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(54) **LOCATION DEPENDENT MONITORING FOR STOLEN DEVICES**

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***G08B 13/14*** (2006.01)

(52) **U.S. Cl.** ..... **340/568.1**; 340/500; 340/539.13; 340/568.8; 455/404.2; 455/456.1

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See application file for complete search history.

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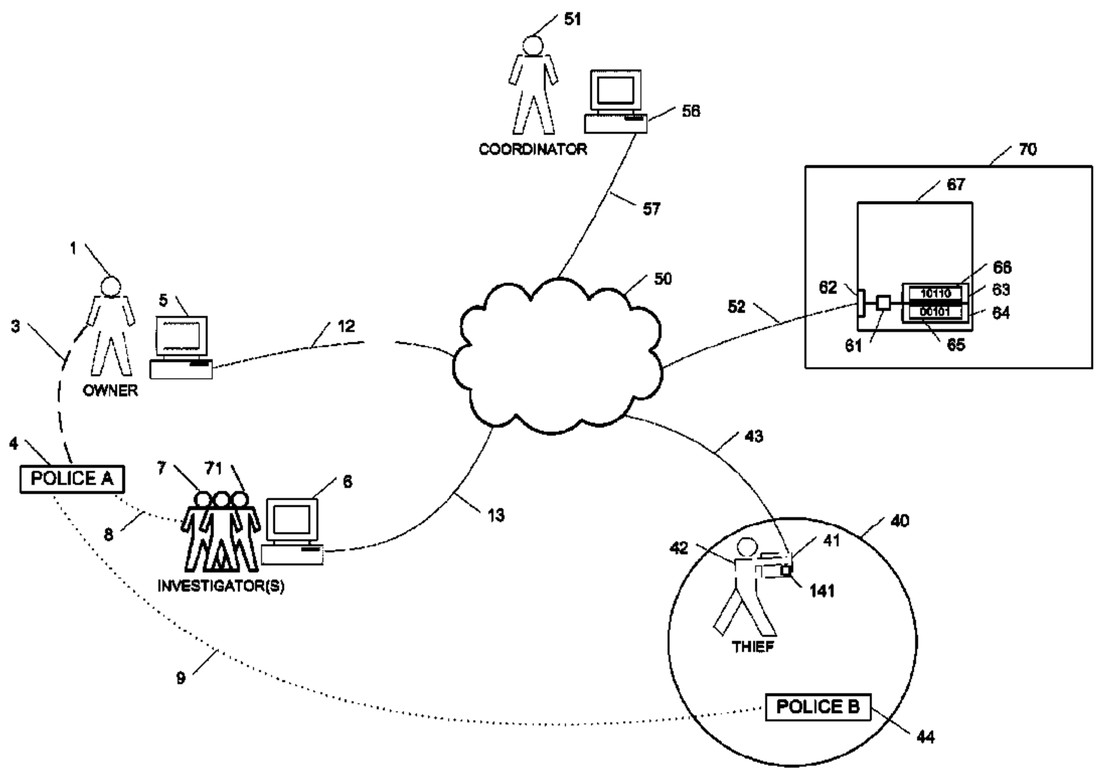
(57) **ABSTRACT**

A system and method for controlling the surveillance conducted by lost or stolen electronic devices dependent upon the location of such electronic devices is provided. A data repository contains data that specifies, for each of a plurality of geographic regions (e.g. legal jurisdictions), a set of surveillance methods that are permissible in the respective region. At least some of the geographic regions have different respective sets of permissible surveillance methods than others. A computer system is operable to communicate with the devices over a computer network, and programmed to use received information regarding a location of a potentially lost or stolen device, in combination with the data in the computer data repository, to cause the potentially lost or stolen device to initiate surveillance according to the set of permissible surveillance methods (and/or other actions) corresponding to the location.

