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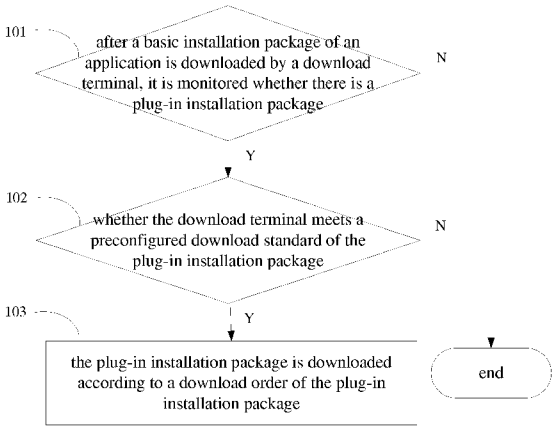


FIG. 1a

(57) Abstract: A computer-implemented method for downloading plug-in installation packages, according to an example of the present disclosure, including monitoring, after a basic installation package of an application is downloaded by a terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components; determining, in response to monitoring that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and downloading, in response to determining that the download terminal meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

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METHOD FOR DOWNLOADING PLUG-IN INSTALLATION PACKAGES AND DOWNLOAD TERMINAL THEREOF

PRIORITY STATEMENT

[0001] This application claims the benefit of Chinese Patent Application No. 201210420870.5, filed on October 29, 2012, the disclosure of which is incorporated herein in its entirety by reference.

FIELD

[0002] The present disclosure relates to the Internet technical field, and more particularly, to a method for downloading plug-in installation packages and a download terminal thereof.

BACKGROUND

[0003] With growing popularity of various applications, a frequency of downloading and using an application by a client is increasing.

[0004] When an application is installed, an application installation package is downloaded firstly. The application installation package is a collection of files required for machine readable instructions in the application. Then, the application installation package is installed. All the files within the application installation package are released on a hard disk to implement operations such as modifying a registry, modifying system configurations, creating shortcuts, etc., so that the application is installed and can be used.

SUMMARY

[0005] According to an example of the present disclosure, a computer-implemented method for downloading plug-in installation packages is provided. The method includes:

monitoring, after a basic installation package of an application is downloaded by a terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

determining, in response to monitoring that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and

downloading, in response to determining that the download terminal meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

[0006] According to another example of the present disclosure, a terminal device for downloading plug-in installation packages is provided. The terminal device includes:

a monitoring module, configured to monitor, after a basic installation package of an application is downloaded by the terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

a determining module, configured to determine, when the monitoring module monitors that there is the plug-in installation package, whether the

terminal device meets a preconfigured download standard of the plug-in installation package; and

a downloading module, configured to download, when the determining module determines that the terminal device meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

[0007] According to still another example of the present disclosure, a non-transitory computer-readable storage medium encoded with a plurality of instructions is provided. When the instructions are executed by one or more computers, the one or more computers are caused to perform operations including:

monitoring, after a basic installation package of an application is downloaded by a terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

determining, in response to monitoring that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and

downloading, in response to determining that the download terminal meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

[0008] In examples of the present disclosure, after a basic installation package of an application is downloaded and installed, plug-in installation packages are pre-downloaded. When a plug-in is to be used by a client, a downloaded plug-in installation package of the plug-in can be directly

installed, without downloading the plug-in installation package again, therefore the waiting time of the client is reduced and the running efficiency of the application is improved.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] Features of the present disclosure are illustrated by way of example and not limited in the following figures, in which like numerals indicate like elements, in which:

[0010] FIG. 1a is a schematic flowchart illustrating a method for downloading plug-in installation packages according to an example of the present disclosure.

[0011] FIG. 1b is a schematic flowchart illustrating a method for downloading plug-in installation packages according to an example of the present disclosure.

[0012] FIG. 2a is a schematic diagram illustrating a structure of a terminal device for downloading plug-in installation packages according to an example of the present disclosure.

[0013] FIG. 2b is a schematic diagram illustrating a structure of a terminal device for downloading plug-in installation packages according to an example of the present disclosure.

[0014] FIG. 3a is a schematic diagram illustrating a hardware structure of a terminal device for downloading plug-in installation packages according to an example of the present disclosure.

[0015] FIG. 3b is a schematic diagram illustrating a hardware structure of a terminal device for downloading plug-in installation packages according to an example of the present disclosure.

DETAILED DESCRIPTION

[0016] For simplicity and illustrative purposes, the present disclosure is described by referring to examples. The directional terms mentioned in the present disclosure, such as “upper”, “below”, “front”, “back”, “left”, “right”, “inside”, “outside”, “side”, etc., are set forth in order to provide a thorough understanding of the accompanying drawings of the present disclosure. In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present disclosure. It will be readily apparent however, that the present disclosure may be practiced without limitation to these specific details. In other instances, some methods and structures have not been described in detail so as not to unnecessarily obscure the present disclosure. As used herein, the term “includes” means includes but not limited to, the term “including” means including but not limited to. The term “based on” means based at least in part on. In addition, the terms “a” and “an” are intended to denote at least one of a particular element.

