teaching of if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets. The

examiner takes official notice that it was well known a particular type of traffic must be directed to either the first or the second interface. In the case when the traffic condition of the secondary interface is met, the primary interface is shut down and the secondary interface is used for all user packets It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of having the secondary interface to handle all the user packets when the trigger command is received by the Home Agent for a Secondary Care of Address as taught by Feroz with the teaching of implementing the bandwidth enhancement in conjunction to the application and operating situation awareness as taught by Barany in view of Karlsson in order to provide the single conduit for traffic according to the access technology requirement as well as the application requirement.

Claim 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barany (US Pat 7068623) in view of Ranta (US PGPub 2003/0081657) .

Regarding claim 18, Barany discloses the mobile apparatus, comprising: a plurality of heterogeneous network interfaces (“LANs, WANs” interfaces col. 2, line 5); a processor (“microprocessor”, Col 15, line 48); said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications (“Instead of voice, the mobile stations 34 and 40 are also capable of communicating other types of real-time, interactive data, such as video data, multimedia data, and so forth" Col 4, line 43-46). Barany further teaches the mobile apparatus being configured to control processes, including use of said heterogeneous network interfaces, of said mobile during silent periods (“during DTX/discontinuous transmission

mode of mobile station A", Col 7, line 16-17, also see Fig 2) based on its application awareness ("control messages for Item 104, 106, and 108). However, Barany does not teach the method wherein mobile being configured to monitor its operating situation, including moving or non moving status. On the other hand, in the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving (“whether the MS 100 is in motion or whether is stationary, "Pg 5-6, [0062-0063]) during silent periods (“idle mode”, Pg 5, [0062], line 10). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta with the teaching of using control processes of operating situation awareness and/or application awareness of said mobile during silent period in order to achieve the aggregate result in term of minimizing the overall power consumption utilizing the silent period using the integrated approach of allocating the adequate amount of network resource according to the motion of the mobile device taking despite the amount of power consumed by the GPS receiver. Ranta further discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector ("motion detection system", Pg 5, [0062], line 9). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the

mobile device as taught by San as discussed supra, re: claim 11 in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Regarding claim 20, Barany discloses the method of controlling a mobile apparatus, comprising:

Controlling said mobile to make efficient use of silent periods (“take advantage of this unused bandwidth, traffic from other mobile stations, such as the mobile station 102, can be multiplexed into the silent periods”, Col 6, line 39-42)due to unoccupied brief intervals ("during DTX/discontinuous transmission mode of mobile station A", Col 7, line 16-17, also see Fig 2) of wireless traffic data. However, Barany lacks the teaching of automatically switching between multiple tasks performed during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile. On the other hand, Ranta further discloses the method of having said mobile switch to a certain tasks automatically based on motion condition of the mobile ("motion detection system", Pg 5, [0062], line 9) during the silent periods (“idle mode”, Pg 5, [0062] depending on a traffic volume (“comparing the value to a motion threshold and, when an absence of motion is detected, said controller being responsive for reducing power consumption of the mobile station by selectively decreasing usage of the mobile station cellular system reception", claim 17, line 10-13). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the

teaching of using the mobile switch in determining the motion condition of the mobile device as taught by Ranta with the teaching of the switching condition depending on a traffic volume of at least one application running on said mobile apparatus (Barany, Col 2, line 43-46) as taught by Barany in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Response to Arguments

3. Applicant's argument filed Sep 15, 2009 have been fully considered but they are not persuasive.

4. On page 9 of the Applicant's Response, Applicant argues that the reference of Carlsson can not be combined with Barany. And Carlsson does not teach the limitation in claim 1.

The examiner respectfully disagree with the applicant. First of, Carlsson does teach mobile be aware of its operating situation ("evaluation of handoff likelihood in the mobile during an idle period", col. 13, line 42). Referring to the application submitted by the applicant (US PGPub 2007/0178876 A1), ([0018]), the situation awareness is being referred to as the decision to perform proactive handoff. As a result, Carlsson does disclose this limitation. In addition, Both Barany and Carlsson teach a method of dynamic control of the mobile device based on the running condition at a circuit switched or packet switched telecommunication network in order to optimize quality of service while conserving the power consumption without interrupting the continuous control and monitoring during the power saving mode. Barany further teaches the

network with heterogeneous radio interfaces which is capable of interoperable in both networks and protocols which requires having multiple interfaces and transceivers (col. 3, line 34). As a result, the references of Barany and Carlsson are closely related.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIANG ZHANG whose telephone number is (571)270-7693. The examiner can normally be reached on Monday-Thursday, 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571)272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/XIANG ZHANG/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/29/2009	12/02/2009							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	✓							
	19	✓	✓							
	20	✓	✓							

IN THE U.S. PATENT & TRADEMARK OFFICE

Appl. No.:	11/558,273	Confirmation No. 1960
Applicant:	R. YAQUB	
Filed:	November 9, 2006	
Title:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS	
Docket No. :	3119.137	

RESPONSE

Box Amendment
Director of the United States Patent
and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the final Office Action, early reconsideration of this application in view of the following amendments and remarks is respectfully requested. In this response:

a) Amendments to the claims begin on ***page 2*** under the Listing of Claims having additions shown in underline and deletions shown in strike-through; and

b) Remarks begin on ***page 8***.

Listing of Claims:

1. (Previously Presented) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation;

said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

2. (Original) The method of claim 1, further including having said mobile control processes based on both of said application awareness and said operating situation awareness.

3. (Original) The method of claim 1, further including having said mobile control radio interface processes based on one or more of said application awareness and said operating situation awareness.

4. (Original) The method of claim 3, further including having said mobile control radio interface processes based on both of said application awareness and said operating situation awareness.

5. (Original) The method of claim 4, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

6. (Original) The method of claim 4, further including having said mobile make use of silent periods based on the operating situation of said mobile.

7. (Original) The method of claim 6, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

8. (Previously Presented) The method of claim 9, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

9. (Original) The method of claim 1, further including having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

10. (Canceled).

11. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation, and

having said mobile control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness;

further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon;

~~The method of claim 10,~~

further including having said mobile perform certain processes based on:

a) if it is running a real-time application and it is stationary;

b) if it is running a non-real-time application and it is moving;

c) if it is running a non-real-time application and it is stationary; and

d) if it is stationary and power consumption is not an issue.

12. (Original) The method of claim 11, further including having said mobile perform:

e) QoS enhancement if it is running a real-time application and it is stationary;

f) network discovery if it is running a non-real-time application and it is moving;

g) energy conservation if it is running a non-real-time application and it is stationary; and

h) information sharing if it is stationary and power consumption is not an issue.

13. (Original) The method of claim 11, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

14. (Original) The method of claim 1, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

15. (Original) The method of claim 1, further including having said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level.

16. (Original) The method of claim 15, further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary

interface qualifies to assist.

17. (Original) The method of claim 16, further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

18. (Previously Amended) A mobile apparatus, comprising:

a plurality of heterogeneous network interfaces;

a processor;

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications;

said mobile being configured to monitor its operating situation, including moving or non moving status; and

said mobile being configured to control processes, including use of said heterogeneous network interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

19. (Original) The mobile apparatus of claim 18, wherein said mobile is configured to switch between modes of operation of based on said application awareness and said situation awareness, including to switch between one or more of the following modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

20. (Previously Presented) A method of controlling a mobile apparatus, comprising:

controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed, including use of network interfaces, during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile.

REMARKS

Careful reconsideration of this application in view of the foregoing amendments and the following remarks is most respectfully requested.

Rejections under 35 U.S.C. 103:

In the Office Action, claims 1, 3, 8 and 10 were rejected under 35 U.S.C. 103 over **Barany** (U.S. Patent No. 7,068,623) in view of **Karlsson** (U.S. Patent No. 5,640,677); claims 2 and 4-7 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Sen** (U.S. Patent No. 6,947,399); claims 9, 13 and 14 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Ranta** (U.S. Patent Pub. No. 2003/0081657); claims 11 and 12 were rejected over the first two references above, further in view of **Buckley** (U.S. Patent Pub. No. 2006/0160537); claims 15-17 were rejected over the first two references above, further in view of **Feroz** (U.S. Patent No. 7,426,181); and claims 18-20 were rejected over **Barany** (above) further in view of **Ranta** (above). These rejections are respectfully traversed, as follows.

The Deficiencies of the Barany Reference:

a. Barany is Improperly Applied and Relates to a Wholly Different Technology.

First, it is initially noted that the Barany references is very different from the present invention and is being improperly applied.

While the present invention relates to, e.g., controlling of processes of a mobile device such that that mobile device makes use of silent periods of that mobile device, the Barany reference is wholly different. In contrast, the Barany reference relates to a situation in which a **second** mobile device on a cellular network is operated to communicate on the same channel as **first** mobile device by multiplexing the signals, based on silent periods detected in relation to the **first** mobile device.

As described below, the Patent Office's reliance on this reference is wholly improper and disregards clear distinctions in the present claims. The undersigned respectfully requests that the Patent Office work in cooperation with the Applicant as opposed to issuing strained/improper rejections based on rather different art.

b. Barany Does Not Contemplate the Advantages of the Present Invention.

As set forth in the present application, the preferred embodiments enable a **multiple interface** mobile device to **run more efficiently** or **perform advantageous multi-tasking** based on use of that mobile device's own silent periods. The Barany reference does **not** even remotely contemplate such noteworthy advantages. The advantages of the present invention are highly beneficial over and unexpected in light of references such as Barany. As set forth in the present application:

> The present inventors have found that if a MID [Multiple Interface Device] becomes aware of the applications running on it, and also the situation it is operating in, most of the complex processes, circuitries, and algorithms running in the device, including radio

interfaces, can be either run more efficiently or used for watchful multitasking. See page 12 of the present application.

First, Barany does **not** even remotely contemplate these advantages; Barany does **not** address controlling processes on a mobile device based on awareness of its own applications or operating situation. Barany only relates enabling another mobile device to communicate over a same channel as a first mobile device by multiplexing signals over the channel.

Second, Barany does **not** even contemplate nor relate to **use of multiple interfaces**, much less advantages achieved by controlling such use of multiple interfaces.

c. Barany Omits A Number of Key Elements Recited In the Claims.

i. Claim 1

Claim 1 recites a number of key elements that are wholly omitted in the cited reference, including:

1) having said mobile be aware of its applications running on it;

2) having said mobile be aware of its operating situation;

3) said multiple interfaces including heterogeneous radio interfaces;

4) having ***said mobile control processes***, ***including use of said heterogeneous radio interfaces***, of said mobile during silent periods ***based on one or more of its application awareness and its***

operating situation awareness.

Here, it should be appreciated that claim 1 involves a mobile device that has a) both awarenesses (see 1 and 2 above), b) multiple heterogeneous interfaces (see 3 above), and c) which mobile device controls processes **including use of the heterogeneous radio interfaces** (i.e., use of such plural interfaces) based on its awareness (see 4 above). The Barany reference does **not** teach any of these three aspects.

Here, it is important to note that said processes are specifically defined to include "**use of said heterogeneous radio interfaces**." Even if incorrectly interpreted, the Barany reference **does not** teach such features. The Barany reference does not control **use** of interfaces based on such awareness, ***much less control use of multiple interfaces based on such awareness.*** The Patent Office cannot disregard that claim 1 specifically recites interface**s**, which feature is very noteworthy as set forth above.

On the other hand, Barany relates **not** to the mobile devices **own** silence, but to the silence of **another** mobile device. See, e.g., column 5, lines 59+, which state: "[w]hen the mobile station detects (at 304) that user A has stopped talking, the mobile station enters (at 306) DTX mode" and sends a signal to the base station. The base station then allots a portion of the channel to another mobile device.

See also column 5, lines 1+.

> To enhance the bandwidth for communications with the various mobile stations in the radio access network **11**, multiplexing of traffic is performed when the mobile stations **34** and **40** (associated with voice or other real-time, interactive data users) are in discontinuous transmission (DTX) mode and thus not transmitting traffic. When that occurs, the radio access network **11** allocates the channel portion that is used by the voice user mobile station (currently in DTX mode) to another mobile station, such as one of mobile stations **36**, **38**, and **42** (which are communicating packet traffic) or to another mobile station that is communicating real-time, interactive data or streaming data.

See also column 6, lines 15+.

> As shown in FIG. **2**, the mobile station **100** is communicating voice data with periods of silence (**104**, **106**, and **108**) corresponding to DTX mode of the mobile station **100** during which the user of the mobile station **100** is not speaking. During the silent periods **104**, **106**, and **108**, data (represented as **110**, **112**, and **114**) from mobile station **102** may be multiplexed onto the channel portion by a statistical multiplexer **116** that is part of the radio access network **11**. The combined flow of the multiplexed traffic from the mobile stations **100** and **102** are outputted by the statistical multiplexer **116**.

Barany does not contemplate controlling whether to use one of a plurality of network interfaces based on such a detection; in fact, Barany only contemplates use of a single interface (i.e., multiplexing signals of multiple mobiles on a single channel).

d. Balany Does <u>Not</u> Contemplate A Multiple Interface Device.

Additionally, it is important to note that the Patent Office incorrectly asserted that Balany shows a multiple interface device. It is submitted that Balany does **not** contemplate use of the invention in relation to a multiple interface device. The section cited by the Examiner

at column 2, line 5 merely relates to a discussion of the art and indicates some types of networks that packet switched wireless connection protocols can be used in relation to. This does **not** even remotely suggest that Balany is somehow applicable to a multiple interface device.

The entire Balany invention pertains only to communications over a particular single interface, and, in fact, relates to multiplexing of communication over a single channel of such a single interface.

The Deficiencies of the Barany Reference:

a. In the Office Action, the Patent Office expresses that somehow the Balany reference is to be modified based on the Karlsson reference. However, this intended modification is rather unclear.

First, it is not understood how the Balany reference could be modified based on Karlsson. Moreover, the Karlsson reference does not fulfill the deficiencies of the Balany reference.

Second, it is respectfully submitted that the Patent Office has misinterpreted the Karlsson reference. In particular, the Karlsson reference does **not** teach or suggest any sort of motion awareness or movement awareness, such that the references do **not** suggest "having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving" as is recited in, e.g., dependent claim 9.

ii. Claim 11

In this response, claim 10 is now canceled, to expedite allowance,

and claim 11 is now placed into independent format. It is respectfully submitted that claim 11 plainly sets forth details that are not even remotely contemplated by the references, including, e.g.: "[a] method of controlling a wireless mobile having multiple interfaces, comprising: having said mobile be ***aware of its applications running on it***; having said mobile be ***aware of its operating situation***, and having said mobile ***control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness***; further including having ***said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon***; further including having ***said mobile perform certain processes based on:*** i) ***if it is running a real-time application and it is stationary;*** *ii)* ***if it is running a non-real-time application and it is moving;*** *iii)* ***if it is running a non-real-time application and it is stationary; and*** *iv)* ***if it is stationary and power consumption is not an issue***." Emphasis added to facilitate reference. The features recited in this claim are clearly not taught or suggested by the references. Among other things, there is plainly no teaching or suggestion for the control based on the four conditions i) through iv) set forth in the latter portion of the claim.

iii. Claim 18

Similarly, claim 18 recites a combination of features that are also

not taught or suggested by the cited references, including, e.g.: "[a] mobile apparatus, comprising: a plurality of ***heterogeneous network interfaces***; a processor; said mobile being ***configured to monitor applications running on it, including real time or non real time nature of said applications***; said mobile being ***configured to monitor its operating situation, including moving or non moving status***; and said mobile being ***configured to control processes, including use of said heterogeneous network interfaces***, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness." Emphasis added to facilitate reference.

It is respectfully submitted that these features are not taught or suggested for reasons set forth above. In addition, it is noted that similar to claim 9, claim 18 also recites that said "said mobile being ***configured to monitor its operating situation, including moving or non moving status***" while the references do **not** teach or suggest such features.

iv. Claim 20

Similarly, claim 20 recites a combination of features that are also not taught or suggested by the cited references, including, e.g.: "[a] method of controlling a mobile apparatus, comprising: controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by ***automatically switching between multiple tasks performed***, ***including use of network interfaces***, during said silent periods depending on a traffic volume of at least one

application running on said mobile apparatus ***and*** a ***motion condition*** of the mobile."