**10 Claims, 2 Drawing Sheets**



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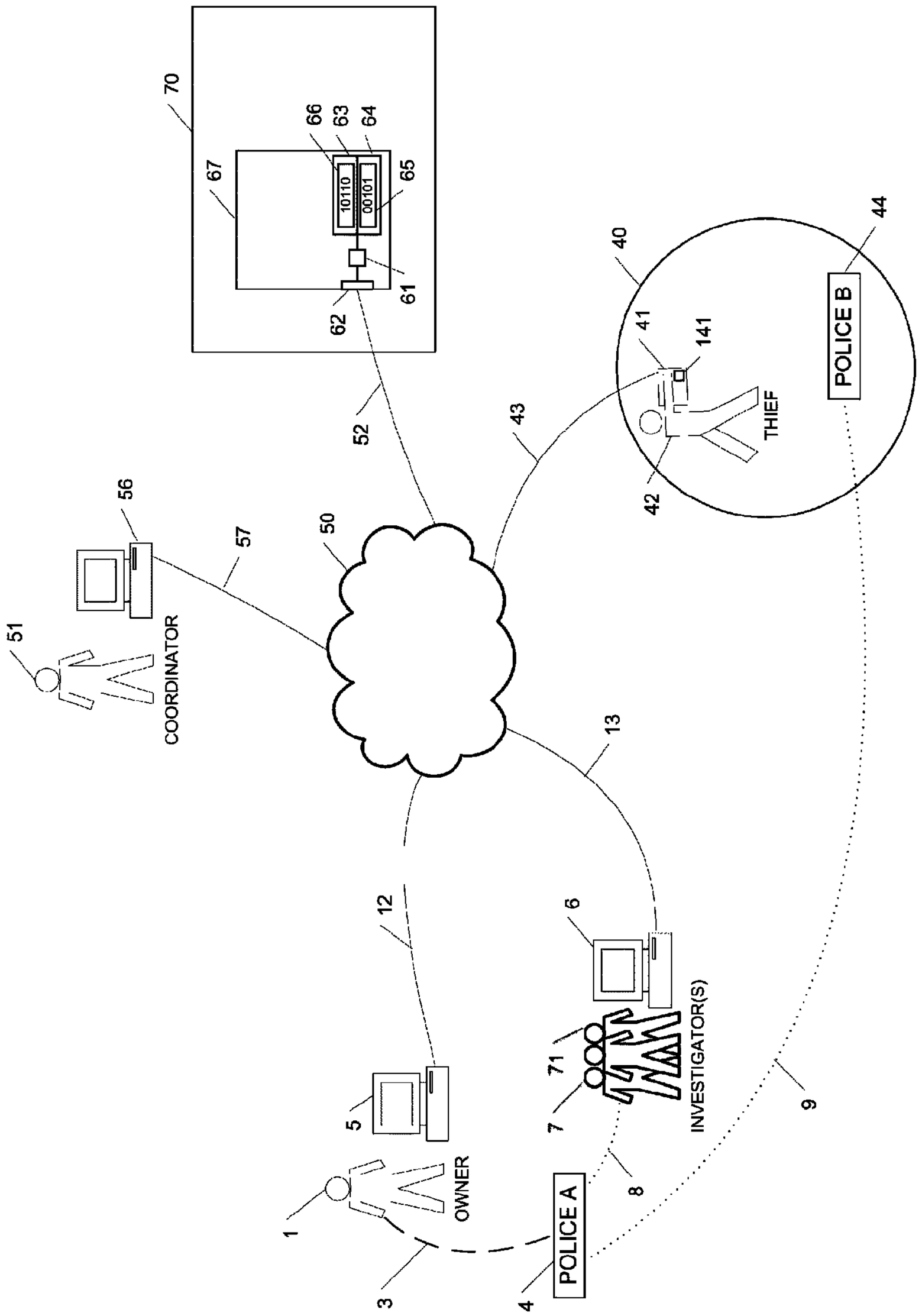
70
66
63
64
67
10110
00101
65
61
62
52
40
41
141
44
POLICE B
43
42
THIEF
56
57
50
51
COORDINATOR
13
12
6
5
71
7
INVESTIGATOR(S)
1
OWNER
3
4
POLICE A
8
9