[0017] With continuously increased application functionalities, an application installation package corresponding to an application becomes bigger. However, sometimes a client only needs to use part functions of the application, rather than all the functions of the application. Therefore, conventionally an application is released in the form of combining a basic installation package and a plug-in installation package. In this case, basic modules and necessary modules of the application are packaged into the basic installation package, and other components that are relatively independent are packaged into the plug-in installation packages. The client downloads the basic installation package at the first time. When functionalities of a component that is not included in the basic installation package are to be used, a plug-in installation package corresponding to the component is downloaded, and then the downloaded plug-in installation

package is installed, so that the functionalities provided by the component can be used.

[0018] The above way for downloading the plug-in installation package at least has disadvantages as follows. Waiting time of the client is increased by the downloading process as the plug-in installation package of the component is downloaded when the functionalities of the component are used. In addition, once the downloading process is not satisfying, for example, a network condition is poor or too many plug-in installation packages are downloaded, the downloading will fail, thus running efficiency of the application is reduced and user experience is affected.

[0019] In order to solve the above problem, in various examples of the present disclosure, a method for downloading plug-in installation packages and a download terminal device thereof are provided. In the examples of the present disclosure, a client monitors, after a basic installation package of an application is downloaded and installed at the first time, whether there is a plug-in installation package of another component of the application, and pre-downloads the plug-in installation package of the other component when the client is idle in response to monitoring that there exists the plug-in installation package. By this way, a user can directly install the plug-in installation package of the other component when functionalities provided by the other component are used, rather than download the plug-in installation package when the plug-in installation package is installed, and thus the waiting time of the client is reduced and the running efficiency of the application is improved. In addition, if the first pre-download of the plug-in installation package fails, the plug-in installation package can be downloaded several times subsequently, therefore a success rate of the download is improved.

[0020] FIG. 1a is a schematic flowchart illustrating a method for downloading plug-in installation packages according to an example of the

present disclosure. FIG. 1a is a simplified diagram according to one example of the present disclosure. This diagram is merely an example, which should not unduly limit the scope of the claims. One of ordinary skill in the art would recognize many variations, alternatives, and modifications. As shown in FIG. 1a, the method may include operations as follows.

[0021] In block 101, after a basic installation package of an application is downloaded by a download terminal, it is monitored whether there is a plug-in installation package; and operations in block 102 are performed if there is the plug-in installation package, otherwise, the method process is terminated.

[0022] In block 102, it is determined whether the download terminal meets a preconfigured download standard of the plug-in installation package in response to monitoring that there is the plug-in installation package, and proceed to block 103 if the download terminal meets the download standard, otherwise, the method process is terminated.

[0023] In block 103, the plug-in installation package is downloaded according to a preconfigured order for downloading the plug-in installation package (hereinafter referred to as a download order of the plug-in installation package).

[0024] FIG. 1b is a schematic flowchart illustrating a method for downloading plug-in installation packages according to an example of the present disclosure. FIG. 1b is a simplified diagram according to one example of the present disclosure. This diagram is merely an example, which should not unduly limit the scope of the claims. One of ordinary skill in the art would recognize many variations, alternatives, and modifications. As shown in FIG. 1b, the method may include operations as follows.

[0025] In block S101, after a basic installation package of an

application is downloaded by a download terminal device, it is monitored whether there is a plug-in installation package; and operations in block S102 are performed if there is the plug-in installation package, otherwise, the method process is terminated.

[0026] In examples of the present disclosure, an application installation package may include a basic installation package and a plug-in installation package, wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components.

[0027] In block S102, it is determined whether the plug-in installation package is downloaded, and the method process is terminated if it is determined that the plug-in installation package is downloaded, otherwise, proceed to block S103.

[0028] In block S103, it is determined whether the download terminal meets a preconfigured download standard of the plug-in installation package, and proceed to block S104 if the download terminal meets the download standard, otherwise, the method process is terminated.

[0029] In this case, the preconfigured download standard of the plug-in installation package may include whether current network traffic of the download terminal is greater than a preconfigured first threshold; or, whether an available space ratio of a central processing unit (CPU) in the download terminal is greater than a preconfigured second threshold; or, whether an available memory ratio of the download terminal is greater than a preconfigured third threshold.

[0030] In various examples of the present disclosure, a range of the first threshold may be from 3KB/S to 10KB/S, e.g., 5KB/S. When the current network traffic of the download terminal is greater than 5KB/S, it is determined that the download terminal meets the preconfigured download

standard of the plug-in installation package. In various examples of the present disclosure, a range of the second threshold may be 15%-30%, e.g., 20%. When the available space ratio of the CPU in the download terminal is greater than 20%, it is determined that the download terminal meets the preconfigured download standard of the plug-in installation package. In various examples of the present disclosure, a range of the third threshold may be 40%-60%, e.g., 50%. When the available memory ratio of the download terminal is greater than 50%, it is determined that the download terminal meets the preconfigured download standard of the plug-in installation package. Of course, other download standards of the plug-in installation package may also be employed, examples of the present disclosure do not enumerate herein.