It is respectfully submitted that these features are not taught or suggested for reasons set forth above. The references do not teach or suggest that during the silent periods the mobile apparatus switches between tasks performed based on traffic volume of at least one application running on said mobile apparatus **AND** a motion condition of the mobile. In addition, the references do not teach or suggest that during the silent periods, the mobile apparatus automatically switches use of network interfaces (i.e., plural interfaces). Here, claim 20 specifically recites that that mobile is controlled to "make efficient use of silent periods by" carrying out the features recited in the claim; this is wholly different from the context of Barany wherein the processes relate to two mobile devices and not to making efficient use of silent periods for a particular mobile apparatus.

The remaining references do **not** fulfill the deficiencies of the Barany and Karlsson references. Accordingly, it is submitted that the claims are in condition for allowance at this time. With respect to the remaining dependent claims, it is submitted that these claims are, thus, allowable for reasons parallel to that set forth above. In addition, these dependent claims also recite further features that are not taught or suggested by the references. Early reconsideration and allowance are respectfully requested.

Request for Interview:

In view of the deficiencies in the rejections, in the event that the Patent Office does not now proceed to allow this application, it is respectfully requested that the Patent Examiner contact the undersigned to arrange a telephone interview to discuss this application at the telephone number indicated below.

Concluding Remarks:

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested. In the event that any fees are now due, please charge our Deposit Account No. 50-2866.

Respectfully submitted,

/Stephen B. Parker, Reg. 36631/

By _____

Stephen B. Parker, Attorney for Applicants
Registration No. 36,631
Watchstone P+D, pllc
Westerman, Hattori, Daniels and Adrian, LLP
1250 Connecticut Ave, N.W. (Suite 700),
Washington, D.C. 20036
(202) 822-1100

Electronic Patent Application Fee Transmittal

Application Number:	11558273
Filing Date:	09-Nov-2006
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Filer:	Stephen B. Parker
Attorney Docket Number:	3119.137

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	1251	1	130	130

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**130**

Electronic Acknowledgement Receipt

EFS ID:	7379968
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Stephen B. Parker
Filer Authorized By:	
Attorney Docket Number:	3119.137
Receipt Date:	08-APR-2010
Filing Date:	09-NOV-2006
Time Stamp:	17:27:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$130
RAM confirmation Number	3741
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Amendment After Final	3119_137_RESPONSE_TO_FINAL.pdf	192269 e6c9ab4b7255cd27dcbff01bb21958fd3063586b	no	17
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	30639 c9d8e392c609c4ec1ce6d8ddfbb27b27cc6cfa07	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	222908		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/558,273	11/09/2006	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	04/08/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X $ =		OR	X $52=	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/KAREN VESTAL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

89739 7590 04/19/2010

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
04/19/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PatentMail@WHDA.com
patents@w-pd-a.com
JanicePringle@system.foundationip.com

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 11/558,273	**Applicant(s)** YAQUB ET AL.	
	Examiner XIANG ZHANG	**Art Unit** 2617	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 April 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 2 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: 1-20.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617

/X.Z/
Patent Examiner, Art Unit 2617

With respect to Applicants' arguments on page regarding "said multiple interfaces including heterogeneous radio interfaces…including use of said heterogeous radio interfaces"; examiner assserts that Barany does teach the limitation as claimed. The claimed term "radio interface" appears to be broad enough that the multiple transceivers (col. 3, line 34) adapted for paceket-switched wireless connection protocols with interoperability of WANs and LANs (col. 2, line 5) meets the limiitation as claimed. Note that the claim does not specifically point out that the multiple interfaces must be embedded on the wireless mobile. In addition, regarding the argument on page 9, section b), the applicants argue that Barany does not contemplate the advantage of the present invention since the applicants intend to enable a multiple interface mobile device to run more efficiently or perform advantageous multi-tasking based on use of that mobile device's own silent periods". However, this limtation is not explicitly claimed.

IN THE U.S. PATENT & TRADEMARK OFFICE

Appl. No.:	11/558,273	Confirmation No. 1960
Applicant:	R. YAQUB	
Filed:	November 9, 2006	
Title:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS	
Docket No.:	3119.137	

REQUEST FOR PRE-APPEAL REVIEW

BOX APPEAL
Director of the United States Patent
and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In conjunction with the Request for Pre-Appeal Review, applicant submits the attached pages of remarks. Careful reconsideration of this application based on the attached remarks is respectfully requested.

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested. In the event that any fees are now due, please charge our Deposit Account No. 50-2866.

Respectfully submitted,

/Stephen B. Parker, Reg. 36631/

By _____

Stephen B. Parker, Attorney for Applicants
Registration No. 36,631
Watchstone P+D, pllc
Westerman, Hattori, Daniels and Adrian, LLP
1250 Connecticut Ave, N.W. (Suite 700), Washington, D.C. 20036
(202) 822-1100

REMARKS ACCOMPANYING REQUEST FOR PRE-APPEAL REVIEW

1. Response to Remarks In Advisory Action:

It is most respectfully submitted that the Advisory Action contains **plain misstatements and errors**.

First, the Examiner indicates, again, that "the term 'radio interface' appears to be broad enough that the multiple transceivers (col. 3, line 34) adapted for packet-switched wireless connection protocols with interoperability of WANs and LANs (col. 2, line 5) meets the limitation as claimed." It is respectfully submitted that this does **not** make any sense. Careful review of the remarks below at d. on page 5 is requested.

Second, the Examiner also **very incorrectly** states that "the claim does not specifically point out that the multiple interfaces must be embedded on the wireless mobile." Notably, this is a core aspect of the present invention. And, this feature is plainly included in the present claims.

Here, claims 1 and 18 very plainly include "multiple interfaces" within a mobile device.

As for **claim 1**, the claim plainly recites in the preamble "[a] method of controlling a wireless mobile having multiple interfaces" and specifically refers to the limitations in the preamble in the body of the claim by reciting "said multiple interfaces including heterogeneous radio interfaces" and even further the claim expresses that the heterogeneous interfaces are "processes of said mobile" by further reciting "control processes, including use of said heterogeneous radio interfaces, of said mobile."

As for **claim 18**, the preamble plainly recites "[a] mobile apparatus, comprising" and the body of the claim plainly recites "a plurality of heterogeneous network interfaces." It is nonsensical to disregard these limitations. In addition, the claim further expresses that the heterogeneous interfaces are "processes of said mobile" by further reciting "control processes, including use of said heterogeneous network interfaces, of said mobile."

As for claims 11 and 20, these claims also should be understood to include "multiple interfaces" within a mobile device. Moreover, these claims also recite very substantial other features that are completely overlooked as discussed below.

As for **claim 11**, the preamble of the claim plainly recites "a wireless mobile having multiple interfaces" and, notably, certain dependent claims – such as, e.g., claims 15, 16 and 17 plainly set forth that the mobile device includes multiple interfaces.

As for **claim 20**, the claim should be understood by those of ordinary skill in the art to pertain to interfaces of the mobile device. First, the method recites "[a] method of controlling a mobile apparatus." Second, the method recites "automatically switching between multiple tasks performed, including use of network interfaces." It should be apparent that the tasks performed of "use of network interfaces" pertain to network interfaces of the mobile device. Nevertheless, with respect to claim 20, it is respectfully noted that this claim also recites very notable features that are completely overlooked by the Examiner as set forth below.

Rejections under 35 U.S.C. 103:

Once again, it is strongly submitted that the standing rejections are erroneous and should be withdrawn, as set forth below.

The Deficiencies of the Barany Reference:

a. Barany is Improperly Applied and Relates to a Wholly Different Technology.

First, it is initially noted that the Barany references is very different from the present invention and is being improperly applied. While the present invention relates to, e.g., controlling of processes of a mobile device such that that mobile device makes use of silent periods of that mobile device, the Barany reference is wholly different. In contrast, the Barany reference relates to a situation in which a **second** mobile device on a cellular network is operated to communicate on the same channel as **first** mobile device by multiplexing the signals, based on silent periods detected in relation to the **first** mobile device.

As described below, the Patent Office's reliance on this reference is wholly improper and disregards clear distinctions in the present claims. The undersigned respectfully requests that the Patent Office work in cooperation with the Applicant as opposed to issuing strained/improper rejections based on rather different art.

b. Barany Does Not Contemplate the Advantages of the Present Invention.

As set forth in the present application, the preferred embodiments enable a **multiple interface** mobile device to **run more efficiently** or **perform advantageous multi-tasking** based on use of that mobile device's own silent periods. The Barany reference does **not** even remotely contemplate such noteworthy advantages. The advantages of the present invention are highly beneficial over and unexpected in light of references such as Barany. As set forth in the present application:

> The present inventors have found that if a MID [Multiple Interface Device] becomes aware of the applications running on it, and also the situation it is operating in, most of the complex processes, circuitries, and algorithms running in the device, including radio interfaces, can be either run more efficiently or used for watchful multitasking. See page 12 of the present application.

First, Barany does **not** even remotely contemplate these advantages; Barany does **not** address controlling processes on a mobile device based on awareness of its own applications or operating situation. Barany only relates enabling another mobile device to communicate over a same channel as a first mobile device by multiplexing signals over the channel.

Second, Barany does **not** even contemplate nor relate to **use of multiple interfaces**, much less advantages achieved by controlling such use of multiple interfaces.

c. Barany Omits A Number of Key Elements Recited In the Claims.

i. Claim 1

Claim 1 recites a number of key elements that are wholly omitted in the cited reference, including:

1) having said mobile be aware of its applications running on it;

2) having said mobile be aware of its operating situation;

3) said multiple interfaces including heterogeneous radio interfaces;

4) having ***said mobile control processes***, ***including use of said heterogeneous radio interfaces***, of said mobile during silent periods ***based on one or more of its application awareness and its operating situation awareness***.

Here, it should be appreciated that claim 1 involves a mobile device that has a) both awarenesses (see 1 and 2 above), b) multiple heterogeneous interfaces (see 3 above), and c) which mobile device controls processes **including use of the heterogeneous radio interfaces** (i.e., use of such plural interfaces) based on its awareness (see 4 above). The Barany reference does **not** teach any of these three aspects.

Here, it is important to note that said processes are specifically defined to include "**use of said heterogeneous radio interfaces**." Even if incorrectly interpreted, the Barany reference **does not** teach such features. The Barany reference does not control **use** of interfaces based on such awareness, ***much less control use of multiple interfaces based on such awareness.*** The Patent Office cannot disregard that claim 1 specifically recites interfaces, which feature is very noteworthy as set forth above.

On the other hand, Barany relates **not** to the mobile devices **own** silence, but to the silence of **another** mobile device. See, e.g., column 5, lines 59+, which state: "[w]hen the mobile station detects (at 304) that user A has stopped talking, the mobile station enters (at 306) DTX mode" and sends a signal to the base station. The base station then allots a portion of the channel to another mobile device.

See also column 5, lines 1+.

> To enhance the bandwidth for communications with the various mobile stations in the radio access network 11, multiplexing of traffic is performed when the mobile stations 34 and 40 (associated with voice or other real-time, interactive data users) are in discontinuous transmission (DTX) mode and thus not transmitting traffic. When that occurs, the radio access network 11 allocates the channel portion that is used by the voice user mobile station (currently in DTX mode) to another mobile station, such as one of mobile stations 36, 38, and 42 (which are communicating packet traffic) or to another mobile station that is communicating real-time, interactive data or streaming data.

See also column 6, lines 15+.

> As shown in FIG. 2, the mobile station 100 is communicating voice data with periods of silence (104, 106, and 108) corresponding to DTX mode of the mobile station 100 during which the user of the mobile station 100 is not speaking. During the silent periods 104, 106, and 108, data (represented as 110, 112, and 114) from mobile station 102 may be multiplexed onto the channel portion by a statistical multiplexer 116 that is part of the radio access network 11. The combined flow of the multiplexed traffic from the mobile stations 100 and 102 are outputted by the statistical multiplexer 116.

Barany does not contemplate controlling whether to use one of a plurality of network interfaces based on such a detection; in fact, Barany only contemplates use of a single interface (i.e., multiplexing signals of multiple mobiles on a single channel).

d. **Barany Does Not Contemplate A Multiple Interface Device.**

Additionally, it is important to note that the Patent Office incorrectly asserted that Barany shows a multiple interface device. It is submitted that Barany does **not** contemplate use of the invention in relation to a multiple interface device. The section cited by the Examiner at column 2, line 5 merely relates to a discussion of the background art and indicates some types of networks that packet switched wireless connection protocols can be used in relation to. This does **not** even remotely suggest that Barany is somehow applicable to a multiple interface device.

The entire Barany invention pertains only to communications over a particular single interface, and, in fact, relates to multiplexing of communication over a single channel of such a single interface.

The Deficiencies of the Barany Reference:

a. In the Office Action, the Patent Office expresses that somehow the Barany reference is to be modified based on the Karlsson reference. However, this intended modification is rather unclear.

First, it is not understood how the Barany reference could be modified based on Karlsson. Moreover, the Karlsson reference does not fulfill the deficiencies of the Barany reference.

Second, it is respectfully submitted that the Patent Office has misinterpreted the Karlsson reference. In particular, the Karlsson reference does **not** teach or suggest any sort of motion awareness or movement awareness, such that the references do **not** suggest "having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving" as is recited in, e.g., dependent claim 9.

ii. Claim 11

In this response, claim 10 is now canceled, to expedite allowance, and claim 11 is now placed into independent format. It is respectfully submitted that claim 11 plainly sets forth details that are not even remotely contemplated by the references, including, e.g.: "[a] method of controlling a wireless mobile having multiple interfaces, comprising: having said mobile be ***aware of its applications running on it***; having said mobile be ***aware of its operating situation***, and having said mobile ***control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness***; further including having ***said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon***; further including having ***said mobile perform certain processes based on:*** i) ***if it is running a real-time application and it is stationary;*** *ii)* ***if it is running a non-real-time application and it is moving;*** *iii)* ***if it is running a non-real-time application and it is stationary; and*** *iv)* ***if it is stationary and power consumption is not an issue***." Emphasis added to facilitate reference. The features recited in this claim are clearly not taught or suggested by the references. Among other things, there is plainly no teaching or suggestion for the control based on the four conditions i) through iv) set forth in the latter portion of the claim.

iii. Claim 18

Similarly, claim 18 recites a combination of features that are also not taught or suggested by the cited references, including, e.g.: "[a] mobile apparatus, comprising: a plurality of ***heterogeneous network interfaces***; a processor; said mobile being ***configured to monitor applications running on it, including real time or non real time nature of said applications***; said mobile being ***configured to monitor its operating situation, including moving or non moving status***; and said mobile being ***configured to control processes, including use of said heterogeneous network interfaces***, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness." Emphasis added to facilitate reference.

It is respectfully submitted that these features are not taught or suggested for reasons set forth above. In addition, it is noted that similar to claim 9, claim 18 also recites that said "said mobile being ***configured to monitor its operating situation, including moving or non moving status***" while the references do **not** teach or suggest such features.

iv. Claim 20

Similarly, claim 20 recites a combination of features that are also not taught or suggested by the cited references, including, e.g.: "[a] method of controlling a mobile apparatus, comprising: controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by ***automatically switching between multiple tasks performed***, ***including use of network interfaces***, during said silent periods depending on a traffic volume of at least one ***application*** running on said mobile apparatus ***and*** a ***motion condition*** of the mobile."

It is respectfully submitted that these features are not taught or suggested for reasons set forth above. The references do not teach or suggest that during the silent periods the mobile apparatus switches between tasks performed based on traffic volume of at least one application running on said mobile apparatus **AND** a motion condition of the mobile. In addition, the references do not teach or suggest that during the silent periods, the mobile apparatus automatically switches use of network interfaces (i.e., plural interfaces). Here, claim 20 specifically recites that that mobile is controlled to "make efficient use of silent periods by" carrying out the features recited in the claim; this is wholly different from the context of Barany wherein the processes relate to two mobile devices and not to making efficient use of silent periods for a particular mobile apparatus.

