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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 July 2011 (21.07.2011)

PCT

(10) International Publication Number
WO 2011/087352 A1

(51) International Patent Classification:
G06F 15/16 (2006.01)

(21) International Application Number:
PCT/MY2010/000183

(22) International Filing Date:
30 September 2010 (30.09.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PI2010700003 12 January 2010 (12.01.2010) MY

(71) Applicant *(for all designated States except US)*: **MIMOS BERHAD** [MY/MY]; Technology Park Malaysia, 57000 Kuala Lumpur (MY).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **ASFIAN, Azrinsyah, Mirza** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **ISHAK, Ishafizan** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **THONG, Tong, Khin** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **ISHAK, Errazudin** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **MOHAMED, Nur, Hisyam** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **KUMAR, Suresh** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **ABD MANAF, Mohd, Akhmal** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY). **H A RASHID, Ahmad, Fadzlee** [MY/MY]; Software Development and Central Engineering/, Software Development Lab, Mimos Berhad, Technology Park Malaysia, 57000 Kuala Lumpur (MY).

(74) Agent: **KAUR, Sushil**; Aetas Intellectual Property Solutions, No 2-12, Jalan Pju 8/3, Perdana Business Centre, Bandar Damansara Perdana, 47820 Petaling Jaya, Selangor (MY).

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

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

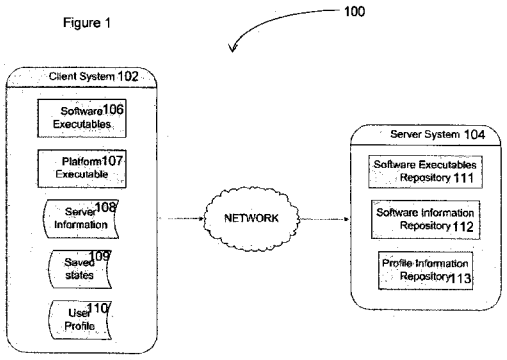
Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

[Continued on next page]

(54) Title: A PROFILING REMOTE MANAGEMENT SYSTEM AND A METHOD OF PROFILING REMOTE MANAGEMENT

Figure 1



(57) Abstract: A profiling remote management system (100) which includes at least one client (102) and a server (104) for at least one platform is provided, the system (100) further includes a plurality of executables (106, 107) with at least one user profile (110) in the at least one client (102) and at least one repository (111, 112, 113) within the server (104), wherein the at least one client (102) is networked to the server (104).

WO 2011/087352 A1

Published:

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

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

A PROFILING REMOTE MANAGEMENT SYSTEM AND A METHOD OF PROFILING REMOTE MANAGEMENT

FIELD OF INVENTION

The present invention relates to a profiling remote management system and a method of profiling and remotely managing at least one client and a server for at least one platform.

BACKGROUND OF INVENTION

During post production, some, if not most of software inside client computer systems need to be updated due to bug fixes, and existing software features enhancements. In addition, new software that provides new capabilities need to be installed into client systems as well. One way to do this is to manually copy and install updated files using USB (Universal Serial Bus) drive onto the device. This approach, however, requires manual effort. Hence, this approach is not desirable in the event of mass distribution and deployment of client systems.

U.S. 6199204 describes a method for automatically updating computer programs via an updater agent which is associated with a computer program to access relevant network locations and automatically downloads and installs available updates. However, traces of old version of the software may cause some conflicts within the system. This document does not disclose any method to solve this problem.

U.S. 6874143 describes methods and systems for network based or Internet based software delivery, wherein software extensions are deliverable over the Internet. However, this document does not address the problem of interrupted downloading where the downloading and installation is stopped because of the network interruption or user initiated.

Therefore, there is a need for a method or system to automatically and selectively update software as required while taking into consideration that downloading and installation may be interrupted during the updating process.

SUMMARY OF INVENTION

Accordingly there is provided a profiling remote management system which includes at least one client and a server for at least one platform, the system further includes a plurality of executables with at least one user profile in the at least one client and at least one repository within the server, wherein the at least one client is networked to the server .

There is also provided a method of profiling and remotely managing at least one client and a server for at least one platform, the method includes the steps of registering a user by a plurality of executables, generating at least one server address based on demographics, establishing network connections to the server and executing the at least one platform.

There is also provided a method of profiling and remotely managing at least one client and a server for at least one platform, the method includes the steps of displaying

existing platform, establishing network connection to the server, verifying availability of a new version of the existing platform, uninstalling and deleting the existing platform and executing the new version of the existing platform.

The present invention consists of several novel features and a combination of parts hereinafter fully described and illustrated in the accompanying description and drawings, it being understood that various changes in the details may be made without departing from the scope of the invention or sacrificing any of the advantages of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The drawings constitute part of this specification and include an exemplary or preferred embodiment of the invention, which may be embodied in various forms. It should be understood, however, the disclosed preferred embodiments are merely exemplary of the invention. Therefore, the figures (not to scale) disclosed herein are not to be interpreted as limiting, but merely as the basis for the claims and for teaching one skilled in the art of the invention.