[0031] In block S104, the plug-in installation package is downloaded in accordance with a preconfigured order for downloading plug-in installation packages (hereinafter referred to as a download order of the plug-in installation packages).

[0032] In an example of the present disclosure, the download order of the plug-in installation packages may be preconfigured. The download order may include priority identifiers of the plug-in installation packages, wherein a priority identifier of a plug-in installation package corresponds to a plug-in usage rate of the plug-in installation package.

[0033] In the example of the present disclosure, when the download order of the plug-in installation packages is configured, at least one ratio interval is predetermined, wherein each ratio interval corresponds to a priority identifier. Afterwards, the plug-in usage rate is matched with the at least one ratio interval so as to associate the plug-in installation package of a plug-in with the corresponding priority identifier.

[0034] For example, in the example of the present disclosure, a priority identifier of a plug-in installation package of which a plug-in usage rate is

in an interval from 80% to 100% is 1, which represents a frequently-used grade; a priority identifier of a plug-in installation package of which a plug-in usage rate is in an interval from 30% to 80% is 2, which represents a generally-used grade; a priority identifier of a plug-in installation package of which a plug-in usage rate is in an interval from 0% to 30% is 3, which represents a less-used grade. In this case, the plug-in usage rate is a ratio of the installation number of plug-in installation packages corresponding to a plug-in and the installation number of basic installation packages corresponding to the plug-in. During the implementation process, plug-in installation packages of which priority identifiers are equal to 1 (i.e., the frequently-used grade) are downloaded firstly. Plug-in installation packages of which priority identifiers are equal to 2 (i.e., the generally-used grade) are downloaded after the plug-in installation packages of which the priority identifiers are equal to 1 are installed and used. Plug-in installation packages of which priority identifiers are equal to 3 (i.e., the less-used grade) are downloaded after the plug-in installation packages of which the priority identifiers are equal to 2 are installed and used. Through the above-mentioned mechanism, plug-ins that are often used can be preferably downloaded, installed and used, so that user experience is improved.

[0035] Based on the above description, an example of the present disclosure further provides a terminal device for downloading plug-in installation packages.

[0036] FIG. 2a is a schematic diagram illustrating a structure of the terminal device for downloading plug-in installation packages according to an example of the present disclosure. FIG. 2a is a simplified diagram according to one example of the present disclosure. This diagram is merely an example, which should not unduly limit the scope of the claims. One of ordinary skill in the art would recognize many variations, alternatives, and

modifications. As shown in FIG. 2a, the terminal device may include a downloading module 21, a determining module 22, and a monitoring module 23.

[0037] The downloading module 21 is configured to download installation packages of an application. In the example of the present disclosure, the downloading module 21 is configured to download a basic installation package of the application. The monitoring module 23 is configured to monitor whether there is a plug-in installation package of the application after the downloading module 21 downloads the basic installation package of the application. The determining module 22 is configured to determine whether the terminal device meets a preconfigured download standard of the plug-in installation package when the monitoring module 23 monitors that there is the plug-in installation package. The downloading module 21 is configured to download the plug-in installation package according to a preconfigured download order of the plug-in installation package when the determining module 22 determines that the terminal device meets the preconfigured download standard of the plug-in installation package.

[0038] In this case, the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

[0039] In an example of the present disclosure, the terminal device may further include a configuring module 24, as shown in FIG. 2b. FIG. 2b is a simplified diagram according to one example of the present disclosure. This diagram is merely an example, which should not unduly limit the scope of the claims. One of ordinary skill in the art would recognize many variations, alternatives, and modifications. In the example, the configuring module 24 is configured to preconfigure the download order of the plug-in

installation package. In this case, the download order may include a priority identifier of the plug-in installation package, and the priority identifier corresponds to a plug-in usage rate of the plug-in installation package.

[0040] In an example of the present disclosure, the configuring module 24 may include an interval configuring sub-module 241 and a priority identifier associating sub-module 242. The interval configuring sub-module 241 is configured to predetermine at least one ratio interval; wherein each of the at least one ratio interval corresponds to a priority identifier. The priority identifier associating sub-module 242 is configured to match the plug-in usage rate of the plug-in installation package with the at least one ratio interval to associate the plug-in installation package with the priority identifier of the plug-in installation package.

[0041] In an example of the present disclosure, the determining module 22 is further configured to determine whether the plug-in installation package is downloaded. In this case, the downloading module 21 is further configured to download, when the determining module 22 determines that the plug-in installation package is not downloaded, the plug-in installation package according to the preconfigured download order of the plug-in installation package.

[0042] In the example of the present disclosure, the preconfigured download standard of the plug-in installation package may include whether current network traffic of the terminal device is greater than a preconfigured first threshold; or, whether an available space ratio of a central processing unit (CPU) in the terminal device is greater than a preconfigured second threshold; or, whether an available memory ratio of the terminal device is greater than a preconfigured third threshold.

[0043] A specific process of forming the priority identifier of the plug-in installation package and work processes of the modules in the

terminal device for downloading plug-in installation packages may refer to the aforementioned descriptions in the method examples, which are not repeated herein.