The remaining references do **not** fulfill the deficiencies of the Barany and Karlsson references. Accordingly, it is submitted that the claims are in condition for allowance at this time. With respect to the remaining dependent claims, it is submitted that these claims are, thus, allowable for reasons parallel to that set forth above. In addition, these dependent claims also recite further features that are not taught or suggested by the references. Early reconsideration and allowance are respectfully requested.

Conclusion:

In view of the foregoing remarks, it is respectfully submitted that the present rejections are plainly improper and should be withdrawn. It is respectfully requested that the Patent Office confirm the allowability of the present claims. In the event that the Patent Office desires to discuss any aspect of the application or to suggest any amendments to help move this application forward towards allowance, the Patent Office is encouraged to contact the above-signed attorney via telephone.

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

Typed or printed name _____

Application Number	Filed
11558273	2006-11-09

First Named Inventor: Raziq Yaqub

Art Unit	Examiner
2617	X. Zhang

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☑ attorney or agent of record. Registration number 36631.
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

/Stephen B. Parker, Reg. No. 36,631/
Signature

Stephen B. Parker
Typed or printed name

202-822-1100
Telephone number

2010 May 10
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	11558273
Filing Date:	09-Nov-2006
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Filer:	Stephen B. Parker
Attorney Docket Number:	3119.137

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Notice of appeal	1401	1	540	540
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $130 paid	1252	1	360	360
Miscellaneous:				
		Total in USD ($)		**900**

Electronic Acknowledgement Receipt

EFS ID:	7583845
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Stephen B. Parker
Filer Authorized By:	
Attorney Docket Number:	3119.137
Receipt Date:	10-MAY-2010
Filing Date:	09-NOV-2006
Time Stamp:	18:01:10
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$900
RAM confirmation Number	5046
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Notice of Appeal Filed	NOTICE_OF_APPEAL.pdf	244228 d4de98a78b11e071622b493df28f10b632c89df5	no	2
Warnings:					
Information:					
2	Pre-Brief Conference request	3119_137_PRE_APPEAL_REVIEW.pdf	196657 392b90388b90a776f888a9cb350e0e1b6db05633	no	6
Warnings:					
Information:					
3	Pre-Brief Conference request	REQUEST_FOR_REVIEW.pdf	234131 6f620d26d7b08282aa17d824a6ea062ab3799d05	no	2
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	32645 4e9f68f1f879be9f8bb91e6cbb08b2d6e252387c	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	707661		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/31 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Docket Number (Optional): 3119.137

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]
on _____

Signature _____

Typed or printed name _____

In re Application of: Raziq Yaqub

Application Number	Filed
11558273	2006-11-09

For

Art Unit	Examiner
2617	X. Zhang

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the last decision of the examiner.

The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) $ 510.00

☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is: $ _____

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 502866 .

☑ A petition for an extension of time under 37 CFR 1.136(a) (PTO/SB/22) is enclosed.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☑ attorney or agent of record.
Registration number 36631.

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34. _____

/Stephen B. Parker, Reg. No. 36,631/
Signature

Stephen B. Parker
Typed or printed name

202-822-1100
Telephone number

2010 May 10
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 41.31. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

89739 7590 07/30/2010

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	**PAPER NUMBER**
2617	

MAIL DATE	DELIVERY MODE
07/30/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Panel Decision from Pre-Appeal Brief Review	Application/Control No.	Applicant(s)/Patent under Reexamination
	11/558,273	YAQUB ET AL.
	CHARLES N. APPIAH	Art Unit: 2617

This is in response to the Pre-Appeal Brief Request for Review filed 10 May 2010.

1. ☐ **Improper Request** – The Request is improper and a conference will not be held for the following reason(s):

☐ The Notice of Appeal has not been filed concurrent with the Pre-Appeal Brief Request.
☐ The request does not include reasons why a review is appropriate.
☐ A proposed amendment is included with the Pre-Appeal Brief request.
☐ Other: .

The time period for filing a response continues to run from the receipt date of the Notice of Appeal or from the mail date of the last Office communication, if no Notice of Appeal has been received.

2. ☐ **Proceed to Board of Patent Appeals and Interferences** – A Pre-Appeal Brief conference has been held. The application remains under appeal because there is at least one actual issue for appeal. Applicant is required to submit an appeal brief in accordance with 37 CFR 41.37. The time period for filing an appeal brief will be reset to be one month from mailing this decision, or the balance of the two-month time period running from the receipt of the notice of appeal, whichever is greater. Further, the time period for filing of the appeal brief is extendible under 37 CFR 1.136 based upon the mail date of this decision or the receipt date of the notice of appeal, as applicable.

☐ The panel has determined the status of the claim(s) is as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

3. ☐ **Allowable application** – A conference has been held. The rejection is withdrawn and a Notice of Allowance will be mailed. Prosecution on the merits remains closed. No further action is required by applicant at this time.

4. ☒ **Reopen Prosecution** – A conference has been held. The rejection is withdrawn and a new Office action will be mailed. No further action is required by applicant at this time.

All participants:

(1) *CHARLES N. APPIAH*. (3)_____.

(2) *ZHANG XIANG*. (4)_____.

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

89739 7590 10/01/2010

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
10/01/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PatentMail@WHDA.com
patents@w-pd-a.com
JanicePringle@system.foundationip.com

Office Action Summary	Application No.	Applicant(s)	
	11/558,273	YAQUB ET AL.	
	Examiner	Art Unit	
	XIANG ZHANG	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Pre-Appeal Brief filed on 9/23/2009, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

2. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final)or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:
/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Karlsson (US Pat 5640677).

Regarding claims 1 and 3, Bennett discloses the method of controlling ([0021], also see [0051]) a wireless mobile having multiple interfaces ([0032], lines 9-13, also see [0054] wherein the wireless mobile feature multiple interfaces/module for IrDA, WPAN communication, also see), comprising: having said mobile be aware of its applications running on it ([0062] wherein the status of the application running is displayed in silent/sleep mode, also see Fig. 7); said multiple interfaces including heterogeneous radio interfaces([0013], also see [0032], lines 9-13), and having said mobile control processes, of said mobile during silent periods based on its application awareness ([0019], also see [0067], lines 5-24).

However, Bennett lacks the teaching of having said mobile be aware of its operating situation. On the other hand, Karlsson discloses the method of having the mobile be aware of its operating situation ("evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42); and having said mobile control processes such as handoff as described of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness.

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of its applications running on the mobile device of Barany in order to optimize the efficiency of monitoring the operating situation of the mobile terminal while minimizing the power usage implicitly taught by Karlsson.

Regarding claim 10, Bennett teaches a method of controlling a wireless mobile having multiple interfaces comprising: having said mobile be aware of its applications running on it ([0062] wherein the status of the application running is displayed in silent/sleep mode, also see Fig. 7); having said mobile control processes of said mobile during silent periods ([0019], also see [0067], lines 5-24).

However, the combination of Bennett and Karlsson lacks the teaching of the method having said mobile control processes of said mobile during silent periods based on said mobile running a real-time application thereon.

In the same field of endeavor, Karlsson discloses a method of controlling a wireless mobile comprising: having said mobile be aware of its operating situation and having said mobile control processes of said mobile during silent periods based on its operating situation (“evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42).

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of its applications running on the mobile device of Barany in order to optimize the efficiency of monitoring the operating situation of the mobile terminal while minimizing the power usage.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Karlsson (US Pat 5640677) and further in view of Barany (US Pat 7068623 B1).

Regarding claim 8, Bennett in view of Karlsson discloses the method of claim 1. However, the combination of Bennett and Karlsson lacks the teaching of the method having said mobile control processes, including use of said heterogeneous radio interfaces of said mobile during silent periods based on said mobile running a non-real-time application.

In the same field of endeavor, Barany teaches the method including having said mobile control processes, including use of said heterogeneous radio interfaces of said mobile during silent periods ([0067], lines 5-24) based on said mobile running a non-real-time application ("non-real-time traffic flows, Col 5, line 67) thereon or a real-time application ("real-time traffic flows, Col 5, line 64) thereon.

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method having said mobile control processes, including use of said heterogeneous radio interfaces of said mobile during silent periods based on said mobile running a non-real-time application as taught by Barany in order to optimize the resource usage while conserving the battery life.

6. Claims 2, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Karlsson (US Pat 5640677) and further in view of Sen (US Pat 6947399).

Regarding claims 2 and 4, Bennett in view of Karlsson as discussed above shows the limitations in claim 1. However, the combination of Bennett and Karlsson lacks the teaching of the method of having the mobile control processes based on both of said application awareness and said operating situation awareness.

In the same field of endeavor, Sen discloses in his method and mobile control radio interface for using the mobile control processes ("during handoff process, it is important to maintain the user's QoS", Col 3, line 28-29; it will be appreciated that maintaining QoS relies upon an interface process in the mobile) based on both of said application awareness and operating awareness ("Minimizing the handoff delay for real-time, non-elastic applications (such as voice and video)", Col 3, line 34-35; Prioritizing handoffs based on the user's Service Level Agreement *and application being used*; Col. 3, lines 38-39).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention was made to not only use the method of running application or situation awareness control process as taught by Bennett in view of Karlsson but also the method of using both application and situation awareness control process in order to jointly address the issue of application and mobility which provides optimal traffic utilization as taught by Sen implicitly.

Regarding claim 5, Bennett further teaches having said mobile make use of silent periods based on needs of applications running on said mobile ([0077], lines 15-23).

Regarding claim 6, Bennett in view of Karlsson and further in view of Sen disclose the method of claim 4. However, Bennett and Sen lack the teaching of mobile making use of silent periods based on needs of operating situation of said mobile.

In the same field of endeavor, Karlsson teaches the method of use of silent periods (“evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42). It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of the method of having said mobile be aware of its operating situation during the silent period of Karlsson to the teaching of the method of having said mobile be aware of both of its operating and application situation as taught by Barany and Karlsson in order to prioritize the procedure to improve the readiness of the handoff during the power saving mode.

Regarding claim 7, Bennett further teaches having said mobile make use of silent periods based on needs of applications running on said mobile ([0077], lines 15-23).

7. Claims 9, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Karlsson (US Pat 5640677) and further in view of Ranta (US PGPub 20030081657).

Regarding claim 9, Bennett in view of Karlsson as discussed above shows the limitations claimed, except they do not specifically disclose that the mobile control processes of said mobile during silent periods based on said mobile

moving or not moving.

In the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving (“whether the MS 100 is in motion or whether is stationary, "Pg 5-6, [0062-0063]) during silent periods (“idle mode”, Pg 5, [0062], line 10).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta with the teaching of using control processes of operating situation awareness and/or application awareness of said mobile during silent period in order to achieve the aggregate result in term of minimizing the overall power consumption utilizing the silent period using the integrated approach of allocating the adequate amount of network resource according to the motion of the mobile device taking despite the amount of power consumed by the GPS receiver.

Regarding claims 13 and 14, Bennett in view of Karlsson and further in view of Ranta disclose the limitations in claim 11. However, Bennett and Karlsson lack the teaching of having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

In the same field of endeavor, Ranta discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector

("motion detection system", Pg 5, [0062]). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the mobile device as taught by Ranta in the teaching of claim 11 in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Karlsson (US Pat 5640677) and further in view of Ranta (US PGPub 20030081657) and further in view Buckley (US PGPub 20060160537).

Regarding claim 11, Bennett in view of Karlsson as discussed above shows the limitations of mobile control processes running a non-real-time or real-time application during the silent period, except they lack the teaching of said mobile perform certain processes based on: e) if it is running a real-time application and it is stationary; f) if it is running a non-real-time application and it is moving; g) if it is running a non-real time application and it is stationary; and h) if it is stationary and power consumption is not an issue.

In the same field of endeavor, Ranta teaches the method of determining whether the mobile device is moving or not moving ("received signal-derived parameters of the cellular system, a position of the mobile station derived from the cellular system positioning function, and a position of the mobile station derived from the satellite-based

positioning function to derive a value that is indicative of the presence or absence of motion of the mobile station", Pg 2, [0011], line 5-10). In addition, Buckley teaches running a non-real-time application ("WAP browser", Pg 3, [0031], line 9) and it is moving ("multi-device roaming", Pg 3, [0031], line 15).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of performing network discovery if it is running a non-real-time application and it is moving as taught by Buckley with the method of Bennett in order to provide comprehensive options for running various applications in a homogeneous or heterogeneous networks for the mobile.

However, the combination of Bennett, Karlsson, Ranta in view of Karlsson and further in view of Ranta still lack the teaching of running a non-real-time application and it is moving in silent period.

In the same field of endeavor, Buckley teaches running a non-real-time application ("WAP browser", Pg 3, [0031], line 9) and it is moving in silent period ("multi-device roaming", Pg 3, [0031], line 15).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of running a non-real-time application and it is moving in silent period as taught by Buckley in order to be aware the bandwidth consumption as this mode should be minimized in the control process.

One of ordinary of skill in the art at the time of the invention would have recognized to utilized the combination of the scenarios of the application and operating situation awareness as the limitation of e) -- h) as disclosed above in order to implement

the deterministic power allocation in the mobile device taking into the account of different combination of the application and operating situation given that the various scenarios require different power consumption levels.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Karlsson (US Pat 5640677) and further in view of Ranta (US PGPub 20030081657) and further in view Buckley (US PGPub 20060160537) and further in view of Barany (US Pat 7068623) and further in view of Jeong (US PGPub 2005/0232200 A1).

Regarding claim 12, Bennett in view of Karlsson and further in view of Ranta and further in view of Buckley disclose the limitations in claim 11. Bennett further suggests the method of having said mobile perform e) QOS enhancement if it is running a real-time application ([0010]) and it is stationary ([0012]);

However, the combination of Bennet, Karlsson, and Ranta lacks the teaching of i)when the mobile is stationary f) network discovery if it is running a non-real-time application and it is moving.

In the same field of endeavor Buckley discloses the method of f) network discovery (“accesses”, Pg 3, [0031], line 4; also see “supports multi-device roaming", line 1) if it is running a non-real-time application (“WAP browser”, Pg 3, [0031], line 9) and it is moving (“multi-device roaming", Pg 3, [0031], line 15).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of performing network discovery if it is running a

non-real-time application and it is moving as taught by Buckley in order to provide comprehensive options for running various applications in a homogeneous or heterogeneous networks for the mobile.

However, the combination of Bennett, Karlsson, Ranta, and Buckley fails to disclose the method of g) g) energy conservation if it is running a non-real-time application and it is stationary.

In the same field of endeavor, Barany teaches energy conservation if it is running a non-real-time application and it is stationary ("multiplexed into the DTX periods includes traffic that is not sensitive to delays", Col 6, line 41-44).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of g) energy conservation if it is running a non-real-time application and it is stationary as taught by Barany in order to ensure the minimal power and bandwidth consumption when the application and the motion determines that the mobile unit is running the minimal power.

However, the combination of Bennett, Karlsson, Ranta, Buckley, and Barany still fails to teach h) information sharing if it is stationary and power consumption is not an issue.

In the same field of endeavor, Jeong teaches h)information sharing if it is stationary and power consumption is not an issue ([0064]).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of h)information sharing if it is stationary and

power consumption is not an issue as taught by Jeong in order to optimize the bandwidth usage of the network by communicating the other device(s) during dormant period.

10. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) and Karlsson (US Pat 5640677) and further in view of Feroz (US Pat 7426181).

Regarding claim 15, Bennett in view of Karlsson disclose the method as discussed in claim 1. However, Bennett and Karlsson lack the teaching of said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level.

On the other hand, Feroz teaches the method of said mobile activate a secondary interface (Fig 2, item 72) to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level ("if there is insufficient data to compute the initial rate demand, path rate detection module 88 may subsequently use one or both of these initial rate demands", Col 14, line 33-36; also see "leaving it to flow control module 84 to determine an appropriate bandwidth allocation for the data flow", Col 14, line 40-41) .

One skilled in the art will recognize the mobile device will require the secondary interface to offer enhanced bandwidth according to various data rate demands with respect to different network interfaces ("802.11, Bluetooth,

satellite-base interfaces", Col 7, line 18). It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the secondary interface in respond to the additional bandwidth or data reception requirement as taught by Feroz and the teaching of Bennett in view of Karlsson as discussed in claim 1 in order to provide additional bandwidth setting.