Figure 1 shows a block diagram of a preferred embodiment of a profiling remote management system;

Figure 2 shows a flowchart describing steps to download and install software application on client from server if a software has never been installed in accordance to preferred embodiment of the invention;

Figure 3 shows a flow diagram describing the steps to download and install software applications on client from server if an older version of the software has been installed in accordance to preferred embodiment of the invention;

Figure 4 shows a flow diagram illustrating steps to generate list of software executables available for download and installation by client based on certain combined values of User Profile characteristics or demographics in accordance to preferred embodiment of the invention;

Figure 5 shows a flow diagram indicating steps to uninstall and delete software residing on client if the software is not part of demographics that the user belongs to in accordance to preferred embodiment of the invention;

Figure 6 depicts a sequence of steps to resume download and installation if previously cancelled during subsequent booting up of the client in accordance to preferred embodiment of the invention;

Figure 7 depicts a sequence of steps to generate server address based on demographics that match with current user values of profile characteristics in accordance to preferred embodiment of the invention; and

Figure 8 shows a flow diagram to establish network connection in accordance to preferred embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention relates to a profiling remote management system and a method of profiling and remotely managing at least one client and a server for at least one platform. Hereinafter, this specification will describe the present invention according to the preferred embodiments of the present invention. However, it is to be understood that limiting the description to the preferred embodiments of the invention is merely to facilitate discussion of the present invention and it is envisioned that those skilled in the art may devise various modifications and equivalents without departing from the scope of the appended claims.

The following detailed description of the preferred embodiments will now be described in accordance with the attached drawings, either individually or in combination.

Figure 1 shows an embodiment of a profiling remote management system (100) which includes at least one client (102) and a server (104) for at least one platform. The system (100) further includes a plurality of executables (106, 107) with at least one user profile (110) in the at least one client (102) and at least one repository (111, 112,113) within the server (104), wherein the at least one client (102) is networked to the server (104).

Examples of the plurality of executables (106, 107) are platform executables (107) and software executables (106). In this embodiment, the at least one repository (111, 112,113) is selected from software executables repository (111), software information repository (112) and profile information repository (113).

The server (104) can be defined as a combination of hardware and software hosting a plurality of repositories (111, 112, 113) containing software executables (106, 107) and information associated with the hardware and software. Additionally, the server (104) hosts a profile information repository (113) that keeps profile information.

Software is an example of a platform used in the system (100). The software executables repository (111) is a directory made up of software which is installable and executable on at least one client (102) to perform specific functions. The software information repository (112) stores details of software available as part of the software executables repository (111). Details of software include name, version and type of software. A list of software based on certain demographics values of group and religion is also included. This is to ensure that the at least one client (102) registered to a user profile (110) characteristics which is connected to the server (104) would be able to access a matched list wherein a customized group of software applications are to be downloaded and installed accordingly. A generic list is also made available by the at least one client (102) when there is no user profile registered (110). Software suggested as part of the generic list is useful for any type of profile. This is to avoid applications targeted to specific demographics to be installed for other devices that are meant for generic use. The at least one client (102) with a registered user profile (110) are able to access and view and install applications that are unavailable on demographic specific list.

The profile information repository (113) stores all users of the at least one client (102). Furthermore, the profile information repository (113) takes in all software information inside the software information repository (112) and filters said information based on demographics. The filtered list is stored in software information repository (112).

The at least one client (102) and the server (104) are connected by networking means such as Internet.

Downloaded and installed software executables are available for user from the at least one client. Server information (108) provides details on the server (104) that is connectable to and updated by the at least one client (102).

A method of profiling and remotely managing at least one client (102) and a server (104) for at least one platform is described as seen in Figure 2. The method includes the steps of registering a user by a plurality of executables (106,107) such as platform executables (107) and software executables (106), generating at least one server address based on demographics, establishing network connections to the server (104) and executing the at least one platform.

The method of executing the at least one platform further includes the steps of downloading, installing and loading the platform.

A user profile (110) is registered and sent to the server (104) to be stored. The user profile is used to identify the at least one client (102). Next, saved states (109) are stored on the at least one client (102). The saved states (109) information is still available after the at least one client (102) is shut down. In this embodiment, the saved states (109) include a list of software to be deleted if the list is not part of the demographics, a list of older version of software which is no longer used and has been uninstalled and to be deleted and previous points of download and paused installation when an operation is aborted.

A second embodiment of the method as seen in Figure 3 includes method includes the steps of displaying existing platform, establishing network connection to the server (104), verifying availability of a new version of the existing platform, uninstalling and deleting the existing platform and executing the new version of the existing platform. Executing the at least one new version of the existing platform further includes the steps of downloading, installing and loading the platform. The existing platform is uninstalled and physically deleted from the at least one client (102) file system when booted up subsequently.

The method as described above further includes building and deploying a plurality of executables, updating details of the plurality of executables, retrieving demographic information, getting a list of software based on demographics, positioning the constructed list in a repository and publishing said list as seen in Figure 4. The method creates a list of software which is available for update and installation. Groupings are defined based on group and religion but it is to be understood that this definition may be extended to include other defining characteristics such as race. The list are positioned in the software information repository (112) to be connected by the at least one client (102). For example, a group with JENii value and a religion with Islam value generates a customized list of software named as JENii-Islam-site. The suggested software is located in the software executables repository (111), wherein details of the software is located in the software information repository (112).