Fig. 1

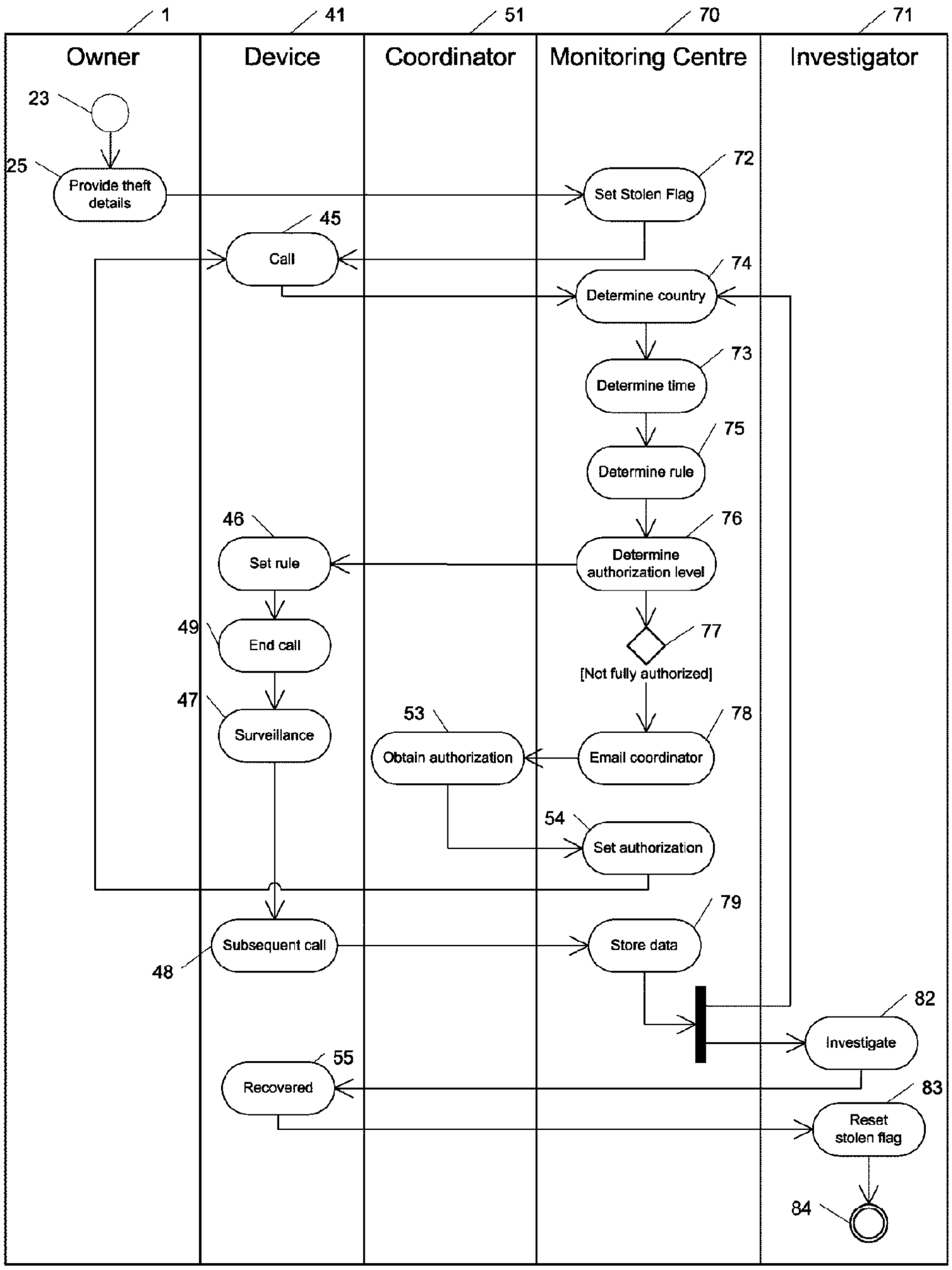
1
41
51
70
71
Owner
Device
Coordinator
Monitoring Centre
Investigator
23
25
Provide theft details
72
Set Stolen Flag
45
Call
74
Determine country
73
Determine time
75
Determine rule
46
Set rule
76
Determine authorization level
49
End call
77
[Not fully authorized]
47
Surveillance
53
Obtain authorization
78
Email coordinator
54
Set authorization
79
Subsequent call
48
Store data
82
Investigate
55
Recovered
83
Reset stolen flag
84

Fig. 2

# LOCATION DEPENDENT MONITORING FOR STOLEN DEVICES

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. provisional patent application No. 61/149,189, filed Feb. 2, 2009, the disclosure of which is hereby fully incorporated by reference.

## BACKGROUND

1. Technical Field

The present disclosure relates to controlling the behavior of stolen electronic devices according to the location in which they are located.

2. Description of the Related Art

The theft of electronic devices such as personal computers, laptop computers, personal digital assistants, mobile phones and personal entertainment devices is prevalent and there is an ongoing need to recover such property. Further, proprietary or sensitive data is often stored in such devices, so the need to recover such devices as rapidly as possible is self-evident. Existing tracking methods include monitoring the IP address of a computer that is connected to the internet, monitoring a GPS location of a computer or tracking device, keystroke logging and monitoring images captured from a computer's camera. It is important that the techniques used are within the law and minimize the risk of legal actions taken against an investigator.

Often, an item stolen in one country is taken to another country in order to reduce the likelihood of it being retrieved, and possibly so that it can be sold more easily. There are significant differences between civil law countries and common law countries regarding the sale of stolen property. In common law countries, the original owner tends to be favored because the thief cannot pass on good title to anyone. In civil law countries, a bona fide purchaser (i.e. a buyer who believes that the seller and goods are legitimate) tends to be favored, particularly following a period of limitations during which an original owner can make a claim. A problem can occur if an automatic surveillance device is unaware of its location and inadvertently starts monitoring and/or recording private information of someone who is considered a bona fide purchaser. This problem may arise if, for example, a stolen item with a tracking or monitoring device is taken across a border from a common law country to a civil law country, or if a statutory period of limitations expires within a civil law country. Laws may also vary between states or different regions of the same country.

There are, of course, exceptions to the general rules relating to the sale of stolen property in both common law and civil law countries, and there can be complicated qualifications to the rules. For example, the period of limitations for claiming back stolen goods may start running from the moment of the theft in one country, from the moment the owner became aware of the theft in another country, or from the moment the location of the goods becomes known. Moving the goods from one country to another to clear the title, and then back to the original country may cause further complications.

Another example that complicates the issue of using surveillance to help recover stolen goods is the extent to which an invasion of privacy can be justified by a competing interest. Different countries can have different standards as to what is considered a competing interest, and how far privacy can be compromised in the retrieval of stolen goods.