Regarding claim 16, Bennett in view of Karlsson and further in view of Feroz disclose the method as discussed in claim 15. However, Bennett and Karlsson lack the teaching of said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist.

On the other hand, in the same field of endeavor Feroz teaches the first (first network interface 71, Col 7, line 3, also see Fig 2) and second (second network interface 72, Col 7, line 3, also see Fig 2) interface of said mobile having said mobile storing one or more parameters ("maintaining one or more measurement variable statistics in connection with the data flows", Col 7, line 36-38) which is configured according to the flow control module (Fig 2, Fig 84) which determines if the secondary interface is qualified to assist. It was well known in the art that the mobile device stores various in parameters such as traffic classes and/or data flow rates in primary and secondary interface and is capable of comparing the corresponding parameters among the interfaces for choosing the adequate interface.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of having the primary and secondary interface

in the mobile device with the stored parameters and the method of selecting the secondary interface accordingly in order to create clear distinctions on resource management between various types of traffic with respect to resource management.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) and Karlsson (US Pat 5640677) and further in view of Feroz (US Pat 7426181) and further in view of Ozugur (US Pat 7299046).

Regarding claim 17, Bennett in view of Karlsson and further in view of Feroz disclose the method as discussed in claim 16. However, Bennett and Karlsson lack the teaching of said further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface , and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

On the other hand, Feroz further teaches the method of if the secondary interface qualities to assist, a trigger is issued to the secondary interface (“all data flows corresponding to a given partition, flow control module 84 allocates bandwidth to

a given data flow based on the lower of the target rate, or the rate that would be otherwise allocated to the data flow according to a fair-share, or weighted fair share algorithm", Col 17, line 7-12), secondary interface sends a binding request ("partition", Col 21, line 10) to a Home Agent ("traffic classification database 86", Col 21, line 8) for a Secondary Care of Address ("policy parameters", Col 21, line 9), and the home agent uses tunneling mechanisms ("traffic class comprises a set of matching rules or attributes allowing for logical grouping of data flows that share the same characteristic or set of characteristics--e.g., a service ID or type (see Section A.1., above), a specific application, protocol, IP address, MAC address" which creates the tunneling and corresponding match between mobile devices and IP addresses, Col 10, line 31-35).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the trigger for activating the secondary interface in handling the traffic upon binding request signaling when the traffic condition is met as taught by Feroz with the teaching of implementing the bandwidth enhancement in conjunction to the application and operating situation awareness as taught by Barany in view of Karlsson in order to accomplish the adequate bandwidth enhancement according to the traffic condition.

On the other hand, the combination of Bennett, Karlsson and Feroz lacks the teaching of if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is

shut down and the secondary interfaces is used for all user packets.

In the same field of endeavor, Ozugur discloses if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets (col. 8, lines 6-37).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of having the secondary interface to handle all the user packets when the trigger command is received by the Home Agent for a Secondary Care of Address as taught by Ozugur with the teaching of implementing the bandwidth enhancement in conjunction to the application and operating situation awareness as taught by Barany in view of Karlsson in order to provide the single conduit for traffic according to the access technology requirement as well as the application requirement.

12. Claim 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Ranta (US PGPub 2003/0081657).

Regarding claim 18, Bennett discloses the mobile apparatus, comprising: a plurality of heterogeneous network interfaces ([0032], lines 9-13, also see [0054]); a processor ([0016]); said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications ([0062]); the mobile

apparatus being configured to control processes ([0019], also see [0067], lines 5-24), including use of said heterogeneous network interfaces, of said mobile during silent periods ([0013], also see [0032], lines 9-13) based on its application awareness.

However, Barany does not teach the method wherein mobile being configured to monitor its operating situation, including moving or non moving status.

On the other hand, in the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving (“whether the MS 100 is in motion or whether is stationary, "Pg 5-6, [0062-0063]) during silent periods (“idle mode”, Pg 5, [0062], line 10). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta with the teaching of using control processes of operating situation awareness and/or application awareness of said mobile during silent period in order to achieve the aggregate result in term of minimizing the overall power consumption utilizing the silent period using the integrated approach of allocating the adequate amount of network resource according to the motion of the mobile device taking despite the amount of power consumed by the GPS receiver. Ranta further discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector ("motion detection system", Pg 5, [0062], line 9).

It would have been obvious to a person of ordinary of skill in the art at the time of

the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the mobile device as taught by San as discussed supra, re: claim 11 in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Regarding claim 20, Bennett discloses the method of controlling a mobile apparatus, comprising: Controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals ([0018]) of wireless traffic data.

However, Bennett lacks the teaching of automatically switching between multiple tasks performed during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile. On the other hand, Ranta further discloses the method of having said mobile switch to a certain tasks automatically based on motion condition of the mobile ("motion detection system", Pg 5, [0062], line 9) during the silent periods (“idle mode”, Pg 5, [0062] depending on a traffic volume (“comparing the value to a motion threshold and, when an absence of motion is detected, said controller being responsive for reducing power consumption of the mobile station by selectively decreasing usage of the mobile station cellular system reception", claim 17, line 10-13). It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the motion condition of the mobile device as taught by Ranta with the teaching of the switching condition depending on a traffic volume of at least one application running on said mobile

apparatus (Barany, Col 2, line 43-46) as taught by Bennett in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIANG ZHANG whose telephone number is (571)270-7693. The examiner can normally be reached on Monday-Thursday, 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571)272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/XIANG ZHANG/
Patent Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617

Notice of References Cited	Application/Control No. 11/558,273	Applicant(s)/Patent Under Reexamination YAQUB ET AL.	
	Examiner XIANG ZHANG	Art Unit 2617	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2005/0232200 A1	10-2005	Jeong et al.	370/331
*	B	US-2005/0245292 A1	11-2005	Bennett et al.	455/574
*	C	US-7,299,046 B1	11-2007	Ozugur et al.	455/439
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/29/2009	12/02/2009	09/25/2010						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	✓	✓	✓						
	10	✓	✓	✓						
	11	✓	✓	✓						
	12	✓	✓	✓						
	13	✓	✓	✓						
	14	✓	✓	✓						
	15	✓	✓	✓						
	16	✓	✓	✓						
	17	✓	✓	✓						
	18	✓	✓	✓						
	19	✓	✓	✓						
	20	✓	✓	✓						

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

SEARCHED			
Class	Subclass	Date	Examiner
370	311	04/27/09	Xiang Zhang
455	343.2,435.2,515,574	04/27/09	Xiang Zhang

SEARCH NOTES		
Search Notes	Date	Examiner
Consulted Vladimir Maggloire at TC 2617	04/28/09	X.Z
TC 2617 QEM discussion	04/30/09	X.Z
EAST notes attached	4/30/09	X.Z
See East Search Notes	9/25/2010	X.Z

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"11558273"	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:27
L2	28	@ad<"20060131" and ((real$time or audio) same (non$real or e$mail) same ("asp" or actionable silent period or "dtx" or discontinuous transmission))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:43
L3	25	2 and ("interfaces" or "modules")	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:43
L4	8	3 and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:45
L5	12	@ad<"20060131" and ((real$time or audio) same (non$real or e$mail) same (silent or dormant or sleep) same mode)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:48
L6	12	5 and ("interfaces" or "modules")	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:48
L7	0	6 and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:48
L8	0	@ad<"20060131" and ((real$time or audio) same (non$real or e$mail) same (silent or dormant or sleep)) and (455/552.1.ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:57

L9	22	@ad<"20060131" and (application same (silent or dormant or sleep)) and (455/552.1.ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:57
L10	0	@ad<"20060131" and (((aware$5 or depend$5 or according or correspon $5) near3 application) same (silent or dormant or sleep)) and (455/552.1.ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:58
L11	0	@ad<"20060131" and (((awar$5 or depend$5 or according or correspon $5) near5 application) same (silent or dormant or sleep)) and (455/552.1.ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:58
L12	6	@ad<"20060131" and ((mode with application) same (silent or dormant or sleep)) and (455/552.1.ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:59
L13	1	@ad<"20060131" and ((mode with application) same (silent or dormant or sleep)same real same "time") and (455/552.1. ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 16:59
L14	5	@ad<"20060131" and ((mode with application) same (silent or dormant or sleep)same real same "time") and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:02

L15	3	@ad<"20060131" and ((mode with application) same ((chat$5 or hand $off or hand$over or communicat$5) near3 (silent or dormant or sleep))) and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:07
L16	3	15 and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:07
L17	3	16 and ("modules" or "interfaces")	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:08
L18	64	@ad<"20060131" and (mode same ((chat$5 or hand$off or hand$over or communicat$5) near3 (silent or dormant or sleep))) and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:10
L19	64	18 and ((cellular or WAN or GSM or UTMS or CDMA) near5 (WLAN or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:11
L20	59	19 and ("modules" or "interfaces")	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:11
L21	0	20 and ("asp" or actionable silent period or "dtx" or discontinuous transmission)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:11
L22	31	20 and ("455".clas.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:12
L23	16	20 and ((silent or dormant or sleep).ab. or (silent or dormant or sleep).ti.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 17:13
L30	16	L23	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:18

L31	2	30 and (shar$5 same power)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:19
L32	19	18 and (shar$5 same power)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:20
L33	0	18 and ((stationary or mov$5) same shar$5 same power)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:20
L34	2	18 and ((hand$5 or stationary or mov$5) same shar$5 same power)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:20
L35	0	18 and ((roam$5 or mov $5) near5 status)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:34
L36	0	18 and ((roam$5 or mov $5) near5 display$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:34
L37	4	18 and ((roam$5 or mov $5) near5 (determin$5 or awar$5 or recogniz$5 or sens$5 or display$5))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 20:34
L38	1	30 and ((attach$5 or bind $5) same ((care of address) or IP) same (home or HA))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2010/09/25 21:08

9/25/2010 9:14:58 PM
C:\Documents and Settings\xzhang\My Documents\EAST\Workspaces\11692547amd3.wsp

UNITED STATES PATENT AND TRADEMARK OFFICE
COMMISSIONER FOR PATENTS
P.O.BOX 1450
ALEXANDRIA VA 22313-1451

PRESORTED
FIRST-CLASS MAIL
U.S. POSTAGE PAID
POSTEDIGITAL
NNNNN

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

Courtesy Reminder for
Application Serial No: 11/558,273

Attorney Docket No: 3119.137
Customer Number: 89739
Date of Electronic Notification: 10/01/2010

This is a courtesy reminder that new correspondence is available for this application. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:

PatentMail@WHDA.com
patents@w-pd-a.com
JanicePringle@system.foundationip.com

Please verify that these email addresses are correct.

To view your correspondence online or update your email addresses, please visit us anytime at **https://sportal.uspto.gov/secure/myportal/privatepair.** If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov or call 1-866-217-9197.

IN THE U.S. PATENT & TRADEMARK OFFICE

Appl. No.:	11/558,273	Confirmation No. 1960
Applicant:	R. YAQUB	
Filed:	November 9, 2006	
Title:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS	
Docket No.:	3119.137	

RESPONSE

Box Amendment
Director of the United States Patent
and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the non-final Office Action, early reconsideration of this application in view of the following amendments and remarks is respectfully requested. In this response:

a) Amendments to the claims begin on ***page 2*** under the Listing of Claims having additions shown in underline and deletions shown in strike-through; and

b) Remarks begin on ***page 10***.

Listing of Claims:

1. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation;

said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive.

2. (Original) The method of claim 1, further including having said mobile control processes based on both of said application awareness and said operating situation awareness.

3. (Original) The method of claim 1, further including having said mobile control radio interface processes based on one or more of said application awareness and said operating situation awareness.

4. (Original) The method of claim 3, further including having said mobile control radio interface processes based on both of said application

awareness and said operating situation awareness.

5. (Original) The method of claim 4, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

6. (Original) The method of claim 4, further including having said mobile make use of silent periods based on the operating situation of said mobile.

7. (Original) The method of claim 6, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

8. (Previously Presented) The method of claim 9, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

9. (Original) The method of claim 1, further including having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

10. (Canceled).

11. (Previously Presented) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation, and

having said mobile control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness;

further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon;

further including having said mobile perform certain processes based on:

a) if it is running a real-time application and it is stationary;

b) if it is running a non-real-time application and it is moving;

c) if it is running a non-real-time application and it is stationary; and

d) if it is stationary and power consumption is not an issue.

12. (Original) The method of claim 11, further including having said mobile perform:

e) QoS enhancement if it is running a real-time application and

it is stationary;

f) network discovery if it is running a non-real-time application and it is moving;

g) energy conservation if it is running a non-real-time application and it is stationary; and

h) information sharing if it is stationary and power consumption is not an issue.

13. (Currently Amended) The method of claim 11, further including having said mobile switch to a certain process automatically during said silent periods based on an output from a mobility detector and/or PHY layer parameters, and wherein said silent periods are brief intervals during which an application running on said mobile has no application traffic to send or receive.

14. (Original) The method of claim 1, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

15. (Currently Amended) The method of claim 1, further including having said mobile activate a secondary interface to offer enhanced bandwidth during said silent period if either an application needs additional bandwidth or data reception is not at a desired level.

16. (Original) The method of claim 15, further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist.

17. (Original) The method of claim 16, further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

18. (Currently Amended) A mobile apparatus, comprising:

a plurality of heterogeneous network interfaces;

a processor;

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications;

said mobile being configured to monitor its operating situation, including moving or non moving status; and

said mobile being configured to control processes, including use of said heterogeneous network interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive.

19. (Original) The mobile apparatus of claim 18, wherein said mobile is configured to switch between modes of operation of based on said application awareness and said situation awareness, including to switch between one or more of the following modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

20. (Currently Amended) A method of controlling a mobile apparatus, comprising:

controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed, including use of network interfaces, during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile, said silent periods being brief intervals during which an application running on said mobile has no application traffic to

send or receive.

21. (Newly Added) The method of claim 1, further including having said mobile control use of said interfaces by using a second interface, during a silent period of a second application running on said mobile and using said second interface, to support a first application running on said mobile and using a first interface that is heterogeneous to said second interface such as to use both said first and second heterogeneous interfaces concurrently during said silent period to support said first application.

22. (Newly Added) The method of claim 21, wherein said first and second heterogeneous interfaces are used concurrently during said silent period to support application traffic of said first application for enhanced bandwidth support by transmitting packetized application traffic for said first application concurrently over both said first and second heterogeneous interfaces.

25. (Newly Added) The method of claim 23, wherein said second interface is used during said silent period to perform network discovery functions, which network discovery functions are used for handover of said mobile to a new network, transparent to and without interference to operation of said first application that concurrently uses said first interface during said network discovery.

REMARKS

Careful reconsideration of this application in view of the foregoing amendments and the following remarks is most respectfully requested.

Rejections under 35 U.S.C. 103:

In the Office Action, claims 1, 3, and 10 were rejected under 35 U.S.C. 103 over **Bennett** (U.S. Pat. Pub. No. 2005/0245292A1) in view of **Karlsson** (U.S. Patent No. 5,640,677); claim 8 was rejected under 35 U.S.C. 103 over the first two references further in view of **Barany** (U.S. Patent No. 7,068,623); claims 2 and 4-7 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Sen** (U.S. Patent No. 6,947,399); claims 9, 13 and 14 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Ranta** (U.S. Patent Pub. No. 2003/0081657); claim 11 was rejected over the first two references above, further in view of **Ranta** and **Buckley** (U.S. Patent Pub. No. 2006/0160537); claim 12 was rejected over the first two references above, further in view of **Ranta** and **Buckley** and **Barany** and **Jeong** (U.S. Patent Pub. No. 2005/0232200A1); claims 15-16 were rejected over the first two references above, further in view of **Feroz** (U.S. Patent No. 7,426,181); claim 17 was rejected over the first two references above, further in view of **Feroz** and further in view of **Ozugur** (U.S. Patent No. 7,299,046); and claims 18-20 were rejected over **Bennett**

(above) further in view of **Ranta** (above). These rejections are respectfully traversed, as follows.

The New Rejections Are Meritless:

a. The Patent Office has Misapplied the Bennett Reference.

First, it is initially noted that the newly relied upon reference to **Bennett** has been improperly applied. While the present invention relates to, e.g., controlling of processes of a mobile device such that that mobile device makes use of "Silent Periods" in application traffic of that mobile device, the **Bennett** reference is wholly different.