As seen in Figure 5, a method of profiling and remotely managing at least one client (102) and a server (104) for at least one platform is described. The method includes the steps of uninstalling and deleting software residing on at least one client (102) if the

software is not part of the demographics that a user belongs to. Therefore, if installed software has been removed from http://<server>/JENii-Islam-site, the software will be uninstalled and deleted from the system (100).

Figure 6 depicts a flow of sequence to resume downloading and installation process after being previously cancelled. A current state of download and installation is saved. The saved states (109) are stored, wherein subsequent restarting of the system (100) would resume download and installation from point of previously saved states (109). Upon execution of the download and installation, previously saved states (109) are deleted. There are possible factors that cause interruption of downloading and installation such as loss of network connection between the at least one client (102) and the server (104) because of physical network cable being disconnected or server (104) is unreachable. The interruption may also be caused by explicit cancellation of current download and installation operation by the user.

Figure 7 shows generation of server address based on demographics that match current user values with that of the user profile (110). A plurality of user profile characteristics is retrieved. Corresponding current user profile (110) values are used to construct a server (104) address. Finally the server address is saved in the system (100). In this preferred embodiment, group and religion are obtained from profile information repository (113). Corresponding values of current users for these characteristics are obtained such as JENii and Islam respectively. During construction of software information repository (112) server address, the server (104) address and values of profile characteristics are combined which yielded http://<server>/JENii-Islam-site in this preferred embodiment. This address corresponds to a file inside software information repository (112) at the server (104), wherein content is a list of

software that the at least one client (102) can download and install. The server address is stored in the server information (108) at the at least one client (102).

Furthermore, as seen in Figure 8, network connection is established by loading software information repository (112) server address based on demographics, and storing said data in server information (108). Finally the software information repository (112) content is accessed and the list is retrieved. The list is traversed, downloaded and installed into at least one client (102) through a network.

Furthermore, types of software that can be installed on client systems can be customized. Each client is registered to a user. A user has a user profile associated with him or her. Customization then depends on user profile characteristics. For instance, if the user is a *Muslim*, then software applications which are made available for him to download and install must be those related to *Islam*. An example of this is software which enables him or her to access prayer times at various locations. Additionally, more characteristics can be added. Consequently, defining this customization must be done on a remote, centralized server which is accessible by client located dispersedly throughout different geographic locations.

This invention is adapted for managing software to be installed on clients which can be either a mobile device, mobile internet device or personal computer based on demographics. The disclosed invention is suitable, but not restricted to, demographics as described as well as other types of characteristics such as race. The software is made available at a remote central server.

CLAIMS

1. A profiling remote management system (100) which includes at least one client (102) and a server (104) for at least one platform, the system (100) further includes:

a plurality of executables (106, 107) with at least one user profile (110) in the at least one client (102); and

at least one repository (111, 112,113) within the server (104),

wherein the at least one client (102) is networked to the server (104).

2. The system (100) as claimed in 1, wherein the server (104) further includes a software executables repository (111), profile information repository (112) and a software information repository (113).

3. A method of profiling and remotely managing at least one client (102) and a server (104) for at least one platform, the method includes the steps of:

i. registering a user by a plurality of executables (106,107);

ii. generating at least one server address based on demographics;

iii. establishing network connections to the server (104); and

iv. executing the at least one platform.

4. The method as claimed in claim 3, wherein executing the at least one platform further includes the steps of downloading, installing and loading the platform.

5. A method of profiling and remotely managing at least one client (102) and a server (104) for at least one platform, the method includes the steps of:

i. displaying existing platform;

ii. establishing network connection to the server (104);

iii. verifying availability of a new version of the existing platform;

iv. uninstalling and deleting the existing platform; and

v. executing the new version of the existing platform.

6. The method as claimed in claim 5, wherein executing the at least one new version of the existing platform further includes the steps of downloading, installing and loading the platform.

7. The method as claimed in 3 and 5, wherein the method further includes building and deploying a plurality of executables, updating details of the plurality of executables, retrieving demographic information, getting a list of solution based on demographics, positioning the constructed list in a repository and publishing said list.

8. The method as claimed in 3 and 5, wherein the method further includes the steps of uninstalling and deleting software residing on at least one client (102) if the software is not part of the demographics that a user belongs to.

9.The method as claimed in 3 and 5, wherein the method further includes the steps of saving a current state of download and installation, storing the saved states (109), resuming download and installation from point of previously saved states (109) and deleting previously saved sates (109) upon execution of the download and installation.

10. The method as claimed in 3 and 5, wherein the method further includes the steps of generating a server address based on demographics that match current user values with that of the user profile (110), wherein a plurality of user profile characteristics is retrieved, corresponding current user profile (110) values are used to construct a server (104) address and the server address is saved.