By way of example of background art, U.S. Pat. No. 5,944,790 discloses a system and method for displaying a webpage which is dependent on the location of the requesting computer.

PCT Application WO 00/022495 describes a method and apparatus in which a download of a digital product is supplied according to the territory of the request.

U.S. Pat. No. 6,125,446 describes a method for a computer such that its operation depends on its location as determined by a worldwide positioning system.

U.S. Pat. No. 6,954,147 describes a laptop that requires a password to operate it if it is taken outside a predetermined boundary.

## SUMMARY

Since different countries have different laws, the surveillance and recovery techniques taken often need to be adapted to each legal jurisdiction. Accordingly, various jurisdiction-sensitive systems and methods addressing the need to track stolen electronic devices and monitor their usage are provided.

This summary is not an extensive overview intended to delineate the scope of the subject matter that is described and claimed herein. The summary presents aspects of the subject matter in a simplified form to provide a basic understanding thereof, as a prelude to the detailed description that is presented below. Neither this summary nor the following detailed description purports to define or limit the invention; the invention is defined only by the claims.

A system and method for controlling the surveillance conducted by lost or stolen electronic devices dependent upon the location of such electronic devices is provided. A data repository contains data that specifies, for each of a plurality of geographic regions (e.g. legal jurisdictions), a set of surveillance methods that are permissible in the respective region. At least some of the geographic regions have different respective sets of permissible surveillance methods than others. A computer system is operable to communicate with the devices over a computer network, and programmed to use the received information regarding a location of a potentially lost or stolen device, in combination with the data in the computer data repository, to cause the potentially lost or stolen device to initiate surveillance according to the set of permissible surveillance methods (and/or other actions) corresponding to said location. The device may also be configured to change the surveillance methodology based on the passage of a certain amount of time, and overt actions may optionally also be taken when the device crosses or approaches a border, with the aim of influencing someone in unauthorized possession of the device to return it to or keep it in a jurisdiction more favorable for its retrieval. The surveillance rule may be stored in the device or it may be retrievable from a remote server via, for example, the internet.

## BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the nature and advantages of the disclosed subject matter, as well as the preferred mode of use thereof, reference should be made to the following detailed description, read in conjunction with the accompanying drawings. In the following drawings, like reference numerals designate like or similar parts or steps.

FIG. **1** is a schematic functional block diagram of a system in accordance with an embodiment of the disclosed subject matter, showing the main components of the system and the people who interact with it; and,

FIG. **2** is a functional flow diagram schematically representing the flow process of a system in accordance with an embodiment of the disclosed subject matter, showing the interactions of a stolen device, the coordinator, an investigator and an owner with the system.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

### Terminology

Device—The term "device" refers herein to an electronic device that may be stolen. The device may be any electronic device such as a laptop computer, a personal computer, a cellphone, a Blackberry®, an iPhone®, an iPod®, an iPad™, an electronic book, a personal gaming device or a memory module. The device can also be referred to as a "client", and more specifically as a client of a monitoring center. The device typically has a name, an ID, or electronic serial number ("ESN") with which it can be identified. The device can be a tracking apparatus that is attached to an item that does not have the electronic capabilities to perform the disclosed functions itself. The device could be an apparatus that is embedded in or around an object to be protected—such as the frame of a valuable painting.

Agent—as used herein, is a software, hardware or firmware agent that is persistent and stealthy, and that resides in a computer or other electronic device. The agent provides servicing functions which require communication with a remote server. The agent is ideally tamper resistant and is enabled for supporting and/or providing one or more services such as data delete, firewall protection, data encryption, location tracking, message notification, surveillance and software deployment and updates. An illustrative embodiment of an agent is found in the commercially available product Computrace Agent™. The technology underlying the Computrace Agent™ has been disclosed and patented in the U.S. and other countries, which patents have been commonly assigned to Absolute Software Corporation. See, for example, U.S. Pat. Nos. 5,715,174; 5,764,892; 5,802,280; 6,244,758; 6,269,392; 6,300,863; and 6,507,914; and related foreign patents. Details of the persistent function of the agent are disclosed in U.S. Patent Application Publication Nos. US2005/0216757 and US2006/0272020. All of these documents are fully incorporated by reference as if fully set forth herein. It is feasible to use an equivalent agent to the Computrace Agent™, or less preferably an alternative agent with less functionality. The minimal functional attributes of the agent are: (1) to communicate stealthily with a monitoring center; (2) to self-repair; and (3) to provide location specific information to the remote server. Communications may be initiated by the agent, by the monitoring center or by both.

Monitoring Center—This is a remote server, guardian server or other computer or server that the agent communicates with or sends a message to. For example, provided an interne connection is available to the device, an agent may call the monitoring center once a day (or at some other selected suitable interval) to report the location of the device. Communications may also be via, for example, a telephone network such as a cellular or satellite network, and they may use SMS services. In one embodiment, the monitoring may be an email server that receives messages from a remote device, and/or it may be considered as the computer or other equipment used to retrieve email messages from an email server. The monitoring centre may be distributed in more than one location.