As described below, the Patent Office's reliance on this reference is wholly improper and disregards clear distinctions in the present claims. Once again, the undersigned most respectfully requests that the Patent Office work in cooperation with the Applicant as opposed to issuing strained/improper rejections based on rather different art. For example, in addition to carefully reviewing the incorrect reliance on the **Bennett** reference, it is respectfully requested that the Patent Office carefully review the current rejections, which include, e.g., strained and improper rejections based on up to **six (6)** references. The applicants desire to move the present application forward towards without continued strained rejections, especially since the Patent Office has just reopened prosecution after filing of an appeal and issued wholly new erroneous rejections.

b. Bennett Does Not Even Remotely Contemplate the "Silent Period" Context of the Present Invention Nor the Advantages of the Present Invention.

As set forth in the present application, the preferred embodiments enable a **multiple interface** mobile device to **run more efficiently** or **perform advantageous multi-tasking** based on use of that mobile device's own "Silent Periods" in application traffic. As with the prior Barany reference that was wrongly applied, the Bennett reference does **not** even remotely contemplate such noteworthy advantages. The advantages of the present invention are highly beneficial over and unexpected in light of references such as Barany. As set forth in the present application:

> The present inventors have found that if a MID [Multiple Interface Device] becomes aware of the applications running on it, and also the situation it is operating in, most of the complex processes, circuitries, and algorithms running in the device, including radio interfaces, can be either ***run more efficiently or used for watchful multitasking***. See page 12 of the present application.

Among other things, Bennett does **not** even remotely contemplate these advantages. In particular, Bennett merely teaches, e.g.:

> "A hand held radio host [that] includes circuitry for selectively providing power to radiating transceiver elements and non-radiating application elements according to a plurality of power modes of operation to achieve desired effects and in a way that **saves power and extends battery life.**" See paragraph [0015] of Bennett.

Bennett describes three modes. In a first "full power" mode, all transceiver elements are powered on. See paragraph [0016]. In a second "silent" mode, wherein all transceiver elements are powered off.

See paragraph [0017]. In a third headset host "sleep" mode, in which a wireless headset is kept in a sleep mode. See, e.g., paragraph [0019].

It is respectfully submitted that the Patent Office has ***greatly misinterpreted*** the Bennett reference in relation to the described "sleep modes" which merely relate to, e.g., headset operation. In contrast, the present claims relate, among other things, to "silent periods" in application traffic. Bennett does **not** even remotely contemplate the context of the present invention. It is also most respectfully noted that the present application clearly sets forth the meaning of the terminology *Silent Periods* as used in the present application at, e.g., page 9 of the application. In particular, page 9 recites that:

> "[W]hile running NRTA [non-Real-Time Applications], the MID [Multiple Interface Device] is not heavily flooded with bits and bytes, and there may appear intervals when the MID can take a brief pause (e.g., in which there is the mobile has no traffic to send or receive). These ***unoccupied brief intervals are referred to as "Silent Periods***." Emphasis added for reference.

To even further clarify the recitations in the claims, independent claims 1, 18 and 20 are further amended to more distinctly recite: "***said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive***." It is most respectfully submitted that Bennett does ***not even remotely contemplate the features recited in the present claims***.

c. The Dependent Claims and the Misapplied Secondary References.

With respect the other secondary references, it is respectfully submitted that the other secondary references do **not** fulfill the substantial deficiencies of the Bennett reference. Moreover, it is respectfully submitted that the asserted combinations of references are highly improper. Moreover, it is respectfully submitted that many of the purported combinations of references are actually nonsensical. By way of example, it is respectfully submitted that the erroneously strained application of **six (6)** references in the rejection of claim 12 is highly improper and should be withdrawn.

It is most respectfully submitted that the references plainly omit numerous features recited in the independent claims 1, 11, 18 and 20, and also in the various dependent claims. The Examiner's reference is also again directed to the prior filed response which further discusses other deficiencies of the cited references.

It is submitted that the claims are in condition for allowance at this time. With respect to the remaining dependent claims, it is submitted that these claims are, thus, allowable for reasons parallel to that set forth above. In addition, these dependent claims, including the newly added claims 21-23, also recite further features that are not taught or suggested by the references. Early reconsideration and allowance are respectfully requested. The Patent Examiner is most

respectfully requested to carefully review the current rejections and to appropriately indicate allowability of the claims.

Request for Interview:

In view of the deficiencies in the rejections, in the event that the Patent Office does not now proceed to allow this application, it is respectfully requested that the Patent Examiner contact the undersigned to arrange a telephone interview to discuss this application at the telephone number indicated below.

Concluding Remarks:

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested. In the event that any fees are now due, please charge our Deposit Account No. 50-2866.

Respectfully submitted,

/Stephen B. Parker, Reg. 36631/

By _____

Stephen B. Parker, Attorney for Applicants
Registration No. 36,631
Westerman, Hattori, Daniels and Adrian, LLP
1250 Connecticut Ave, N.W. (Suite 700),
Washington, D.C. 20036
(202) 822-1100

Electronic Patent Application Fee Transmittal

Application Number:	11558273
Filing Date:	09-Nov-2006
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Filer:	Stephen B. Parker
Attorney Docket Number:	3119.137

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Claims in excess of 20	1202	2	52	104
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	130	130
Miscellaneous:				
		Total in USD ($)		**234**

Electronic Acknowledgement Receipt

EFS ID:	9358159
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Stephen B. Parker
Filer Authorized By:	
Attorney Docket Number:	3119.137
Receipt Date:	01-FEB-2011
Filing Date:	09-NOV-2006
Time Stamp:	23:42:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$234
RAM confirmation Number	8085
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Amendment/Req. Reconsideration-After Non-Final Reject	3119_137_RESPONSE_TO_NEW_NON_FINAL.pdf	166482 2d0bde3e39b93ab49786249bc285485b6372b825	no	15
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	32585 e0c47bde99ea0f07a6b564f57f624b26baedf114	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	199067		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/558,273	Filing Date 11/09/2006	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	02/01/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 20	= 2	X $ =		OR	X $52=	104
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	**104**

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/JULIET MCMILLAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/558,273	11/09/2006	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	02/01/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 20	= 2	X $ =		OR	X $52=	104
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	**104**

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/JULIET MCMILLAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Listing of Claims:

1. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation;

said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive.

2. (Original) The method of claim 1, further including having said mobile control processes based on both of said application awareness and said operating situation awareness.

3. (Original) The method of claim 1, further including having said mobile control radio interface processes based on one or more of said application awareness and said operating situation awareness.

4. (Original) The method of claim 3, further including having said mobile control radio interface processes based on both of said application

awareness and said operating situation awareness.

5. (Original) The method of claim 4, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

6. (Original) The method of claim 4, further including having said mobile make use of silent periods based on the operating situation of said mobile.

7. (Original) The method of claim 6, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

8. (Previously Presented) The method of claim 9, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

9. (Original) The method of claim 1, further including having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

10. (Canceled).

11. (Previously Presented) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation, and

having said mobile control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness;

further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon;

further including having said mobile perform certain processes based on:

a) if it is running a real-time application and it is stationary;

b) if it is running a non-real-time application and it is moving;

c) if it is running a non-real-time application and it is stationary; and

d) if it is stationary and power consumption is not an issue.

12. (Original) The method of claim 11, further including having said mobile perform:

e) QoS enhancement if it is running a real-time application and

it is stationary;

f) network discovery if it is running a non-real-time application and it is moving;

g) energy conservation if it is running a non-real-time application and it is stationary; and

h) information sharing if it is stationary and power consumption is not an issue.

13. (Currently Amended) The method of claim 11, further including having said mobile switch to a certain process automatically during said silent periods based on an output from a mobility detector and/or PHY layer parameters, and wherein said silent periods are brief intervals during which an application running on said mobile has no application traffic to send or receive.

14. (Original) The method of claim 1, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

15. (Currently Amended) The method of claim 1, further including having said mobile activate a secondary interface to offer enhanced bandwidth during said silent period if either an application needs additional bandwidth or data reception is not at a desired level.

16. (Original) The method of claim 15, further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist.

17. (Original) The method of claim 16, further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

18. (Currently Amended) A mobile apparatus, comprising:

a plurality of heterogeneous network interfaces;

a processor;

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications;

said mobile being configured to monitor its operating situation, including moving or non moving status; and

said mobile being configured to control processes, including use of said heterogeneous network interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive.

19. (Original) The mobile apparatus of claim 18, wherein said mobile is configured to switch between modes of operation of based on said application awareness and said situation awareness, including to switch between one or more of the following modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

20. (Currently Amended) A method of controlling a mobile apparatus, comprising:

controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals of wireless traffic data by automatically switching between multiple tasks performed, including use of network interfaces, during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile, said silent periods being brief intervals during which an application running on said mobile has no application traffic to

send or receive.

21. (Newly Added) The method of claim 1, further including having said mobile control use of said interfaces by using a second interface, during a silent period of a second application running on said mobile and using said second interface, to support a first application running on said mobile and using a first interface that is heterogeneous to said second interface such as to use both said first and second heterogeneous interfaces concurrently during said silent period to support said first application.

22. (Newly Added) The method of claim 21, wherein said first and second heterogeneous interfaces are used concurrently during said silent period to support application traffic of said first application for enhanced bandwidth support by transmitting packetized application traffic for said first application concurrently over both said first and second heterogeneous interfaces.

23 25. (Newly Added) The method of claim 22 23, wherein said second interface is used during said silent period to perform network discovery functions, which network discovery functions are used for handover of said mobile to a new network, transparent to and without interference to operation of said first application that concurrently uses said first interface during said network discovery.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

89739 7590 04/13/2011

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
04/13/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PatentMail@WHDA.com
SParker@WHDA.com

Office Action Summary	Application No.	Applicant(s)	
	11/558,273	YAQUB ET AL.	
	Examiner	Art Unit	
	XIANG ZHANG	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-22 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-13* is/are allowed.

6)☒ Claim(s) *1-9,14-16,18 and 20* is/are rejected.

7)☒ Claim(s) *17, 19, 21, 22, 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 25 is objected to because of the following informalities: Claim 25 states that it depends on claim 23. However, Claim 23 is not included in the original claim set. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoaib (US PGPub 2003/0193910 A1) in view of Behzad (US PGPub 2007/0082716 A1).

Regarding claims 1, 3, and 18, Shoaib teaches a method and a wireless mobile having multiple interfaces, comprising: a processor ([0008], line 1), having said mobile be aware of its applications running on it ([0116], lines 12-16]); having said mobile be aware of its operating situation ([0047], [0043]wherein the movement or location of the user is being determined as trigger mechanism); said multiple interfaces including heterogeneous radio interfaces ([0120], lines 4-9 wherein the heterogeneous radio interfaces/NIC selection for network interface card is present).

However, Shoaib lacks the teaching of having said mobile control processes,

including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive.

In the same field of endeavor, Behzad teaches a method having said mobile control processes ([0037] wherein the mobile control processes is proceeded with the control module 130 controlling the silent period according to the radio interfaces/receiver modules), including use of said heterogeneous radio interfaces (Fig. 1, items 110 and 120, also see [0024], lines 1-9), of said mobile during silent periods based on its application awareness ([0035], lines 11-13), said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive ([0041], lines 10-13).

Since Shoiab teaches the mobile having both Application awareness ([0116]) and operating awareness (0047], [0043]), one having ordinary skill of art at the time of the invention would have recognized to incorporate the teaching of having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive as taught by Behzad in order to provision a low power receiver for detecting signal as suggested by Behzad ([0007]).

4. Claims 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoaib (US PGPub 2003/0193910 A1) in view of Behzad (US PGPub 2007/0082716 A1) and further in view of Sen (US Pat 6947399).

Regarding claims 2 and 4, Shoaib suggests the teaching of the method of having the mobile control processes based on both of said application awareness ([0116]) and said operating situation awareness ([0043], [0046]).

However, the combination of Shoaib and Behzad lacks the explicit teaching of the method of having the mobile control processes based on both of said application awareness and said operating situation awareness.

In the same field of endeavor, Sen discloses in his method and mobile control radio interface for using the mobile control processes (“during handoff process, it is important to maintain the user’s QoS”, Col 3, line 28-29; it will be appreciated that maintaining QoS relies upon an interface process in the mobile) based on both of said application awareness and operating awareness (“Minimizing the handoff delay for real-time, non-elastic applications (such as voice and video)", Col 3, line 34-35; Prioritizing handoffs based on the user's Service Level Agreement *and application being used*; Col. 3, lines 38-39).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention was made having the mobile control processes based on both of said application awareness and said operating situation awareness as taught by Sen in order to reduce the delay (see col. 3, line 44).

Regarding claim 5, Shoaib further teaches having said mobile make use of silent periods based on needs of applications running on said mobile ([-116], lines 12-16).

5. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoaib (US PGPub 2003/0193910 A1) in view of Behzad (US PGPub 2007/0082716 A1) and further in view of Sen (US Pat 6947399) and further in view of Karlsson (US Pat 5640677).

Regarding claim 6, Shoaib in view of Behzad and further in view of Sen disclose the method of claim 4. However, the combination of Shoaib, Behzad, and Sen lack the teaching of mobile making use of silent periods based on needs of operating situation of said mobile.

In the same field of endeavor, Karlsson teaches the method of making use of silent periods based on needs of operating situation of said mobile (“evaluation of handoff likelihood in the mobile during an idle period", Col 13, line 42).

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of making use of silent periods based on needs of operating situation of said mobile as taught by Karlsson in order to effectively utilize the channel availability as suggested by Karlsson (Col. 13, lines 35-40).

Regarding claim 7, Behzad further teaches having said mobile make use of silent periods based on needs of applications running on said mobile ([0035], lines 11-13).

6. Claims 8, 9, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoaib (US PGPub 2003/0193910 A1) in view of Behzad (US PGPub 2007/0082716 A1) and further in view of Ranta (US PGPub 2003/0081657).

Regarding claim 8, Shoaib teaches a method of controlling a wireless mobile having multiple interfaces comprising: having said mobile be aware of its applications running on it ([0116], lines 12-16);

However, the combination of Shoaib and Ranta lacks the teaching of having said mobile control processes of said mobile during silent periods; and having said mobile control processes of said mobile during silent periods based on said mobile running a real-time or a non-real time application thereon.

In the same field of endeavor, Behzad teaches having said mobile control processes of said mobile during silent periods ([0037]); and having said mobile control processes of said mobile during silent periods based on said mobile running a real-time or a non-real time application thereon ([0035]).

It would have been obvious to one having ordinary skill of art at the time of the invention to incorporate the teaching of having said mobile control processes of said mobile during silent periods; and having said mobile control processes of said mobile during silent periods based on said mobile running a real-time application thereon as taught by Behzad in order to provision a low power receiver for detecting signal as suggested by Behzad ([0007]).

Regarding claim 9, Shoaib in view of Behzad teaches the method as discussed in claim 1. However, the combination of Shoaib and Behzad lacks the teaching that the

mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

In the same field of endeavor Ranta teaches the method of having the possibility of determining whether the mobile device is moving or not moving (“whether the MS 100 is in motion or whether is stationary, "Pg 5-6, [0062-0063]) during silent periods (“idle mode”, Pg 5, [0062], line 10).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention to combine the teaching of using the mobile control processes of said mobile during silent periods based on said mobile moving or not moving taught by Ranta in order to ensure the mobile device to be power efficient.

Regarding claim 14, Shoaib in view of Behzad teaches the method as discussed in claim 1. However, the combination of Shoaib and Behzad lacks the teaching of having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

In the same field of endeavor, Ranta discloses the method of having said mobile switch to a certain process automatically based on an output from a mobility detector ("motion detection system", Pg 5, [0062]).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the mobility status of the mobile device as taught by Ranta in the teaching of claim 11 in order to enable the minimization of the mobile power consumption by having this

integrated switch in the motion detection system as implicitly taught by Ranta.

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoaib (US PGPub 2003/0193910 A1) in view of Behzad (US PGPub 2007/0082716 A1) and further in view of Grau (US Pat 6044090 A).

Regarding claim 15, Shoaib in view of Behzad teaches the metho as discussed in claim 1. However, the combination of Shoaib and Behzad lack the teaching of said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level.