[0044] The above-mentioned modules may be software (e.g. machine readable instructions stored in a computer readable medium and executable by a processor), hardware (e.g. the processor of an Application Specific Integrated Circuit (ASIC)), or a combination thereof.

[0045] The above-mentioned modules or sub-modules in the examples of the present disclosure may be deployed either in a centralized or a distributed configuration; and may be either merged into a single module, or further split into a plurality of sub-modules.

[0046] FIG. 3a is a schematic diagram illustrating a hardware structure of a terminal device for downloading plug-in installation packages according to an example of the present disclosure. FIG. 3a is a simplified diagram according to one example of the present disclosure. This diagram is merely an example, which should not unduly limit the scope of the claims. One of ordinary skill in the art would recognize many variations, alternatives, and modifications. As shown in FIG. 3a, the terminal device may include a processor 301, a storage 302, a bus 303, and at least one port 304. In this case, the processor 301 and the storage 302 are connected via the bus 303, and the terminal device transmits and receives data through the at least one port 304. The storage 302 can store machine readable instructions, and the processor 301 can execute the machine readable instructions to perform operations described herein. The operations may include monitoring, after a basic installation package of an application is downloaded by the terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other

components of the application besides the necessary components; determining, in response to monitoring that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and downloading, in response to determining that the download terminal meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package; preconfiguring the download order of the plug-in installation package; wherein the download order includes a priority identifier of the plug-in installation package, and the priority identifier corresponds to a plug-in usage rate of the plug-in installation package; predetermining at least one ratio interval; wherein each of the at least one ratio interval corresponds to a priority identifier; and matching the plug-in usage rate of the plug-in installation package with the at least one ratio interval to associate the plug-in installation package with the priority identifier of the plug-in installation package; determining whether the plug-in installation package is downloaded; and, downloading the plug-in installation package according to the preconfigured download order of the plug-in installation package in response to determining that the plug-in installation package is not downloaded.

[0047] In the example of the present disclosure, the download standard of the plug-in installation package may include whether current network traffic of the terminal device is greater than a preconfigured first threshold; or, whether an available space ratio of a central processing unit (CPU) in the terminal device is greater than a preconfigured second threshold; or, whether an available memory ratio of the terminal device is greater than a preconfigured third threshold.

[0048] As can be seen from the above description that, when the machine readable instructions stored in the storage 302 are executed by the

processor 301, functions of the foregoing downloading module 21, the determining module 22, the monitoring module 23, and the configuring module 24 are implemented. Therefore, an example of the hardware structure of the terminal device for downloading plug-in installation packages is shown in FIG. 3b.

[0049] It can be seen from the above descriptions that, in examples of the present disclosure, after a basic installation package of an application is downloaded and installed, plug-in installation packages are pre-downloaded. When a plug-in is to be used by a client, a downloaded plug-in installation package of the plug-in can be directly installed, without downloading the plug-in installation package again, therefore the waiting time of the client is reduced and the running efficiency of the application is improved.

[0050] The above examples can be implemented by hardware, software or firmware or a combination thereof. For example the various methods, processes and functional units described herein may be implemented by a processor (the term processor is to be interpreted broadly to include a CPU, processing unit, ASIC, logic unit, or programmable gate array etc.). The processes, methods and functional units may all be performed by a single processor or split between several processors; reference in this disclosure or the claims to a 'processor' should thus be interpreted to mean 'one or more processors'. The processes, methods and functional units be implemented as machine readable instructions executable by one or more processors, hardware logic circuitry of the one or more processors or a combination thereof. Further the teachings herein may be implemented in the form of a software product. The computer software product is stored in a non-transitory storage medium and comprises a plurality of instructions for making a computer apparatus (which can be a personal computer, a server or a network

apparatus such as a router, switch, access point etc.) implement the method recited in the examples of the present disclosure.

[0051] Those skilled in the art may understand that all or part of the procedures of the methods of the above examples may be implemented by hardware modules following machine readable instructions. The machine readable instructions may be stored in a computer readable storage medium. When running, the machine readable instructions may provide the procedures of the method examples. The storage medium may be diskette, CD, ROM (Read-Only Memory) or RAM (Random Access Memory), and etc.

[0052] The figures are only illustrations of examples, wherein the modules or procedure shown in the figures are not necessarily essential for implementing the present disclosure. The modules in the aforesaid examples can be combined into one module or further divided into a plurality of sub-modules.

[0053] The above are examples of the present disclosure along with some of its variations. The terms, descriptions and figures used herein are set forth by way of illustration only and are not meant as limitations. Many variations are possible within the spirit and scope of the disclosure, which is intended to be defined by the following claims -- and their equivalents -- in which all terms are meant in their broadest reasonable sense unless otherwise indicated.