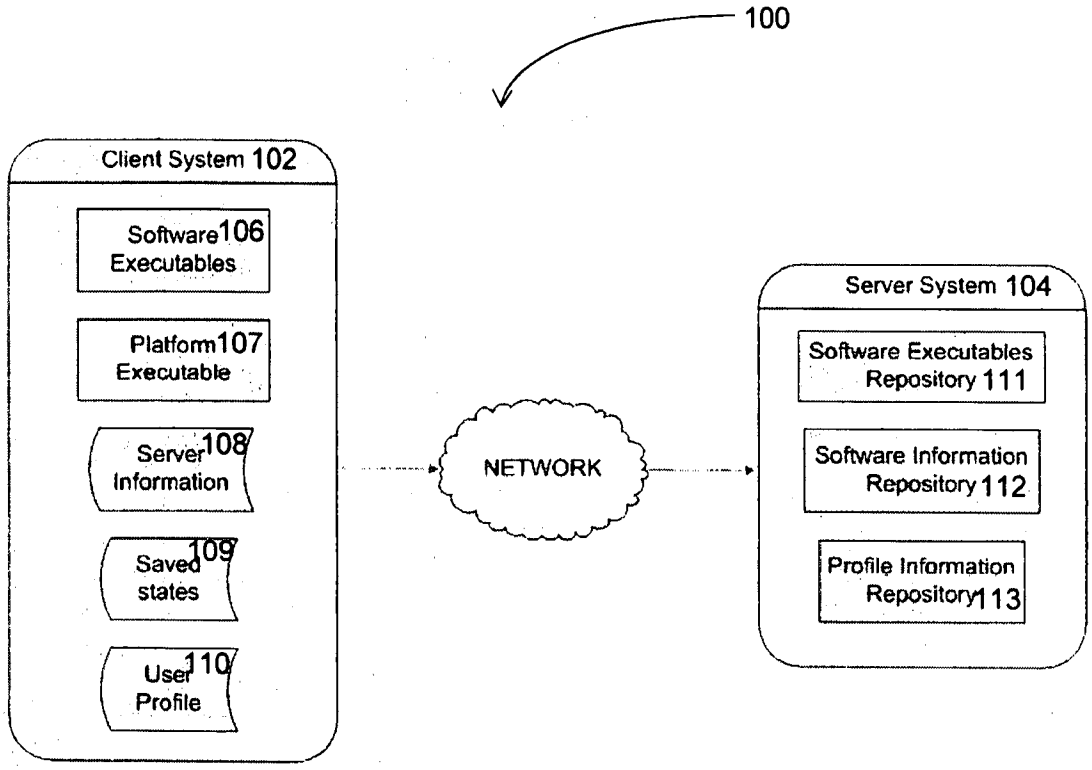


Figure 1

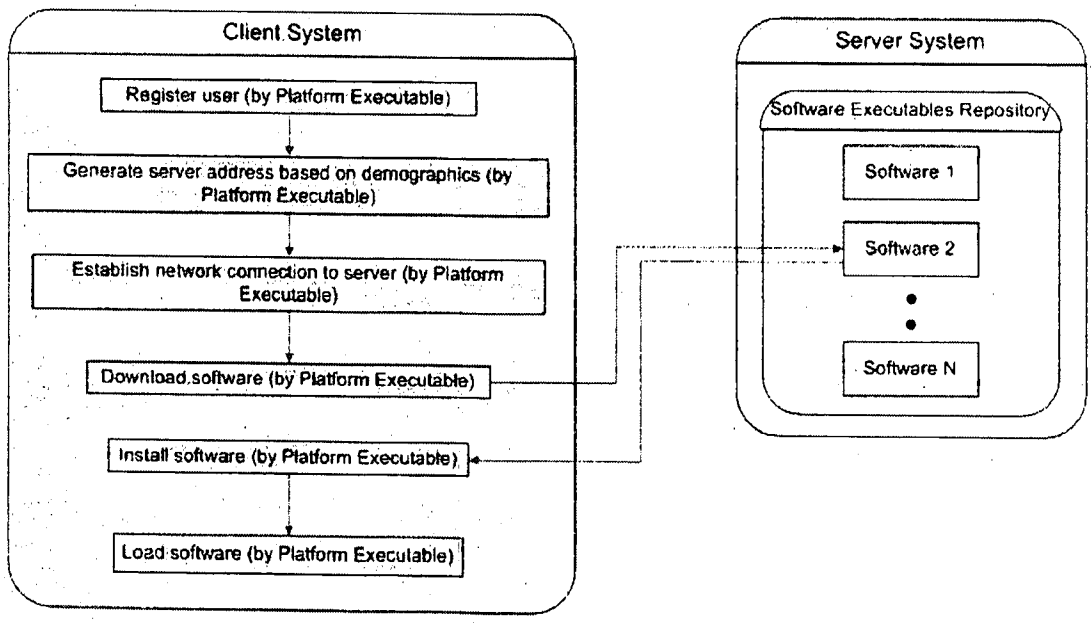


Figure 2

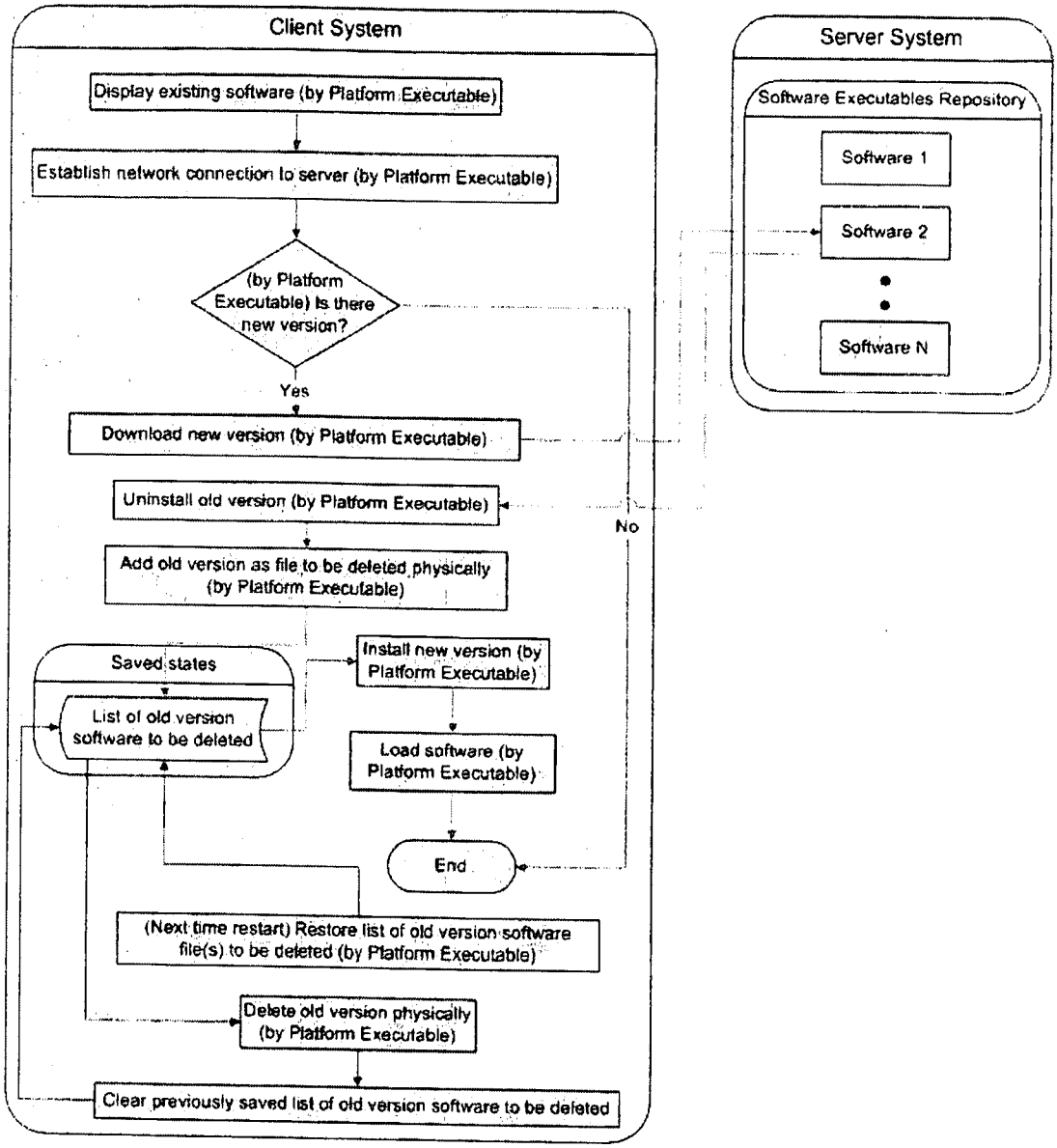

Client System
Display existing software (by Platform Executable)
Establish network connection to server (by Platform Executable)
(by Platform Executable) Is there new version?
Yes
No
Download new version (by Platform Executable)
Uninstall old version (by Platform Executable)
Add old version as file to be deleted physically (by Platform Executable)
Saved states
List of old version software to be deleted
Install new version (by Platform Executable)
Load software (by Platform Executable)
End