On the other hand, Gran teaches the method of said mobile activate a secondary interface to offer enhanced bandwidth if either an application needs additional bandwidth or data reception is not at a desired level (col. 8, lines 4-11, also see claim 17).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teaching of using the secondary interface in respond to the additional bandwidth or data reception requirement as taught by Grau in order to provide additional bandwidth setting.

Regarding claim 16, Shoaib in view of Behzad and further in view of Grau teaches the method as discussed in claim 15. However, the combination of Shoaib and Behzad lack the teaching of said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the

secondary interface qualifies to assist.

On the other hand, in the same field of endeavor, Grau teaches said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist (claim 17).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist as taught by Grau in order to create clear distinctions on resource management between various types of traffic with respect to resource management.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett (US PGPub 2005/0245292 A1) in view of Ranta (US PGPub 2003/0081657).

Regarding claim 20, Bennett discloses the method of controlling a mobile apparatus, comprising: Controlling said mobile to make efficient use of silent periods due to unoccupied brief intervals ([0018]) of wireless traffic data.

However, Bennett lacks the teaching of automatically switching between multiple tasks performed during said silent periods depending on a traffic volume of at least one application running on said mobile apparatus and a motion condition of the mobile.

On the other hand, Ranta further discloses the method of having said mobile

switch to a certain tasks automatically based on motion condition of the mobile ("motion detection system", Pg 5, [0062], line 9) during the silent periods, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive (“idle mode”, Pg 5, [0062] depending on a traffic volume (“comparing the value to a motion threshold and, when an absence of motion is detected, said controller being responsive for reducing power consumption of the mobile station by selectively decreasing usage of the mobile station cellular system reception", claim 17, line 10-13).

It would have been obvious to a person of ordinary of skill in the art at the time of the invention to incorporate the teaching of using the mobile switch in determining the motion condition of the mobile device as taught by Ranta with the teaching of the switching condition depending on a traffic volume of at least one application running on said mobile apparatus (Barany, Col 2, line 43-46) as taught by Bennett in order to enable the minimization of the mobile power consumption by having this integrated switch in the motion detection system as implicitly taught by Ranta.

Allowable Subject Matter

9. Claims 11-13 are allowed.

Claims 17, 19, 21, 22, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIANG ZHANG whose telephone number is (571)270-7693. The examiner can normally be reached on Monday-Thursday, 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamran Afshar, can be reached on (571)272-7796. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/XIANG ZHANG/
Patent Examiner, Art Unit 2617

/KAMRAN AFSHAR/
Supervisory Patent Examiner, Art Unit 2617

Notice of References Cited	Application/Control No. 11/558,273	Applicant(s)/Patent Under Reexamination YAQUB ET AL.	
	Examiner XIANG ZHANG	Art Unit 2617	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,044,090 A	03-2000	Grau et al.	370/485
*	B	US-2003/0193910 A1	10-2003	Shoaib et al.	370/331
*	C	US-2007/0082716 A1	04-2007	Behzad et al.	455/574
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	**Art Unit**
	XIANG ZHANG	4125

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	04/29/2009	12/02/2009	09/25/2010	04/08/2011					
	1	✓	✓	✓	✓					
	2	✓	✓	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	✓	✓	✓					
	9	✓	✓	✓	✓					
	10	✓	✓	✓	-					
	11	✓	✓	✓	=					
	12	✓	✓	✓	=					
	13	✓	✓	✓	=					
	14	✓	✓	✓	✓					
	15	✓	✓	✓	✓					
	16	✓	✓	✓	✓					
	17	✓	✓	✓	O					
	18	✓	✓	✓	✓					
	19	✓	✓	✓	O					
	20	✓	✓	✓	✓					
	21				O					
	22				O					
	25				O					

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

SEARCHED			
Class	Subclass	Date	Examiner
370	311	04/27/09	Xiang Zhang
455	343.2,435.2,515,574	04/27/09	Xiang Zhang
455	435.1	04/05/2011	X.Z
455	555, 522,571-574,127.1-127.5, 456.1-457,441	04/07/2011	X.Z

SEARCH NOTES		
Search Notes	Date	Examiner
Consulted Vladimir Maggloire at TC 2617	04/28/09	X.Z
TC 2617 QEM discussion	04/30/09	X.Z
EAST notes attached	4/30/09	X.Z
See East Search Notes	9/25/2010	X.Z
Consulted AU 2617 Primary Examiner Matthew Sams	04/06/2011	X.Z
Consulted AU 2617 SPE Kamran Afshar	04/07/2011	X.Z

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	0	(dtx or sleep or hybernat $5 or silent or conservation) and "20030193910"	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 18:30
L3	2	(dtx or sleep or hybernat $5 or silent or conservation or power) and "20030193910"	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 18:30
L7	33	(dtx or sleep or hybernat $5 or silent) with (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) with (run$5 near5 (application or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:04
L8	1522	W14	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:04
L9	622107	(mobile or telecommunication or wireless or cellualar or cell) (device or phone or station or terminal or apparatus or unit) or wtru or plmn	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	OFF	2011/04/07 19:04
L10	622107	L9	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:04
L11	54	"33" same 8	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:04
L12	0	7 same 8	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:27
L13	638	(dtx or sleep or hybernat $5 or silent) with (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) with ((application or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:28
L14	0	13 same 8	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:28

L15	1382	(dtx or sleep or hybernat $5 or silent) with (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) same ((application or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:28
L16	0	15 same 8	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:28
L17	622107	L9	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:29
L18	0	7 same 17	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:29
L19	22	13 same 17	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:29
L20	10	13 same 17 same (interval or period or during)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:30
L21	1	20 and bluetooth	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:31
L22	22	13 same 17	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:32
L23	3	22 and (bluetooth same (wlan or local area network or "802.11"))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:32
L24	3	22 and ((Multiple Interface Devices or "MID") or (bluetooth same (wlan or local area network or "802.11")))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:34
L25	5	22 and ((Multiple Interface Devices or "MID") or (bluetooth same (wlan or local area network or "802.11")) or ((plurality or multiple) near3 (transceivers or receivers)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	OFF	2011/04/07 19:35
L26	3391	(455/552.1.ccls. or 455/553.1.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:38
L27	0	13 same 26	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:38

L28	1	13 and 26	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:38
L29	881	(dtx or sleep or hybernat $5 or silent) with (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) with ((run or running or application or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:39
L30	638	13 and 29	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:39
L31	1	13 and 26	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:40
L32	567	(dtx or sleep or hybernat $5 or silent) same (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) same ((execut$5 or run $5) near5 (application or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:41
L33	2558	(dtx or sleep or hybernat $5 or silent) same (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) same ((application or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:42
L34	4	33 and 26	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:42
L38	0	(dtx or sleep or hybernat $5 or silent) same (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) same ((application or program)) same 17 same (((realtime or real$time or voice call) with (non$real time or non$real$time or email)) or ((stationary or "not mov$4") with (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:57

L39	1	(dtx or sleep or hybernat $5 or silent) same (transmi $5 or receiv$5) same ((application or program)) same 17 same (((realtime or real$time or voice call) with (non$real time or non $real$time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:57
L40	3	(dtx or sleep or hybernat $5 or silent) same (transmi $5 or receiv$5) same (run $5 or execut$5) same 17 same (((realtime or real $time or voice call) with (non$real time or non$real $time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 19:59
L41	20	(dtx or sleep or hybernat $5 or silent) same (transmi $5 or receiv$5) same 17 same (((realtime or real $time or voice call) with (non$real time or non$real $time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:00
L42	1	(dtx or (discontin$5 transm $5)) same (period or interval or lapse or time) same 17 same (((realtime or real$time or voice call) with (non$real time or non $real$time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:03

L43	1	(dtx or (discontin$5 transm $5)) same (cycle or period or interval or lapse or time) same 17 same (((realtime or real$time or voice call) with (non$real time or non$real$time or email)) or ((stationary or "not mov$4") with (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:04
L44	10	(dtx or (discontin$5 transm $5)) same (cycle or period or interval or lapse or time) same 17 same ((aware$5 or determin$5 or analy$5) near5 (operat $5 or application))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:05
L45	7	(dtx or sleep or hybernat $5 or silent) same (suspen $5 or stop$5 or ceas$5 or dis$contin$5 or discontin $5) same ((application or program)) same 17 same (determin$5 or detect$5 or sensor or sens$3) same (((realtime or real$time or voice call) or (non$real time or non$real$time or email)) or ((stationary or "not mov$4") or (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:10
L50	0	(455/456.1-457,441.ccls. with(455/522,571-574,127.1-127.5.ccls.)). CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2011/04/07 20:32
L51	8846	455/456.1-457,441.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/07 20:33
L52	180	51 and (455/522,571-574,127.1-127.5.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2011/04/07 20:33

L54	241	26 and (("MID" or multiple interface device or (bluetooth with ("802.11" or wireless local area network or WLAN or GSM or cellular))) with (modules or receivers or transceivers))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:45
L55	13797	(("MID" or multiple interface device or (bluetooth with ("802.11" or wireless local area network or WLAN or GSM or cellular))) with (modules or receivers or transceivers))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:45
L56	10	55 and (dtx or (discontin $5 transm$5)) and (((realtime or real$time or voice call) with (non$real time or non$real$time or email)) or ((stationary or "not mov$4") with (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:46
L57	298806	("MID" or multiple interface device) or (bluetooth with ("802.11" or wireless local area network or WLAN or GSM or cellular)) with (modules or receivers or transceivers)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:49
L58	298806	("MID" or multiple interface device) or (bluetooth with ("802.11" or wireless local area network or WLAN or GSM or cellular)with (modules or receivers or transceivers))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:49
L59	0	58 same 9 same (dtx or (discontin$5 transm$5)) same (((realtime or real $time or voice call) with (non$real time or non$real $time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:51

L60	8895	(bluetooth with ("802.11" or wireless local area network or WLAN or GSM or cellular)) with (modules or receivers or transceivers)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:52
L61	8895	bluetooth with ("802.11" or wireless local area network or WLAN or GSM or cellular) with (modules or receivers or transceivers)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:52
L62	298806	61 or ("MID" or multiple interface device)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:52
L63	12	55 same (dtx or (discontin $5 transm$5) or sleep) and (((realtime or real $time or voice call) with (non$real time or non$real $time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:53
L64	0	55 same (dtx or (discontin $5 transm$5) or sleep) same(((realtime or real $time or voice call) with (non$real time or non$real $time or email)) or ((stationary or "not mov $4") with (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:53
L65	4	55 same (dtx or (discontin $5 transm$5) or sleep) same(((realtime or real $time or voice call) or (non $real time or non$real $time or email)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:54

L66	30	55 same2 ((dtx or (discontin$5 transm$5) or sleep) same(((realtime or real$time or voice call) or (non$real time or non$real $time or email)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:56
L67	7	55 same2 ((dtx or (discontin$5 transm$5) or sleep) same 9 same (((realtime or real$time or voice call) or (non$real time or non$real$time or email)) or ((stationary or "not mov$4") or (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity))))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:57
L68	0	55 same (silent) and (((realtime or real$time or voice call) with (non$real time or non$real$time or email)) or ((stationary or "not mov$4") with (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:59
L69	3	55 same (silent) and (((realtime or real$time or voice call) or (non$real time or non$real$time or email)) or ((stationary or "not mov$4") or (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 20:59
L70	48	55 same (silent or dtx or (discontin$5 transm$5) or sleep) and (((realtime or real$time or voice call) or (non$real time or non$real $time or email)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:00

L71	4	55 same (silent or dtx or (discontin$5 transm$5) or sleep) same (((realtime or real$time or voice call) or (non$real time or non$real $time or email)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:00
L72	1391	(modules or receivers or transceivers) same (silent or dtx or (discontin$5 transm$5) or sleep) same (((realtime or real$time or voice call) or (non$real time or non$real$time or email)) or ((stationary or "not mov$4") or (moving or roam$5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:01
L73	2281	(modules or receivers or transceivers or interfaces) same (silent or dtx or (discontin$5 transm$5) or sleep) same (((realtime or real$time or voice call) or (non$real time or non$real $time or email)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:01
L74	19	26 and 73	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:02
L75	9	74 and (bluetooth or blue $tooth)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:03

L77	2162	(modules or receivers or transceivers or interfaces) same (silent or dtx or (discontin$5 transm$5) or sleep) same (((realtime or real$time or voice call) or (non$real time or non$real $time or best$effort)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:24
L78	2162	(modules or receivers or transceivers or interfaces) same (silent or dtx or (discontin$5 transm$5) or sleep) same (((realtime or real$time or voice call) or (non$real time or non$real $time or best$effort)) or ((stationary or "not mov $4") or (moving or roam $5 or handoff or handover or hand$over or hand$off or speed or velocity)))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:26
L79	0	26 same 78	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:26
L80	4	(MID or multiple interface device) same 78	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:27
L81	12	(dual$mode or multi $mode) same 78	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:29
L87	3	(NIC or network interface card) same (control$5 or operat$5) same (realtime or real$time or best $effort) same (silent or dtx or (discontin$5 transm $5) or sleep)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:50
L88	1	62 same (control$5 or operat$5) same (realtime or real$time or best $effort) same (silent or dtx or (discontin$5 transm $5) or sleep)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:56
L89	5	62 same (realtime or real $time or best$effort) same (silent or dtx or (discontin $5 transm$5) or sleep)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:56

L90	29	62 same (realtime or real $time or best$effort or handover or handoff or hand$over or hand$off or stationary or moving) same (silent or dtx or (discontin$5 transm$5) or sleep)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:57
L91	2	62 same (realtime or real $time or best$effort or handover or handoff or hand$over or hand$off or stationary or moving) same (silent or dtx or (discontin$5 transm$5))	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:57
L92	5	90 and ("370".clas. or "455".clas.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 21:58
L93	29	62 same (realtime or real $time or best$effort or handover or handoff or hand$over or hand$off or stationary or moving or "not mov$5") same (silent or dtx or (discontin$5 transm$5) or sleep)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 22:06
L94	2	62 same ((application or operation) near6 (correspond$5 or sensor or according$5 or awar$5 or determin$5 or relat$5)) same (silent or dtx or (discontin$5 transm$5) or sleep)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2011/04/07 22:09

4/7/2011 11:12:01 PM
C:\Documents and Settings\xzhang\My Documents\EAST\Workspaces\11558273amd3.wsp

IN THE U.S. PATENT & TRADEMARK OFFICE

Appl. No.:	11/558,273	Confirmation No. 1960
Applicant:	R. YAQUB	
Filed:	November 9, 2006	
Title:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS	
Docket No.:	3119.137	

RESPONSE

Box Amendment
Director of the United States Patent
and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the non-final Office Action of April 13, 2011, early reconsideration of this application in view of the following amendments and remarks is respectfully requested. In this response:

a) Amendments to the claims begin on ***page 2*** under the Listing of Claims having additions shown in underline and deletions shown in strike-through; and

b) Remarks begin on ***page 10***.

Listing of Claims:

1. (Canceled).

2. (Currently Amended) The method of claim ~~1,~~ 21, further including having said mobile control processes based on both of said application awareness and said operating situation awareness.

3. (Currently Amended) The method of claim ~~1,~~ 21, further including having said mobile control radio interface processes based on one or more of said application awareness and said operating situation awareness.

4. (Original) The method of claim 3, further including having said mobile control radio interface processes based on both of said application awareness and said operating situation awareness.

5. (Original) The method of claim 4, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

6. (Original) The method of claim 4, further including having said mobile make use of silent periods based on the operating situation of said mobile.

7. (Currently Amended) The method of claim ~~6,~~ 21, further including having said mobile make use of silent periods based on needs of applications running on said mobile.

8. (Currently Amended) The method of claim ~~9,~~ 21, further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon.

9. (Currently Amended) The method of claim ~~1,~~ 21, further including having said mobile control processes of said mobile during silent periods based on said mobile moving or not moving.

10. (Canceled).

11. (Previously Presented) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation, and

having said mobile control processes of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness;

further including having said mobile control processes of said mobile during silent periods based on said mobile running a non-real-time application thereon or a real-time application thereon;

further including having said mobile perform certain processes based on:

a) if it is running a real-time application and it is stationary;

b) if it is running a non-real-time application and it is moving;

c) if it is running a non-real-time application and it is stationary; and

d) if it is stationary and power consumption is not an issue.