CLAIMS

What is claimed is:

1. A computer-implemented method for downloading plug-in installation packages, comprising:

monitoring, after a basic installation package of an application is downloaded by a terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

determining, in response to monitoring that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and

downloading, in response to determining that the download terminal meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

2. The computer-implemented method of claim 1, wherein before the downloading the plug-in installation package according to a preconfigured download order of the plug-in installation package, the method further comprises:

preconfiguring the download order of the plug-in installation package;

wherein the download order comprises a priority identifier of the plug-in installation package, and the priority identifier corresponds to a plug-in usage rate of the plug-in installation package.

3. The computer-implemented method of claim 2, wherein the

preconfiguring the download order of the plug-in installation package comprises:

predetermining at least one ratio interval; wherein each of the at least one ratio interval corresponds to a priority identifier; and

matching the plug-in usage rate of the plug-in installation package with the at least one ratio interval to associate the plug-in installation package with the priority identifier of the plug-in installation package.

4. The computer-implemented method of claim 3, wherein after monitoring that there is the plug-in installation package, the method further comprises:

determining whether the plug-in installation package is downloaded; and,

downloading the plug-in installation package according to the preconfigured download order of the plug-in installation package in response to determining that the plug-in installation package is not downloaded.

5. The computer-implemented method of claim 1, wherein the download standard of the plug-in installation package comprises:

whether current network traffic of the terminal device is greater than a preconfigured first threshold; or,

whether an available space ratio of a central processing unit (CPU) in the terminal device is greater than a preconfigured second threshold; or,

whether an available memory ratio of the terminal device is greater than a preconfigured third threshold.

6. A terminal device for downloading plug-in installation packages, comprising:

a monitoring module, configured to monitor, after a basic installation package of an application is downloaded by the terminal device, whether there is a plug-in installation package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

a determining module, configured to determine, when the monitoring module monitors that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and

a downloading module, configured to download, when the determining module determines that the terminal device meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

7. The terminal device of claim 6, wherein the terminal device further comprises:

a configuring module, configured to preconfigure the download order of the plug-in installation package;

wherein the download order comprises a priority identifier of the plug-in installation package, and the priority identifier corresponds to a plug-in usage rate of the plug-in installation package.

8. The terminal device of claim 7, wherein the configuring module further comprises:

an interval configuring sub-module, configured to predetermine at least one ratio interval; wherein each of the at least one ratio interval

corresponds to a priority identifier; and

a priority identifier associating sub-module, configured to match the plug-in usage rate of the plug-in installation package with the at least one ratio interval to associate the plug-in installation package with the priority identifier of the plug-in installation package.

9. The terminal device of claim 6, wherein the determining module is further configured to determine, when the monitoring module monitors that there is the plug-in installation package, whether the plug-in installation package is downloaded; and

the downloading module is further configured to download, when the determining module determines that the plug-in installation package is not downloaded, the plug-in installation package according to the preconfigured download order of the plug-in installation package.

10. The terminal device of claim 6, wherein the download standard of the plug-in installation package comprises:

whether current network traffic of the terminal device is greater than a preconfigured first threshold; or,

whether an available space ratio of a central processing unit (CPU) in the terminal device is greater than a preconfigured second threshold; or,

whether an available memory ratio of the terminal device is greater than a preconfigured third threshold.

11. A non-transitory computer-readable storage medium encoded with a plurality of instructions that when executed by one or more computers cause the one or more computers to perform operations comprising:

monitoring, after a basic installation package of an application is downloaded by a terminal device, whether there is a plug-in installation

package of the application; wherein the basic installation package is configured to install necessary components required to run the application, and the plug-in installation package is configured to install other components of the application besides the necessary components;

determining, in response to monitoring that there is the plug-in installation package, whether the terminal device meets a preconfigured download standard of the plug-in installation package; and

downloading, in response to determining that the download terminal meets the preconfigured download standard, the plug-in installation package according to a preconfigured download order of the plug-in installation package.

12. The non-transitory computer-readable storage medium of claim 11, comprising instructions that cause the one or more computers to further perform operations comprising:

preconfiguring the download order of the plug-in installation package;

wherein the download order comprises a priority identifier of the plug-in installation package, and the priority identifier corresponds to a plug-in usage rate of the plug-in installation package.

13. The non-transitory computer-readable storage medium of claim 12, wherein the operation of preconfiguring the download order of the plug-in installation package comprises:

predetermining at least one ratio interval; wherein each of the at least one ratio interval corresponds to a priority identifier; and

matching the plug-in usage rate of the plug-in installation package with the at least one ratio interval to associate the plug-in installation package with the priority identifier of the plug-in installation package.

14. The non-transitory computer-readable storage medium of claim 13, comprising instructions that cause the one or more computers to further perform operations comprising:

determining whether the plug-in installation package is downloaded; and,

downloading the plug-in installation package according to the preconfigured download order of the plug-in installation package in response to determining that the plug-in installation package is not downloaded.

15. The non-transitory computer-readable storage medium of claim 11, wherein the download standard of the plug-in installation package comprises:

whether current network traffic of the terminal device is greater than a preconfigured first threshold; or,

whether an available space ratio of a central processing unit (CPU) in the terminal device is greater than a preconfigured second threshold; or,

whether an available memory ratio of the terminal device is greater than a preconfigured third threshold.