Owner—This term is generally used to refer to the person who legitimately operates the device. The term may also be used for someone who is authorized by the owner, which could be an employee or a person to whom a device is rented or loaned.

The detailed descriptions within are presented largely in terms of methods or processes, symbolic representations of operations, functionalities and features of the subject matter disclosed. These method descriptions and representations are the means used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art. A software implemented method or process is here, and generally, conceived to be a self-consistent sequence of steps leading to a desired result. These steps require physical manipulations of physical quantities. Often, but not necessarily, these quantities take the form of electrical or magnetic signals capable of being stored, transferred, combined, compared, and otherwise manipulated. It will be further appreciated that the line between hardware, software and firmware is not always sharp, it being understood by those skilled in the art that software implemented processes may be embodied in hardware, firmware, or software, in the form of coded instructions such as in microcode and/or in stored programming instructions.

All of the methods and tasks described herein, excluding those identified as performed by a human, may be performed and fully automated by a computer system. The computer system may, in some cases, include multiple distinct computers or computing devices (e.g., physical servers, workstations, storage arrays, etc.) that communicate and interoperate over a network to perform the described functions. Each such computing device typically includes a processor (or multiple processors) that executes program instructions or modules stored in a memory or other computer-readable storage medium. Where the system includes multiple computing devices, these devices may, but need not, be co-located. The results of the disclosed methods and tasks may be persistently stored by transforming physical storage devices, such as solid state memory chips and/or magnetic disks, into a different state.

### Exemplary Embodiment

A diagram of a preferred embodiment of the jurisdiction based stolen device monitoring system is shown by way of example in FIG. **1**. The system generally comprises a monitoring centre **70** connected via data communication link **52** and the internet **50** to one or more remote terminals **5**, **6** and **56**. Other remote terminals may be connected via data communication links and the internet to the monitoring centre **70**.

The monitoring centre comprises a server **67**, in turn comprising components usually found in a server, such as a processor **61** and electronic memory **63**, **64**, the electronic memory **63** carrying computer readable instructions **66** that can be acted upon by the processor **61** in order to fulfill functions of the system, and the electronic memory **64** carrying computer readable data **65** that is stored and processed in order for the system to operate as described. Also included is an interface **62** between the server **67** and the internet **50**. The server **67** may, in some embodiments, include multiple physical computers that interact over a network.

### Scenario

A typical scenario in which the system is used can also be seen in FIG. **1**, and is described in relation to a stolen laptop **41**. However, it is equally valid with a tracking device or an

electronic device other than a laptop. An owner **1** becomes aware that his/her laptop **41** is missing and informs **3** the police **4** having authority in the same locality as where the theft occurred. The owner then finds an internet access point or remote terminal **5** connectable via data communications link **12**, the internet **50** and data communications link **52** to the system's server **67**. At remote terminal **5**, the owner **1** provides information to the server **67** pertaining to the fact that his laptop **41** has been stolen and provides details of the police report filed. A flag is set in the server **67** to indicate that the laptop has been stolen. Alternately, the owner **1** may provide such information to the server **67** at a later time, and in a different locality. For example, the owner **1** can provide details of the theft from a remote terminal at work, or he may provide details via a remote terminal at home.

Meanwhile, the stolen laptop **41** could be anywhere, and has been depicted in this scenario to be in the hands of a thief **42** in country **40**. The agent **141** in stolen laptop **41** is configured to communicate with the server **67** in the monitoring center **70** via communication link **43**, the internet **50** and communication link **52**. The agent **141** in the laptop **41** may initiate the communication at a set time or after a set delay, or it may be configured to accept a communication call from the server **67** in the monitoring center **70**.

When the laptop **41** communicates with the monitoring centre **70**, the monitoring center **70** determines or is notified (by the laptop **41** or a third party locating system) of the location and ID of the laptop **41**. With this information, the system checks the status of the stolen flag corresponding to the ID and in this case determines that a theft has occurred. The system determines the country in which the laptop is currently located and accesses stored data that includes an identification of permissible surveillance tools for each country. For example, the surveillance tools might perform the following tasks (or a subset thereof), which may be selected based on the identified location:

IP address logging; GPS location logging; Keystroke logging; Image recording; Video recording; Screen capture; Message display.

Each surveillance tool or group of surveillance tools may require a different level of permission to invoke, so the database includes this information, and it also includes information as to the authorization level actually obtained. For example, an owner may give authorization for the IP address of his computer to be logged, but a warrant may need to be obtained for camera images to be logged.

In an example scenario, the system instructs the agent **141** in the stolen laptop **41** to start (or continue) recording IP addresses after it becomes aware of the theft. The system determines that keystrokes may be logged, but only with permission from a higher authority in the country **40**, and informs a coordinator **51** via email using link **57**. The coordinator **51** then attempts to obtain the necessary authorization, either directly, via an investigator **7**, or via the police **4** to whom the theft was reported. It could involve obtaining a court order. It may involve contacting the police **44** in the country **40** where the laptop **41** is located.