12. (Original) The method of claim 11, further including having said mobile perform:

e) QoS enhancement if it is running a real-time application and it is stationary;

f) network discovery if it is running a non-real-time application and it is moving;

g) energy conservation if it is running a non-real-time application and it is stationary; and

h) information sharing if it is stationary and power consumption is not an issue.

13. (Previously Presented) The method of claim 11, further

including having said mobile switch to a certain process automatically during said silent periods based on an output from a mobility detector and/or PHY layer parameters, and wherein said silent periods are brief intervals during which an application running on said mobile has no application traffic to send or receive.

14. (Currently Amended) The method of claim ~~1,~~ 21, further including having said mobile switch to a certain process automatically based on an output from a mobility detector and/or PHY layer parameters.

15. (Currently Amended) The method of claim ~~1,~~ 21, further including having said mobile activate a secondary interface to offer enhanced bandwidth during said silent period if either an application needs additional bandwidth or data reception is not at a desired level.

16. (Original) The method of claim 15, further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist.

17. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation;

said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive

further including having said mobile activate a secondary interface to offer enhanced bandwidth during said silent period if either an application needs additional bandwidth or data reception is not at a desired level;

further including having said mobile compare one or more parameters for both a primary interface and a secondary interface of said mobile and determining if the secondary interface qualifies to assist

~~The method of claim 16,~~

further including if the secondary interface qualifies to assist, a trigger is issued to the secondary interface, and the secondary interface sends a binding request to a Home Agent for a Secondary Care of Address, and the home agent uses tunneling mechanisms to forward Internet traffic, and if the secondary interface does not meet user expectations, a trigger is sent to the secondary interface, the secondary

interface sends a binding request to the home agent for a care of address, the primary interface is shut down and the secondary interfaces is used for all user packets.

18. (Canceled).

19. (Currently Amended) A mobile apparatus, comprising:

a plurality of heterogeneous network interfaces;

a processor;

said mobile being configured to monitor applications running on it, including real time or non real time nature of said applications;

said mobile being configured to monitor its operating situation, including moving or non moving status; and

said mobile being configured to control processes, including use of said heterogeneous network interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive;

~~The mobile apparatus of claim 18,~~

wherein said mobile is configured to switch between modes of operation of based on said application awareness and said situation awareness, including to switch between one or more of the following

modes of operation QoS enhancement through multiple address mode, network discovery mode, energy saving mode, and chat with devices mode.

20. (Canceled).

21. (Currently Amended) A method of controlling a wireless mobile having multiple interfaces, comprising:

having said mobile be aware of its applications running on it;

having said mobile be aware of its operating situation;

said multiple interfaces including heterogeneous radio interfaces, and having said mobile control processes, including use of said heterogeneous radio interfaces, of said mobile during silent periods based on one or more of its application awareness and its operating situation awareness, said silent periods being brief intervals during which an application running on said mobile has no application traffic to send or receive;

~~The method of claim 1,~~

further including having said mobile control use of said interfaces by using a second interface, during a silent period of a second application running on said mobile and using said second interface, to support a first application running on said mobile and using a first interface that is heterogeneous to said second interface such as to use

both said first and second heterogeneous interfaces concurrently during said silent period to support said first application.

22. (Previously Presented) The method of claim 21, wherein said first and second heterogeneous interfaces are used concurrently during said silent period to support application traffic of said first application for enhanced bandwidth support by transmitting packetized application traffic for said first application concurrently over both said first and second heterogeneous interfaces.

23. (Canceled).

24. (Canceled).

25. (Currently Amended) The method of claim 21, ~~23,~~ wherein said second interface is used during said silent period to perform network discovery functions, which network discovery functions are used for handover of said mobile to a new network, transparent to and without interference to operation of said first application that concurrently uses said first interface during said network discovery.

REMARKS

Careful reconsideration of this application in view of the foregoing amendments and the following remarks is most respectfully requested.

Allowable Subject Matter:

In paragraph 9 of the Office Action, claims 11-13 were allowed and claims 17, 19, 21, 22 and 25 were indicated as containing allowable subject matter if placed into independent form. In this response, all of the presently submitted claims are based on these allowable claims (i.e., claims 17, 19, 21, 22 and 25 are placed into independent form (as appropriate)), and the remaining claims are either canceled or made to depend from allowable claims.

Accordingly, it is respectfully submitted that the present application is in condition for allowance, which action is respectfully requested.

Rejections under 35 U.S.C. 103:

In the Office Action, claims 1, 3, and 18 were rejected under 35 U.S.C. 103 over **Shoaib** in view of **Behzad**, claims 2, 4 and 5 were rejected under 35 U.S.C. 103 over the first two references further in view of **Sen**, claims 6-7 were rejected under 35 U.S.C. 103 over the first three references above, further in view of **Karlsson**, claims 8, 9 and 14 were rejected under 35 U.S.C. 103 over the first two references above, further in view of **Ranta**, claims 15-16 were rejected under 35 U.S.C. 103 over

the first two references above, further in view of **Grau**, and claim 20 was rejected under 35 U.S.C. 103 over **Bennett** in view of **Ranta**.

These rejections are all, once again, respectfully traversed. Moreover, these rejections are now moot because all of the pending claims are based on allowable subject matter identified in the Office Action, as discussed above. Withdrawal of the rejections and early allowance is respectfully requested.

Concluding Remarks:

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested. In the event that any fees are now due, please charge our Deposit Account No. 50-2866.

Respectfully submitted,

/Stephen B. Parker, Reg. 36631/

By _____

Stephen B. Parker, Attorney for Applicants
Registration No. 36,631
Westerman, Hattori, Daniels and Adrian, LLP
1250 Connecticut Ave, N.W. (Suite 700),
Washington, D.C. 20036
(202) 822-1100

Electronic Acknowledgement Receipt

EFS ID:	10156116
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Stephen B. Parker
Filer Authorized By:	
Attorney Docket Number:	3119.137
Receipt Date:	24-MAY-2011
Filing Date:	09-NOV-2006
Time Stamp:	13:13:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	3119_137_RESPONSE_TO_NON_FINAL_Of_4_13_2011.pdf	128685 20b8a1083fa2ac6d49ab8cacdc9af4ee4ab9944b	no	11

Warnings:

Information:

Total Files Size (in bytes):	128685

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/558,273	11/09/2006	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☐		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	05/24/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 19	Minus	** 22	= 0	X $ =		OR	X $52=	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $ =		OR	X $220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/ANTJUAN RIVERA/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

89739 7590 08/05/2011
ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 08/05/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

TITLE OF INVENTION: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	11/07/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

89739 7590 08/05/2011
ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

TITLE OF INVENTION: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	11/07/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
ZHANG, XIANG	2617	455-418000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	11/09/2006	Raziq Yaqub	3119.137	1960

89739 7590 08/05/2011

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

EXAMINER	
ZHANG, XIANG	
ART UNIT	**PAPER NUMBER**
2617	

DATE MAILED: 08/05/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 453 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 453 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 11/558,273	Applicant(s) YAQUB ET AL.
	Examiner EDWARD ZHANG	Art Unit 2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *05/24/2011*.

2. ☒ The allowed claim(s) is/are *2-9,11-17,19,21,22 and 25*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☒ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)	5. ☐ Notice of Informal Patent Application
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____	7. ☐ Examiner's Amendment/Comment
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	8. ☒ Examiner's Statement of Reasons for Allowance
	9. ☐ Other _____.
/Xiang Zhang/ Patent Examiner, AU 2617	

DETAILED ACTION

Allowable Subject Matter

1. In view of Amended claims and further search, Claims 2-9, 11-17, 19, 21, 22, and 25 are allowed.

3. The following is an examiner's reason for allowance:

Claims 2-9, 11-17, 19, 21, 22, and 25 are allowed for the reasons as set forth in applicant's response filed on 05/24/2011.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIANG ZHANG whose telephone number is (571)270-7693. The examiner can normally be reached on Monday-Thursday, 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamran Afshar, can be reached on (571)272-7796. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/XIANG ZHANG/
Patent Examiner, Art Unit 2617

/KAMRAN AFSHAR/

Supervisory Patent Examiner, Art Unit 2617

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	**Art Unit**
	EDWARD ZHANG	2617

ORIGINAL		INTERNATIONAL CLASSIFICATION									
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED				
455	418	H	O	4	M	3 / 00 ()					

CROSS REFERENCE(S)

CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
370	311				
455	343.25	455.2	515	574	555
	571	572	573	574	127.1

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1	17	17												
2	2		18												
3	3	18	19												
4	4		20												
5	5	1	21												
6	6		22												
7	7		23												
8	8		24												
9	9	13	25												
	10														
14	11														
15	12														
16	13														
10	14														
11	15														
12	16														

/EDWARD ZHANG/ Examiner.Art Unit 2617	07/28/2011	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	21	
/KAMRAN AFSHAR/ Supervisory Patent Examiner.Art Unit 2617	07/29/2011	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)		4

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	Art Unit
	XIANG ZHANG	4125

SEARCHED			
Class	Subclass	Date	Examiner
370	311	04/27/09	Xiang Zhang
455	343.2,435.2,515,574	04/27/09	Xiang Zhang
455	435.1	04/05/2011	X.Z
455	555, 522,571-574,127.1-127.5, 456.1-457,441	04/07/2011	X.Z

SEARCH NOTES		
Search Notes	Date	Examiner
Consulted Vladimir Maggloire at TC 2617	04/28/09	X.Z
TC 2617 QEM discussion	04/30/09	X.Z
EAST notes attached	4/30/09	X.Z
See East Search Notes	9/25/2010	X.Z
Consulted AU 2617 Primary Examiner Matthew Sams	04/06/2011	X.Z
Consulted AU 2617 SPE Kamran Afshar	04/07/2011	X.Z
Consulted SPE Kamran Afshar for allowability	07/28/2011	X.Z
See East Search Notes	07/28/2011	X.Z

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
	same as the searched class/subclass	07/28/2011	X.Z

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	21969	370/311.ccls. 455/343.2,455.2,515,574,435.1,555,522,571,572,573,574,127.1,127.2,127.3,127.4,127.5,456.1,457,441.ccls.	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2011/07/28 23:46
L2	14	1 and ((aware or determin$5 or analy$4) near5 application) and ((aware or determin$4 analy$4) near5 (operation or handoff or handover or hand$over or hand$off)) and ((interfaces or modules or radios) with (protocols or heterogeneous)) and ((silent or dormant or doze or sleep or standby or stand$by or drx or discontin$6 or dtx) with (application or real$time))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2011/07/28 23:52
L3	0	1 and ((aware or determin$5 or analy$4) near5 application) and ((aware or determin$4 analy$4) near5 (operation or handoff or handover or hand$over or hand$off)) and ((concurrent$4 or simultaneous$4 or "same time") with (interfaces or modules or radios) with (protocols or heterogeneous)) and ((silent or dormant or doze or sleep or standby or stand$by or drx or discontin$6 or dtx) with (application or real$time))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2011/07/28 23:55
L6	1	"L5" and ((aware or determin$5 or analy$4) near5 application) and ((aware or determin$4 analy$4) near5 (operation or handoff or handover or hand$over or hand$off)) and ((interfaces or modules or radios) with (protocols or heterogeneous)) and ((silent or dormant or doze or sleep or standby or stand$by or drx or discontin$6 or dtx) with (application or real$time))	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2011/07/28 23:56
L8	33	((RAZIQ) near2 (YAQUB)).INV.	US-PGPUB; USPAT; USOCR	ADJ	ON	2011/07/28 23:57
L9	255	((TAO) near2 (ZHANG)).INV.	US-PGPUB; USPAT; USOCR	ADJ	ON	2011/07/28 23:58
L10	278	8 or 9	US-PGPUB; USPAT; USOCR	ADJ	ON	2011/07/28 23:58
L11	0	10 and ((concurrent$5 or "same time" or together or simultaneous$4) same interfaces same silent same application same operating)	US-PGPUB; USPAT; USOCR	ADJ	ON	2011/07/28 23:59
S1	1	"11807459"	US-PGPUB; USPAT; USOCR; EPO; DERWENT	ADJ	ON	2011/07/25 23:40
S2	8710	455/456.1-456.6.ccls.	US-PGPUB; USPAT; USOCR; EPO; DERWENT	ADJ	ON	2011/07/26 00:06

7/29/2011 12:00:43 AM
C:\Users\xzhang\Documents\EAST\Workspaces\11807459A.wsp

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11558273	YAQUB ET AL.
	Examiner	**Art Unit**
	EDWARD ZHANG	2617

ORIGINAL		INTERNATIONAL CLASSIFICATION									
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED				
455	418	H	O	4	M	3 / 00 ()					

CROSS REFERENCE(S)

CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
370	311				
455	343.25	455.2	515	574	555
	571	572	573	574	127.1

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1	18	17												
2	2		18												
3	3	19	19												
4	4		20												
5	5	1	21												
6	6	13	22												
7	7		23												
8	8		24												
9	9	14	25												
	10														
15	11														
16	12														
17	13														
10	14														
11	15														
12	16														

/EDWARD ZHANG/ Examiner.Art Unit 2617	07/28/2011	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	21	
/KAMRAN AFSHAR/ Supervisory Patent Examiner.Art Unit 2617	09/16/2011	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)		4

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571) 273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be complete where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

38834 7590 08/05/2011

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE NW – SUITE 700
WASHINGTON, D.C. 20036

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United State Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	November 9, 2006	Raziq YAQUB	091533	1960

TITLE OF INVENTION: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1740	$300	$0	$2040	11/07/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
Xiang Zhang	2617	455-418000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. WESTERMAN, HATTORI,
2. DANIELS & ADRIAN, LLP
3.

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

TOSHIBA AMERICA RESEARCH, INC.
TELCORDIA TECHNOLOGIES, INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Washington, District of Columbia
Piscataway, New Jersey

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐Individual ☒Corporation or other private group entity ☐Government

4a. The following fee(s) are enclosed:
☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (please first reapply previously paid issue fee shown above)
☐ A check in the amount of the fee(s) is enclosed.
☒ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), or credit any overpayment, to Deposit Account Number 50-2866 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Stephen B. Parker Reg. 36631/ Date October 31, 2011

Typed or printed name **Stephen B. Parker** Registration No. **36,631**

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal

Application Number:	11558273
Filing Date:	09-Nov-2006
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Filer:	Stephen B. Parker/Ayumi Ravencroft
Attorney Docket Number:	3119.137

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1740	1740
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**2040**

Electronic Acknowledgement Receipt

EFS ID:	11301956
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Stephen B. Parker/Ayumi Ravencroft
Filer Authorized By:	Stephen B. Parker
Attorney Docket Number:	3119.137
Receipt Date:	31-OCT-2011
Filing Date:	09-NOV-2006
Time Stamp:	15:41:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$2040
RAM confirmation Number	2255
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Issue Fee Payment (PTO-85B)	091533_IF_Transmittal_10-31-11.pdf	102104 9579c470e11cf174a98cca5e54d1940b8b2a0ea0	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32174 4ae7d258a29d44d6fa2712c4eccb6b09d3758145	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	134278		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/558,273	12/06/2011	8073436	3119.137	1960

89739 7590 11/16/2011

ATTN: Stephen B. Parker (WPD)
Westerman, Hattori, Daniels & Adrian, LLP
1250 Connecticut Ave., Suite 700
Washington, DC 20036

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 1011 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Raziq Yaqub, Stewartsville, NJ;
Tao Zhang, Fort Lee, NJ;

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,073,436 B2

APPLICATION NO. : 11/558,273

ISSUE DATE : December 6, 2011

INVENTOR(S) : Yaqub, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Column 1, Line 49, delete “as” and insert - - as a - -, therefor.

In Column 1, Line 67, delete “Name, A” and insert - - Name, a - -, therefor.

In Column 2, Lines 31-32, delete “draft-ietf-monami6-multiplecoa-01.txt.” and insert - - draft-ietf-monami6-multiplecoa-01.txt, - -, therefor.

In Column 3, Line 63, delete “perform;” and insert - - perform: - -, therefor.