(Next time restart) Restore list of old version software file(s) to be deleted (by Platform Executable)
Delete old version physically (by Platform Executable)
Clear previously saved list of old version software to be deleted
Server System
Software Executables Repository
Software 1
Software 2
Software N

Figure 3

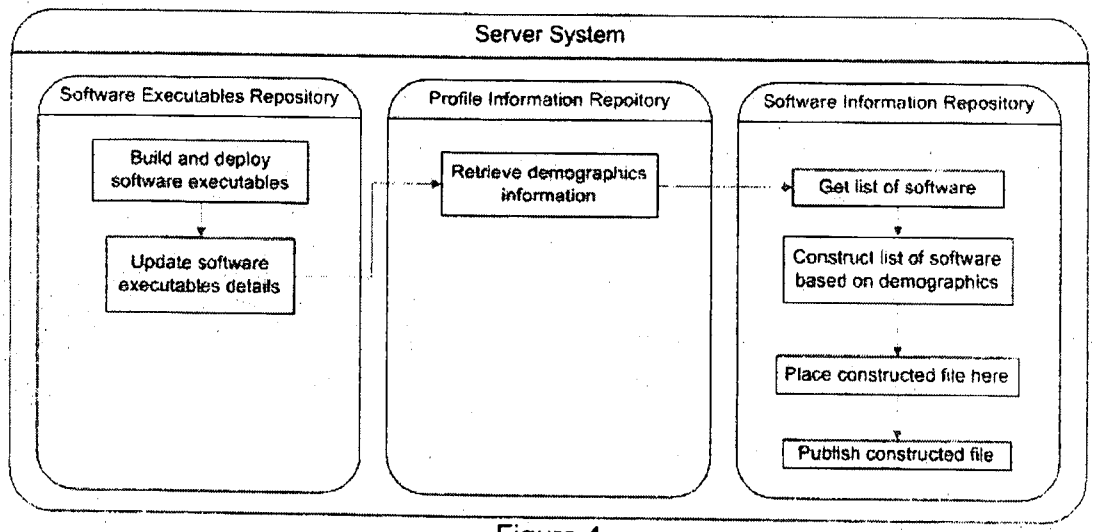

Server System
Software Executables Repository
Build and deploy software executables
Update software executables details
Profile Information Repoitory
Retrieve demographics information
Software Information Repository
Get list of software
Construct list of software based on demographics
Place constructed file here
Publish constructed file