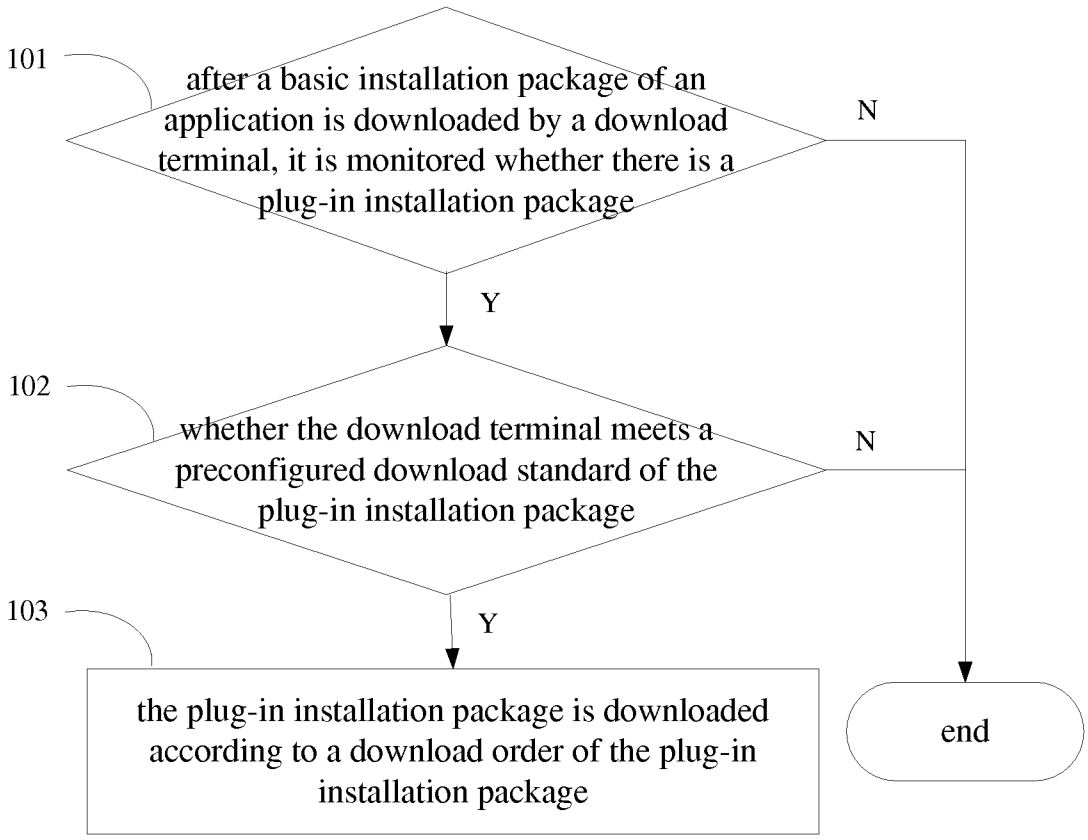

101
after a basic installation package of an application is downloaded by a download terminal, it is monitored whether there is a plug-in installation package
N
Y
102
whether the download terminal meets a preconfigured download standard of the plug-in installation package
N
Y
103
the plug-in installation package is downloaded according to a download order of the plug-in installation package
end