The server **67** sends (or is configured to provide upon request) details of the laptop **41**'s ID and location, via link **52**, internet **50**, and link **13** to remote terminal **6** operated by one of a team of investigators **7** covering thefts in the locality in which the theft occurred. The investigator **7** may be physically located in the locality of the theft or elsewhere, or may be located in the monitoring centre **70**, in which case links **13**, **52** via the internet **50** would not be needed. The details may initially be sent to a manager **71** of the team of investigators who distributes the task of investigating to one or more of the investigators **7** that is/are a member of the team.

When enough surveillance information has been collected and collated, the investigator **7** uses his established working relationship and/or communication link(s) **8** with the police **4** to transfer the information to them. Once all the relevant and necessary information has been gathered and transferred to the police **4** having authority in the same locality as where the theft occurred (Police Department A), they can transfer the file through official channels **9** to the police **44** (Police Department B) operating in the country **40** of the stolen device **41**.

The system therefore results in the collection of a legally appropriate level of information and its efficient transfer to the police **44** in the country **40** where the laptop **41** is located, through the appropriate channels, in order to help them recover the stolen laptop.

## Functional Operation

FIG. **2** is a flow chart showing the interactions of various people and the stolen device with the system. An owner **1** discovers **23** that his device **41** has been stolen and so provides 25 details of the theft to the police. Details of the theft are also reported to the monitoring centre **70** by any suitable means, such as by phone, fax or via an internet connection. On receiving the details of the theft, the monitoring centre **70** sets **72** flags for the device **41** that has been reported—stolen these flags could be a stolen flag, a first call awaited flag and/or a flag to shorten the calling interval. The date and possibly also the time of the theft is also recorded by the monitoring centre **70** at this step.

When the stolen device **41** subsequently calls in **45** to the monitoring centre **70**, the country in which the device **41** is located is determined **74** by the monitoring centre **70**, either from the stolen device **41**'s IP address (which may be determined by a traceroute routine or supplied by the device) or from a physical location (determined, for example, by GPS, A-GPS, WiFi hotspot signal strength detection, cell tower triangulation, etc.). The IP address of the device **41** may be used to determine the country or jurisdiction in which the device **41** is located because certain ranges of IP address are assigned to certain countries or to certain ISPs that operate in such countries. ISPs dynamically assign IP addresses from their respective pools to subscribers' devices.

The time of the call **45** is compared with the recorded time of the theft (from step **72**) in order to calculate **73** the period of time that has passed since the theft. The surveillance rule for the country in which the device **41** is located is then retrieved **75** from a database (e.g. item **65** of FIG. **1**) in the monitoring centre **70** or to which the monitoring centre **70** has access. The rule may be based on the elapsed time since the theft. Since laws change from time to time, the database **65** is preferably maintained remotely from the device **41**, and can be updated with fresh data by a coordinator **51** or other appropriate person as and when laws are amended. Some laws may be unknown, in which case a default rule can be stored.

The monitoring centre **70**, on retrieving **75** the surveillance rule for the country in which the device **41** is located, also determines the type of recovery tool(s) that can be invoked, depending on the information available for the country (or other jurisdiction) that the device **41** is located in, and the level of authorization needed in that country. According to the maximum level of existing authorization **76** then available in relation to device **41**, an instruction is sent to the device **41**, or agent **141** in the device **41**, to set **46** the surveillance rule accordingly. The sending of the instruction (at step **46**) may

result in the existing surveillance rule in device **41** being changed or left unaltered. For example, the device **41** by default may have been providing IP address information, and there may be no further authorization to utilize other tools, so the rule is left unaltered. Otherwise, the rule may be set to invoke any or all of the surveillance tools mentioned above (and possibly others). As well as surveillance tools, other tools may also be triggered, such as encryption software, data delete software and/or data retrieval software. The call then ends **49** and the device **41** proceeds to undertake surveillance **47** according to the rule that has been set, if any.

If **77** no authorization or insufficient authorization has been obtained, or it has not been entered into the database **65**, then the system sends **78** an alert to the coordinator **51**, which alert could be an automatically generated email. The coordinator **51** then attempts to obtain the required authorization **53**, either from the owner or administrator of the device **41**, or in cooperation with the investigating police force or forces. Once authorization has been obtained, the coordinator sets it **54** in the database **65** of the monitoring centre **70** so that on the next call **45** by device **41** the instruction can be given **46** to the device **41** to invoke a more sophisticated recovery tool. If **77** the required authorization level has already been obtained, steps **78**, **53** and **54** are not needed. Note, however, that these steps may later be needed if the device is moved to another jurisdiction.

During a call **48** subsequent to surveillance, the recorded data is sent in part or in whole to the monitoring centre **70** where it is stored **79** for later investigation **82** by an investigator **7** or police officer. During the call **48**, a check is remade **74** on the country (or other jurisdiction) in which the device is located, and any necessary adjustments to the surveillance rules are made.