Figure 4

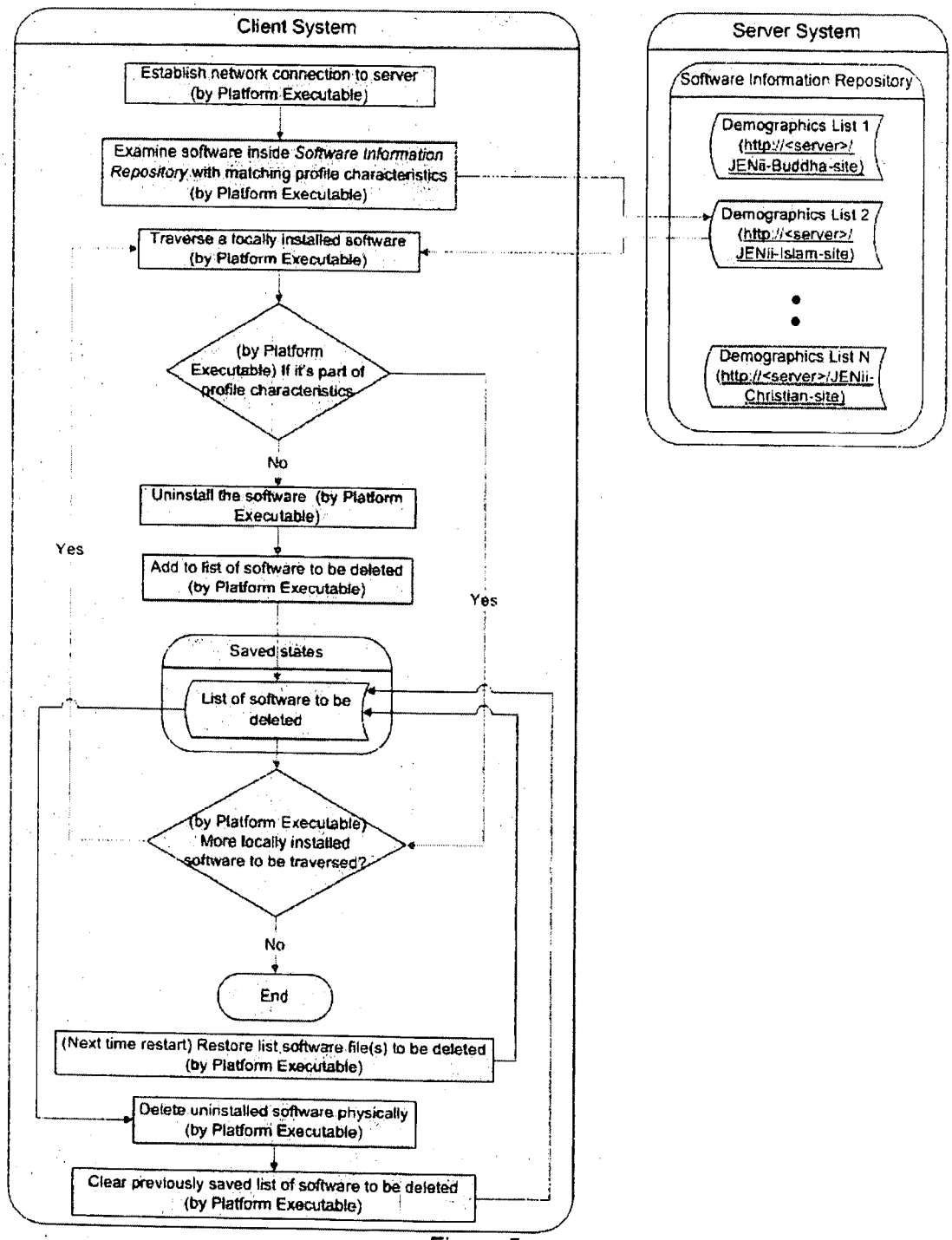

Client System
Establish network connection to server (by Platform Executable)
Examine software inside Software Information Repository with matching profile characteristics (by Platform Executable)
Traverse a locally installed software (by Platform Executable)
(by Platform Executable) If it's part of profile characteristics
No
Uninstall the software (by Platform Executable)
Add to list of software to be deleted (by Platform Executable)
Yes
Yes
Saved states
List of software to be deleted
(by Platform Executable) More locally installed software to be traversed?
No
End
(Next time restart) Restore list software file(s) to be deleted (by Platform Executable)
Delete uninstalled software physically (by Platform Executable)
Clear previously saved list of software to be deleted (by Platform Executable)
Server System
Software Information Repository
Demographics List 1 (http://<server>/JENa-Buddha-site)
Demographics List 2 (http://<server>/JENii-Islam-site)
Demographics List N (http://<server>/JENii-Christian-site)