FIG. 1a

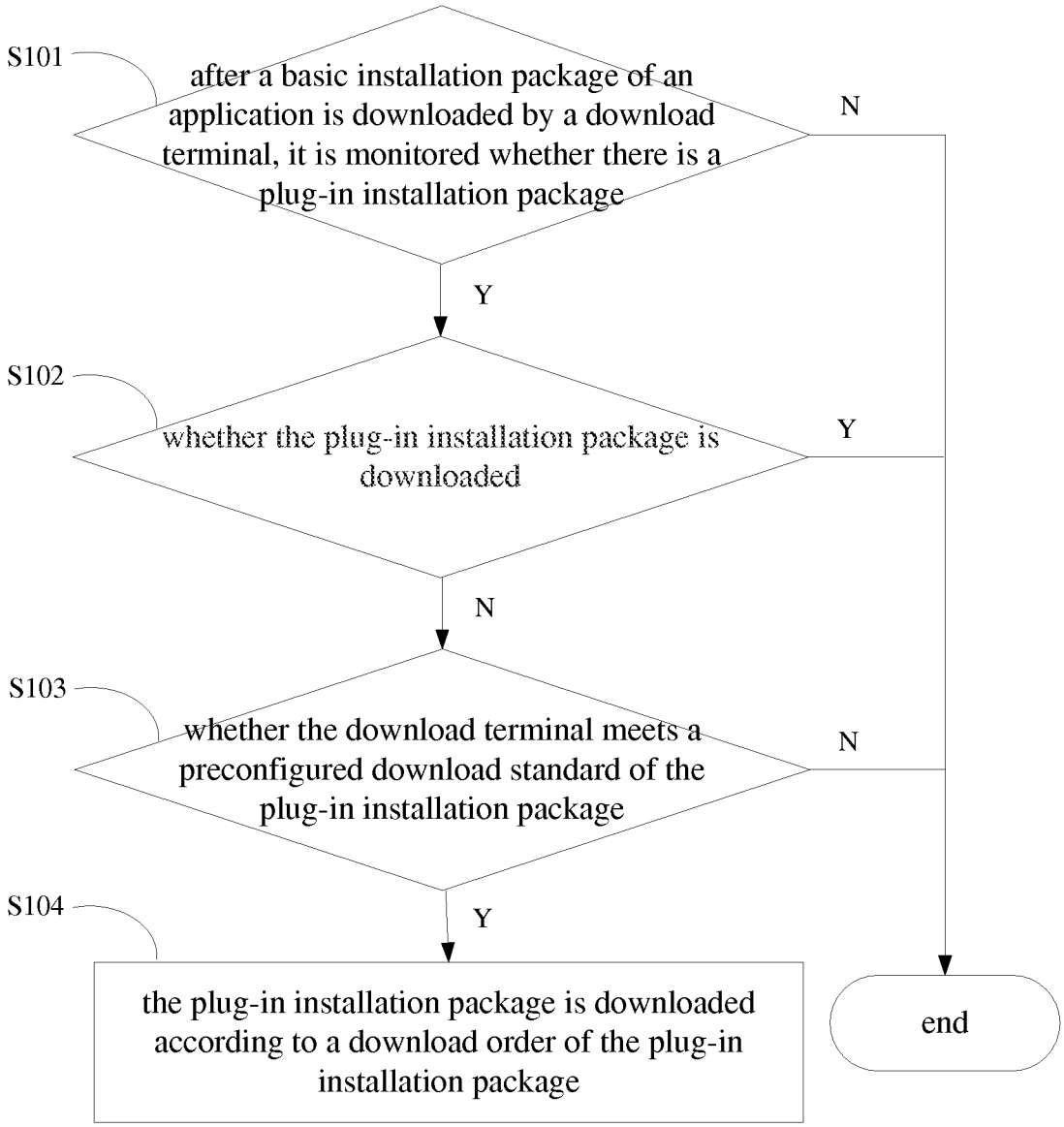

S101
after a basic installation package of an application is downloaded by a download terminal, it is monitored whether there is a plug-in installation package
N
Y
S102
whether the plug-in installation package is downloaded
Y
N
S103
whether the download terminal meets a preconfigured download standard of the plug-in installation package
N
Y
S104
the plug-in installation package is downloaded according to a download order of the plug-in installation package
end

FIG. 1b

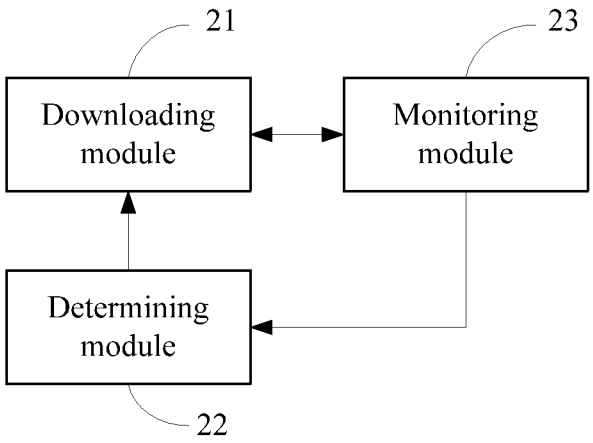

21
23
Downloading module
Monitoring module
Determining module
22

FIG. 2a

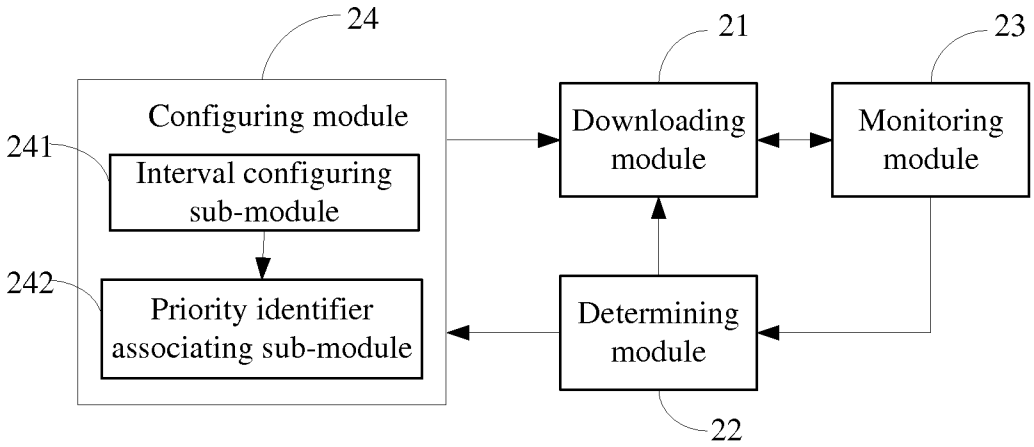

24
Configuring module
241
Interval configuring sub-module
242
Priority identifier associating sub-module
21
23
Downloading module
Monitoring module
Determining module
22