If the investigation **82** is successful and the device **41** is recovered **55**, the investigator **71** or other appropriate person can reset **83** the stolen flag in the monitoring centre **70**, after which the process ends **84**. The whole process can be repeated if the device **41** is stolen again.

Database

Below is a simple example of the data that might be stored in a database for the system to be able to function correctly. The most basic information is the country (or other jurisdiction) and the permitted tool. The authorization level needed may also be included in the basic information. The example table is relevant for laptops and other portable computing devices such as cell phones, smart phones, electronic books, electronic pads, PDAs and also PC's, and includes devices that can accept keystrokes (whether real, virtual or touch-screen equivalents), display data and/or images, and/or capture camera images (stills or video).

For example, the table of data shows that in country "E" it is permissible for an owner of a device to authorize IP address logging and GPS location, but a court order is needed to be able to monitor keystrokes, screenshots and camera images. In country "F" the data shows that no surveillance should be undertaken following three years after the theft, because after that time it is not possible for an original owner to claim stolen goods from a bona fide purchaser. It is assumed that in most cases the thief will have sold the stolen equipment.

It is also possible to override the rules if an individual case warrants it. For example, the limitation period may be measured from different events, and may depend on how events unfold.

| Country | Type | Limitation period/years | Tool | Authorization |
|---|---|---|---|---|
| E | Common | None | IP Address, GPS | Owner |
| | | | Keystroke, Screenshot, Camera images | Court |
| F | Civil | 3 | GPS IP Address | Owner |
| U | Common | None | IP Address, GPS | Owner |
| | | | Keystroke, Screenshot | Police |
| S | Civil | 5 | GPS | Owner |
| J | Civil | 2 | GPS, IP address | Owner |
| X | Civil | Unknown | Display message | Owner |

In country "X" the police may not be equipped or may be unwilling to pursue the theft of stolen laptops, for example due to being overwhelmed from time to time with more serious crimes. Such information may be included in updates made to the database by a coordinator or investigator. In these circumstances, the aim is then to encourage the thief to bring the computer to a jurisdiction where the chances of being retrieved are considerably higher. In this case, the detection that a stolen computer is in such a country can trigger the lockdown of the computer and the display of a message such as "Out of range. This computer is configured to function only in the U.S.". Such actions will make the computer next to worthless unless it is brought to the U.S., in which case the lock will automatically be removed, the stolen computer will function normally and monitoring of a thief or unauthorized user can continue, with a greater probability of the computer's retrieval.

Even as a border is approached, a warning message may by displayed on the computer informing the user that it is configured to work only in the U.S., without disrupting the normal functioning of the computer.

The table can be expanded to accommodate more complex rules, which may depend on certain events and the times they occur, which would be input into the database by an investigator as and when they occurred. Alternately, certain rules may depend on the countries the device has passed through.

Variations

To retrieve a device in countries where the bona fide purchaser is favored, the original owner may have to pay the bona fide purchaser the amount he paid, which may not be economical. In these situations, the stolen device may be programmed to become inoperable, and/or to display a screen message instructing its return, either to the original owner or another jurisdiction. In these countries, the system may be programmed to automatically encrypt new files created after the date of the theft, or following a predetermined time after the theft—e.g. 45 days. In conjunction with this, a message can be displayed informing the user that it is stolen, and that it should be taken back to the person from whom it was obtained. There is more chance of stolen goods being recoverable from a thief than a bona fide purchaser. Alternately, the message could instruct the user to return the laptop to the original owner, indicate that the refund to which a bona fide purchaser is entitled will be paid, and also indicate that the

bona fide purchaser may also purchase the decryption key from the original owner. The amounts may be the same or different.

The surveillance data may be encrypted by the laptop before sending to the monitoring centre. The encryption key may be set by a police officer and transmitted to the laptop, so that only the police officer can have access to the data. The officer may enter a password via an internet connection to the monitoring centre, or it may be via the entry of a numeric code entered via a telephone.

Instead of storing data at the monitoring centre in step **79**, the data may be sent directly to a police officer. Such an instruction may be given to the laptop during one of its calls to the monitoring centre.

It may be the case that different owners have purchased or require different service levels. For example, a premium service level may specify immediate investigative action, in which case the monitoring centre **70** and laptop device **41** should be configured such that the monitoring centre **70** can initiate calls to the laptop **41**, for example by an internet connection or via a cellular or satellite communications network connection. In one case, the monitoring centre **70** could send an SMS message to the laptop **41**, which then causes the agent **141** to wake up the laptop **41**, if necessary, and start to record surveillance information. In contrast, a regular service may require starting investigation only after the stolen device **41** calls in, according to the next call time programmed into the agent.

The specified steps in the process can be made in a different order to that shown, and certain steps may be given priority over other steps. Some of the steps may be omitted and others may be included which may depend on other parameters not mentioned herein.