Figure 5

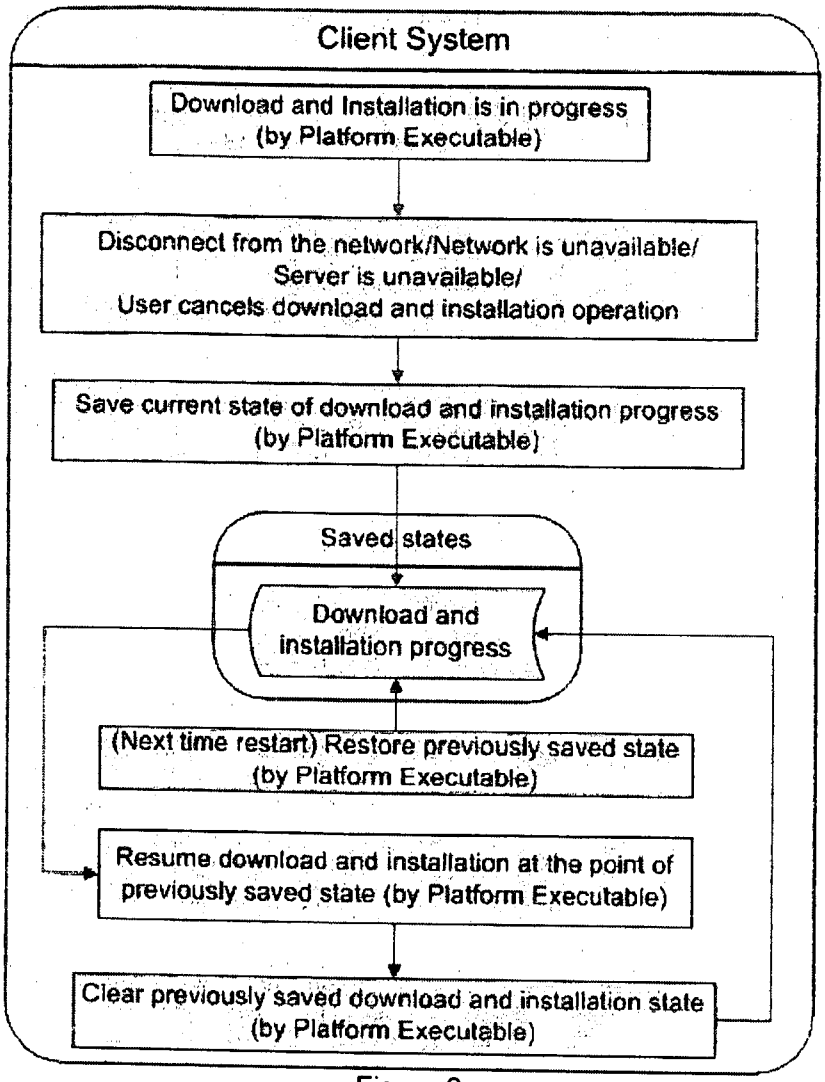

Client System
Download and Installation is in progress (by Platform Executable)
Disconnect from the network/Network is unavailable/ Server is unavailable/ User cancels download and installation operation
Save current state of download and installation progress (by Platform Executable)
Saved states
Download and installation progress
(Next time restart) Restore previously saved state (by Platform Executable)
Resume download and installation at the point of previously saved state (by Platform Executable)
Clear previously saved download and installation state (by Platform Executable)