In Column 4, Line 59, delete “description” and insert - - descriptions - -, therefor.

In Column 7, Line 16, delete “and or” and insert - - and/or - -, therefor.

In Column 8, Line 4, delete “known” and insert - - know - -, therefor.

In Column 8, Line 17, delete “interface” and insert - - Interface - -, therefor.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

6300 Legacy, MS EVR 1-C-11
Plano, TX 75024
972-583-8656

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,073,436 B2

APPLICATION NO. : 11/558,273

ISSUE DATE : December 6, 2011

INVENTOR(S) : Yaqub, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Column 8, Line 22, delete "paths/addresses." and insert - - paths/addresses, - -, therefor.

In Column 9, Line 2, delete "((if" and insert - - (if - -, therefor.

In Column 9, Line 31, delete "and or" and insert - - and/or - -, therefor.

In Column 11, Line 40, delete "form" and insert - - from - -, therefor.

In Column 13, Line 26, delete "(e.g.," and insert - - e.g., - -, therefor.

In Column 14, Line 3, delete "MPD" and insert - - MDP - -, therefor.

In Column 14, Line 29, delete "Call" and insert - - Cell - -, therefor.

In Column 15, Line 12, delete "Pattern: and:" and insert - - Pattern: - -, therefor.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

6300 Legacy, MS EVR 1-C-11
Plano, TX 75024
972-583-8656

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,073,436 B2

APPLICATION NO. : 11/558,273

ISSUE DATE : December 6, 2011

INVENTOR(S) : Yaqub, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In Column 15, Line 31, delete “of” and insert - - of the - -, therefor.

In Column 18, Line 13, in Claim 18, delete “receive” and insert - - receive; - -, therefor.

In Column 18, Line 21, in Claim 18, delete “assist” and insert - - assist; - -, therefor.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

6300 Legacy, MS EVR 1-C-11
Plano, TX 75024
972-583-8656

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	11558273
Filing Date:	09-Nov-2006
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Filer:	Steven Ware Smith/Kara Coffman
Attorney Docket Number:	3119.137

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of Correction	1811	1	100	100
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**100**

Electronic Acknowledgement Receipt	
EFS ID:	20546250
Application Number:	11558273
International Application Number:	
Confirmation Number:	1960
Title of Invention:	APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS
First Named Inventor/Applicant Name:	Raziq Yaqub
Customer Number:	89739
Filer:	Steven Ware Smith/Kara Coffman
Filer Authorized By:	Steven Ware Smith
Attorney Docket Number:	3119.137
Receipt Date:	29-OCT-2014
Filing Date:	09-NOV-2006
Time Stamp:	12:25:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$100
RAM confirmation Number	11518
Deposit Account	501379
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	P52164-US3_2014-10-29_CoC_Request_Letter.pdf	113702 e5028eb9959bbab17a836511041356c8f3be3c61	no	4
Warnings:					
Information:					
2	Request for Certificate of Correction	P52164-US3_2014-10-29_CoC_PTO-1050.pdf	121666 bd0241131643c45d4124e2ef3c0869f6640bfaec	no	4
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30365 285bb077cc30584bab937dc897a2236e8ccb11eb	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	265733		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: U.S. Patent No. 8,073,436

USPTO CONFIRMATION CODE: 1960

APPLICATION NO.: 11/558,273

FILED: November 9, 2006

EXAMINER: Kamran Afshar

GROUP ART UNIT: 2617

FOR: APPLICATIONS AND/OR SITUATION RESPONSIVE UTILIZATION OF SILENT PERIODS

37 CFR 1.322 & 37 CFR 1.323 REQUEST FOR CERTIFICATE OF CORRECTION FOR USPTO AND/OR APPLICANT MISTAKE

HONORABLE COMMISSIONER OF PATENTS & TRADEMARKS

SIR:

The following is a request for a certificate of correction in Serial Number 11/558,273, now Patent Number 8,073,436.

A certificate of correction under 35 USC 254 is respectfully requested in the above-identified patent.

The errors were the fault of both the applicant and USPTO and, accordingly, please charge **$100.00** to our Deposit Account No. 50-1379. In the event that a further fee is required, please charge the amount to the same Deposit Account.

The exact locations where the errors appear in the patent and patent application are as follows:

In Column 1, Line 49, delete "as" and insert - - as a - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 2, LINE 6)

In Column 1, Line 67, delete "Name, A" and insert - - Name, a - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 2, LINE 16)

In Column 2, Lines 31-32, delete "draft-ietf-monami6-multiplecoa-01.txt." and insert - - draft-ietf-monami6-multiplecoa-01.txt, - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 3, LINE 4)

In Column 3, Line 63, delete "perform;" and insert - - perform: - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 5, LINE 5)

In Column 4, Line 59, delete "description" and insert - - descriptions - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 6, LINE 10)

In Column 7, Line 16, delete "and or" and insert - - and/or - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 9, LINE 18)

In Column 8, Line 4, delete "known" and insert - - know - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 10, LINE 20)

In Column 8, Line 17, delete "interface" and insert - - Interface - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 10, LINE 27)

In Column 8, Line 22, delete "paths/addresses." and insert - - paths/addresses, - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 11, LINE 1)

In Column 9, Line 2, delete "((if" and insert - - (if - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 12, LINE 5)

In Column 9, Line 31, delete "and or" and insert - - and/or - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 12, LINE 22)

In Column 11, Line 40, delete “form” and insert - - from - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 16, LINE 1)

In Column 13, Line 26, delete “(e.g.,” and insert - - e.g., - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 18, LINE 21)

In Column 14, Line 3, delete “MPD” and insert - - MDP - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 19, LINE 22)

In Column 14, Line 29, delete “Call” and insert - - Cell - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 20, LINE 12)

In Column 15, Line 12, delete “Pattern: and:” and insert - - Pattern: - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 21, LINE 18)

In Column 15, Line 31, delete “of” and insert - - of the - -, therefor.
(ORIGINALLY FILED SPECIFICATION DATED NOVEMBER 9, 2006, PAGE 22, LINE 3)

In Column 18, Line 13, in Claim 18, delete “receive” and insert - - receive; - -, therefor.
(AMENDMENTS TO THE CLAIMS DATED MAY 24, 2011, PAGE 6 OF 11, CLAIM 17, LINE 11)

In Column 18, Line 21, in Claim 18, delete “assist” and insert - - assist; - -, therefor.
(AMENDMENTS TO THE CLAIMS DATED MAY 24, 2011, PAGE 6 OF 11, CLAIM 17, LINE 18)

The requested corrections are attached on Form PTO 1050.

Respectfully Submitted

, 2014 /Ronald J. Ward,Reg#54870/

DATE

Ronald J. Ward
Registration No. 54,870
Attorney of Record

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 8,073,436 B2
APPLICATION NO. : 11/558273
DATED : December 6, 2011
INVENTOR(S) : Yaqub et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification

In Column 1, Line 49, delete "as" and insert -- as a --, therefor.

In Column 1, Line 67, delete "Name, A" and insert -- Name, a --, therefor.

In Column 2, Lines 31-32, delete "draft-ietf-monami6-multiplecoa-01.txt." and insert -- draft-ietf-monami6-multiplecoa-01.txt, --, therefor.

In Column 3, Line 63, delete "perform;" and insert -- perform: --, therefor.

In Column 4, Line 59, delete "description" and insert -- descriptions --, therefor.

In Column 7, Line 16, delete "and or" and insert -- and/or --, therefor.

In Column 8, Line 4, delete "known" and insert -- know --, therefor.

In Column 8, Line 17, delete "interface" and insert -- Interface --, therefor.

In Column 8, Line 22, delete "paths/addresses." and insert -- paths/addresses, --, therefor.

In Column 9, Line 2, delete "((if" and insert -- (if --, therefor.

In Column 9, Line 31, delete "and or" and insert -- and/or --, therefor.

In Column 11, Line 40, delete "form" and insert -- from --, therefor.

In Column 13, Line 26, delete "(e.g.," and insert -- e.g., --, therefor.

Signed and Sealed this
Tenth Day of February, 2015

Michelle K. Lee

Michelle K. Lee
Deputy Director of the United States Patent and Trademark Office

In Column 14, Line 3, delete "MPD" and insert -- MDP --, therefor.

In Column 14, Line 29, delete "Call" and insert -- Cell --, therefor.

In Column 15, Line 12, delete "Pattern: and:" and insert -- Pattern: --, therefor.

In Column 15, Line 31, delete "of" and insert -- of the --, therefor.

In the Claims

In Column 18, Line 13, in Claim 18, delete "receive" and insert -- receive; --, therefor.

In Column 18, Line 21, in Claim 18, delete "assist" and insert -- assist; --, therefor.

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6767321

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TOSHIBA AMERICA RESEARCH, INC.	06/11/2021

RECEIVING PARTY DATA

Name:	FOUR BATONS WIRELESS, LLC
Street Address:	14 WALL STREET
Internal Address:	20TH FL
City:	NEW YORK
State/Country:	NEW YORK
Postal Code:	10005

PROPERTY NUMBERS Total: 58

Property Type	Number
Patent Number:	6999434
Patent Number:	7031278
Patent Number:	7035236
Patent Number:	7039028
Patent Number:	7072340
Patent Number:	7075910
Patent Number:	7139285
Patent Number:	7369576
Patent Number:	7463892
Patent Number:	7502348
Patent Number:	7505433
Patent Number:	7508788
Patent Number:	7576694
Patent Number:	7587598
Patent Number:	7606602
Patent Number:	7720581
Patent Number:	7729325
Patent Number:	7738882
Patent Number:	7768982

Property Type	Number
Patent Number:	7778773
Patent Number:	7826424
Patent Number:	7843867
Patent Number:	7848312
Patent Number:	7860019
Patent Number:	7860978
Patent Number:	7885185
Patent Number:	7899592
Patent Number:	7936719
Patent Number:	7948918
Patent Number:	7974602
Patent Number:	7975300
Patent Number:	8006089
Patent Number:	8036176
Patent Number:	8036192
Patent Number:	8046829
Patent Number:	8073436
Patent Number:	8107960
Patent Number:	8160021
Patent Number:	8165088
Patent Number:	8218512
Patent Number:	8239671
Patent Number:	8270948
Patent Number:	8306026
Patent Number:	8332923
Patent Number:	8385937
Patent Number:	8463308
Patent Number:	8514808
Patent Number:	8554915
Patent Number:	8565185
Patent Number:	8688834
Patent Number:	8717931
Patent Number:	8781473
Patent Number:	8798006
Patent Number:	8817990
Patent Number:	8908540
Patent Number:	8929330
Patent Number:	9046595

Property Type	Number
Patent Number:	9526040

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 2123237442
Email: skolmykov@kskiplaw.com
Correspondent Name: SERGEY KOLMYKOV
Address Line 1: 305 BROADWAY
Address Line 2: 7TH FL
Address Line 4: NEW YORK, NEW YORK 10007

NAME OF SUBMITTER:	SERGEY KOLMYKOV
SIGNATURE:	/Sergey Kolmykov/
DATE SIGNED:	06/17/2021
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3
source=Patent Transfer Agreement -Patent Assginment (TARI) TARI sign#page1.tif
source=Patent Transfer Agreement -Patent Assginment (TARI) TARI sign#page2.tif
source=Patent Transfer Agreement -Patent Assginment (TARI) TARI sign#page3.tif

PATENT ASSIGNMENT AGREEMENT

THIS PATENT ASSIGNMENT AGREEMENT (the "Agreement"), is made and entered into this 14 day of June, 2021 (the "Effective Date"), by and between Toshiba America Research, Inc., ("Assignor"), a corporation organized under the laws of the State of Delaware, having offices at 1251 Avenue of the Americas, New York, NY 10020, United States, and Four Batons Wireless, LLC, a limited liability company organized under the laws of the State of Delaware, having offices at 14 Wall Street, 20th Floor, New York, NY 10005, United States ("Assignee") (each a "Party" and collectively the "Parties").

WHEREAS, Assignor wishes to assign the United States patents as listed on Schedule A (United States patent properties) hereto (collectively the "Patents") to Assignee;

WHEREAS, Assignor and Assignee have entered into a Patent Transfer Agreement (the "Transfer Agreement") dated June 9, 2021, wherein Assignor has agreed to sell and Assignee has agreed to purchase the Patents subject to all prior encumbrances and licenses;

NOW, THEREFORE, in consideration of the mutual covenants and agreements of the Parties and pursuant to the Transfer Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, it is hereby agreed as follows:

"Encumbrances" means any commitments, patent licenses, immunities, releases or other rights relating to any of the Patents, whether express, implied or otherwise, that are made, entered into or granted by, or that arise from any actions taken by Assignor, any current or former Affiliate of Assignor, or any other Person, on or before the date of this agreement.

I. ASSIGNMENT

1. To all whom it may concern, be it known that for good and valuable consideration, Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set over unto said Assignee, subject to all Encumbrances, its whole right, title, and interest in and to all of the Patents, said whole right, title, and interest in and to said Patents including all past, present, and future causes of action and claims for damages derived by reason of patent infringement thereof (to the extent such damages are not already paid, awarded or contractually owed to Assignor, its Affiliates or any predecessor of Assignor or Assignor's Affiliates), for said Assignee's own use and for the use of its assigns, successors, and legal representatives to the full end of the term of each of the Patents. For clarity, the foregoing assignment does not include (i) any trademarks, trade dress, trade names, or other indicia of origin; (ii) except for rights in the Patents, any inventions or discoveries, whether patentable or not, or registrations, invention disclosures, patents and applications therefor; (iii) any trade secrets, confidential information or know-how; (iv) any works of authorship, whether copyrightable or not; and (v) any other intellectual property or proprietary rights of Assignor, its Affiliates or any predecessor of Assignor or Assignor's Affiliates.

1. Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States, whose

duty is to issue patents or other evidence or forms of industrial property on applications as aforesaid, to issue the same to Assignee, it successors, assigns and legal representatives, or to such nominees as it may designate.

2. Assignor agrees that, whenever reasonably requested by Assignee and at Assignee's sole cost and expense, Assignor will execute all papers, take all rightful oaths, and do all acts which may be reasonably necessary for vesting title thereto in Assignee, its successors, assigns and legal representatives or nominees.

3. Assignor authorizes and empowers Assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent the benefit of the right of priority to the Patents provided by the Paris Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, and to invoke and claim such right of priority without further written or oral authorization from Assignor.

4. Assignor hereby consents that a copy of this Agreement shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document that may be required in any country for any purpose and more particularly in proof of the right of Assignee or nominee to claim the aforesaid benefit of the right of priority provided by the Paris Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

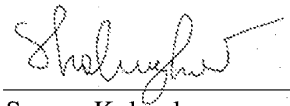
In Testimony Whereof, the Parties, by its fully authorized representatives have executed this Assignment as of the dates indicated below.

Toshiba America Research Inc.

By: 
Name: Hiroyuki Hieda
Title: President

Date: June 11th, 2021

Four Batons Wireless, LLC

By: 
Name: Sergey Kolmykov
Title: General Counsel

Date: June 12, 2021

SCHEDULE A
UNITED STATES PATENTS

US 6,999,434
US 7,031,278
US 7,035,236
US 7,039,028
US 7,072,340
US 7,075,910
US 7,139,285
US 7,369,576
US 7,463,892
US 7,502,348
US 7,505,433
US 7,508,788
US 7,576,694
US 7,587,598
US 7,606,602
US 7,720,581
US 7,729,325
US 7,738,882
US 7,768,982
US 7,778,773
US 7,826,424
US 7,843,867
US 7,848,312
US 7,860,019
US 7,860,978
US 7,885,185
US 7,899,592
US 7,936,719
US 7,948,918
US 7,974,602
US 7,975,300
US 8,006,089
US 8,036,176
US 8,036,192
US 8,046,829
US 8,073,436
US 8,107,960
US 8,160,021
US 8,165,088
US 8,218,512
US 8,239,671
US 8,270,948
US 8,306,026
US 8,332,923
US 8,385,937
US 8,463,308
US 8,514,808
US 8,554,915
US 8,565,185
US 8,688,834
US 8,717,931
US 8,781,473
US 8,798,006
US 8,817,990
US 8,908,540
US 8,929,330
US 9,046,595
US 9,526,040