Communications between the monitoring centre and the stolen devices may be via a telecommunications network, such as a cellular or satellite telephone network. This may be as well as, or instead of communicating via the internet. There may be a dedicated communication link for the agent, which is separate from communication link(s) used for the otherwise normal operation of the device.

The disclosed subject matter has been presented as interacting with investigators who are outside the police, preferably employees of a security company. However, it can be envisaged that the investigators are police officers. Where police officers have been described as interacting with the system, other persons approved by the police or legal authorities may interact instead.

GPS positioning has been used as an example, but other positioning methods may be used, such as assisted-GPS, WiFi signal strength detection, cell tower triangulation, and other yet to be developed methods.

The database(s) mentioned in this disclosure may be separate databases, distributed databases or some may be combined in a single database.

Communication links between the various parts of the system can be different. Some links may be shown as dual purpose or bidirectional, but in practice could be two separate links.

Devices may be preprogrammed with the tracking rules, and so would not need to receive communication from a monitoring centre. Alternately, devices may be triggered by receiving an email, page, phone call or SMS message, and may send their surveillance data to an email address.

The surveillance rules may be configured to change upon crossing from one region, state or province to another within the same country.

A device may be battery powered, mains powered or solar powered.

The present description is of the best presently contemplated mode of carrying out the subject matter disclosed and claimed herein. The description is made for the purpose of illustrating the general principles of the subject matter and not be taken in a limiting sense; the claimed subject matter can find utility in a variety of implementations without departing from the scope of the invention made, as will be apparent to those of skill in the art from an understanding of the principles that underlie the invention. The scope of the invention is best determined with reference to the appended claims.

What is claimed is:

**1**. A system for facilitating the retrieval of stolen electronic devices, the system comprising:

a computer data repository containing data that specifies, for each of a plurality of geographic regions, a set of surveillance methods that are permissible in the respective region, wherein at least some of the geographic regions have different respective sets of permissible surveillance methods than others; and

a computer system that is operable to communicate with the devices over a computer network, said computer system programmed to use received information regarding a device that is reported as stolen, including information regarding a location of the device, in combination with said data in the computer data repository, to cause the device to initiate surveillance according to the set of permissible surveillance methods corresponding to said location, thereby converting the device into a surveillance device that surveils a potential thief according to geographic region dependent surveillance methods when the potential thief uses the device.

**2**. The system of claim **1**, wherein said geographic regions correspond to legal jurisdictions.

**3**. The system of claim **1**, wherein the computer system is programmed to:

a. receive, from the device, an indication of an IP address assigned to the device; and

b. identify, based on the IP address, the geographic region of the device.

**4**. The system of claim **1**, wherein the computer system is additionally programmed to initiate a request for authorization to use a particular surveillance method on the device.

**5**. The system of claim **1**, in combination with executable code that runs on the device and directs the device to conduct surveillance in accordance with instructions received from the computer system.

**6**. The system of claim **1**, wherein the computer system is further programmed to cause the device to display or emit a signal to induce a user of the device to maintain the device in a selected geographic region or to transport the device to a different geographic region.

**7**. A method for facilitating the recovery of a stolen electronic device, the method comprising the steps of:

a. maintaining a computer repository containing data that specifies, for each of a plurality of geographic regions, a set of surveillance methods that are permissible in the respective region, wherein at least some of the geographic regions have different respective sets of permissible surveillance methods than others;

b. communicating with said device over a computer network to obtain location information regarding the geographic region in which said device is located;

c. comparing said location information with said data to determine which set of surveillance methods are permissible in the geographic region in which said device is located; and

d. in response to a reported theft of the device, converting the device into a surveillance device that surveils a potential thief according to geographic region depen-

dent surveillance methods when the potential thief uses the device, said converting comprising initiating surveillance according to the set of permissible monitoring methods corresponding to said geographic region,

wherein steps a, b, c and d are preformed automatically by one or more computing devices.

**8**. Non-transitory computer storage which stores program code that instructs a computer system to perform a process that comprises:

maintaining a computer repository containing data that specifies, for each of a plurality of geographic regions, a set of surveillance methods that are permissible in the respective region, wherein at least some of the geographic regions have different respective sets of permissible surveillance methods than others;

communicating with the device over a network to obtain location information regarding the geographic region in which said device is located;

comparing said location information with said data to determine which set of surveillance methods is permissible in the geographic region in which said device is located; and

at least partly in response to a reported theft of the device, converting the device into a surveillance device that surveils a potential thief according to geographic region dependent surveillance methods when the potential thief uses the device, said converting comprising initiating surveillance according to the set of permissible monitoring methods corresponding to said geographic region.

**9**. The non-transitory computer storage of claim **8**, wherein the process further comprises causing the device to display or emit a signal to induce the potential thief of the device to maintain the device in a selected geographic region or to transport the device to a different geographic region.

**10**. The method of claim **7**, further comprising, via communications with the device, causing the device to display or emit a signal that induces the potential thief of the device to maintain the device in a selected geographic region or to transport the device to a different geographic region.

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