Figure 6

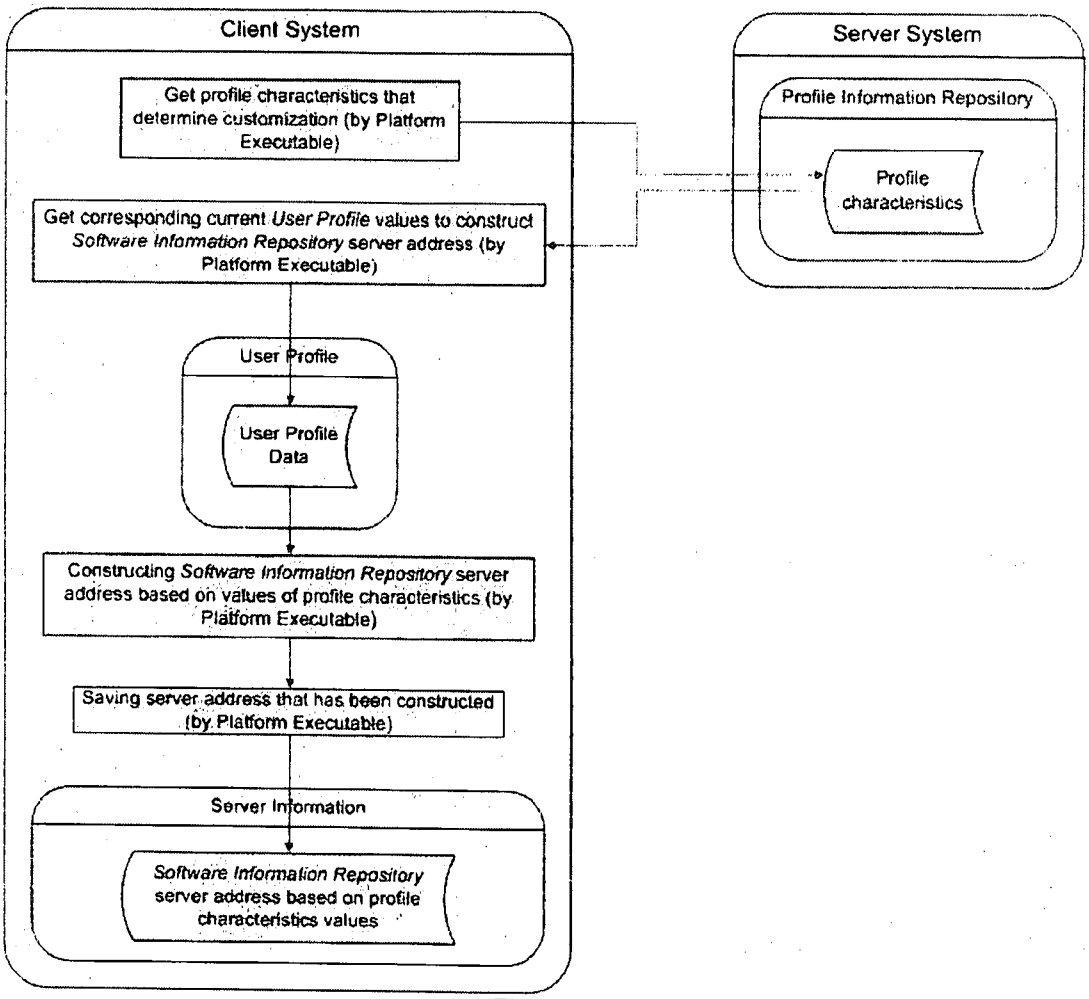


Figure 7

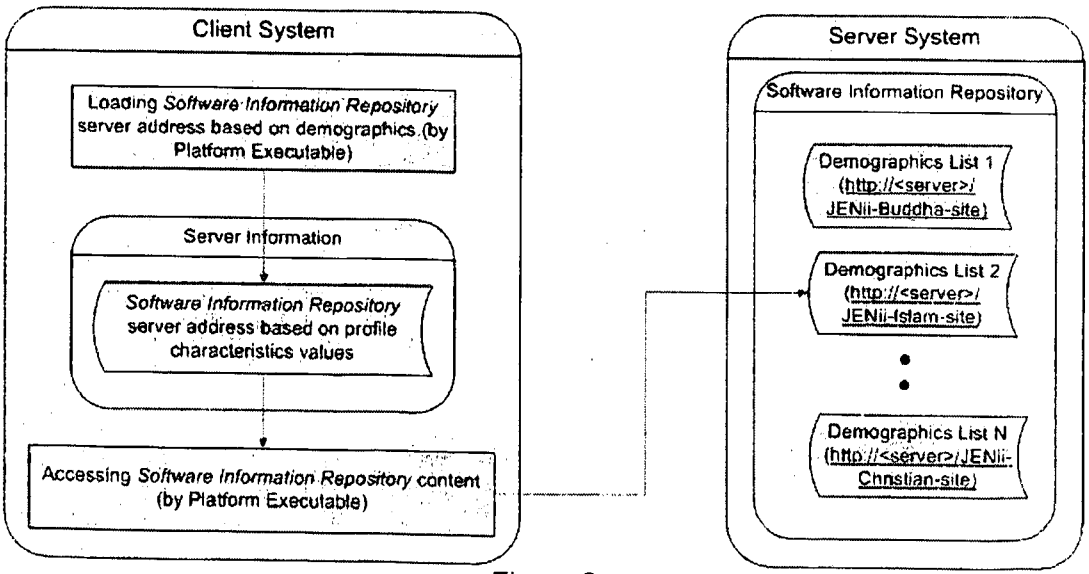


Figure 8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/MY2010/000183

A. CLASSIFICATION OF SUBJECT MATTER

G06F 15/16(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G06F 15/16; G06F 15/00; G06F 15/173

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: profile, remote, server, platform, register, install

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 20020032725 A1 (ARAUJO, K. S. et al.) 14 March 2002 See abstract, figures 1, 4, and claims 1-46.	1-6 7-10
A Y	US 20050228899 A1 (WENDKOS, B. et al.) 13 October 2005 See abstract, paragraphs [14]-[23], and claims 1-24.	1-6 7-10
A	US 20020099521 A1 (TAO, H. Y. et al.) 25 July 2002 See abstract, figures 4-5, and claims 1-22.	1-10

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 JUNE 2011 (27.06.2011)	**28 JUNE 2011 (28.06.2011)**

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsa-ro,
Seo-gu, Daejeon 302-701, Republic of Korea
Facsimile No. 82-42-472-7140

Authorized officer
AHN, Cheol Yong
Telephone No. 82-42-481-8371

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/MY2010/000183

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 20020032725 A1	14.03.2002	None	
US 20050228899 A1	13.10.2005	WO 2005-082101 A3	21.12.2006
US 20020099521 A1	25.07.2002	None	