FIG. 2b

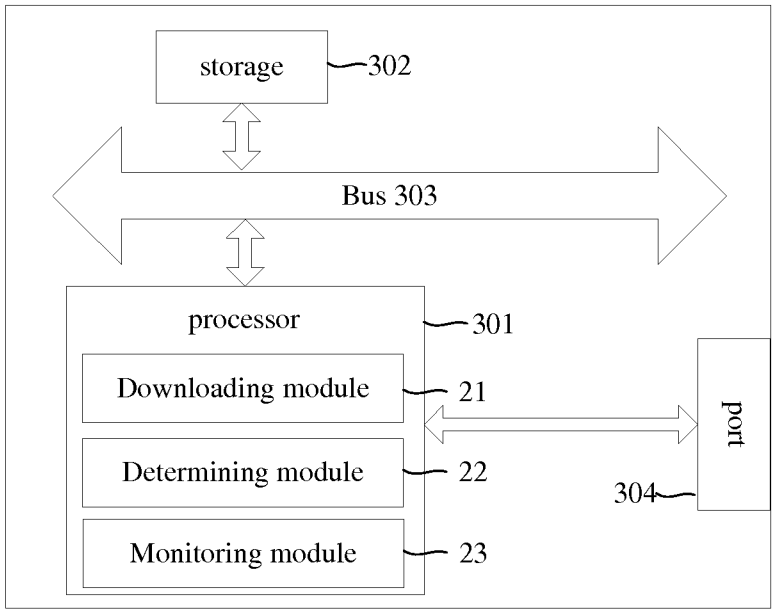

storage
302
Bus 303
processor
301
Downloading module
21
Determining module
22
Monitoring module
23
port
304

FIG. 3a

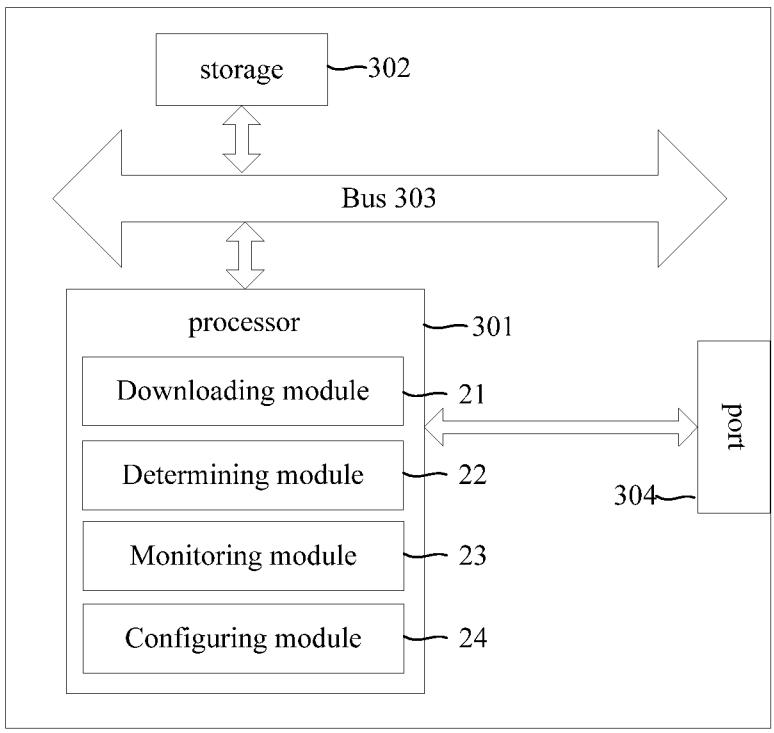

storage
302
Bus 303
processor
301
Downloading module
21
Determining module
22
Monitoring module
23
Configuring module
24
port
304

FIG. 3b

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2013/085752

A. CLASSIFICATION OF SUBJECT MATTER

See Extra Sheet

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)

IPC: H04L, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT, CNKI, WPI, EPODOC, IEEE, GOOGLE: download, plug-in, install, package, application, software, monitor, order, basic, necessary, standard, threshold, priority, CPU, memory, network traffic

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN101179394 A(TENCENT TECHNOLOGY (SHENZHEN) CO., LTD.) 14 May 2008 (14.05.2008) description, page 4, line 11 to page 6 , line 25	1-15
A	CN101042651 A(HUAWEI TECHNOLOGIES CO., LTD.) 26 September 2007 (26.09.2007) the whole document	1-15
A	US2005/0261964 A1(FANG, Kuo Chun) 24 November 2005(24.11.2005) the whole document	1-15

☐ 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 another 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
02 January 2014(02.01.2014)	**23 Jan. 2014 (23.01.2014)**
Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer WANG, Liang Telephone No. (86-10)62412608

Form PCT/ISA /210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2013/085752

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN101179394 A	14.05.2008	None	
CN101042651 A	26.09.2007	None	
US2005/0261964 A1	24.11.2005	CN101017553 A	15.08.2007

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2013/085752

A. CLASSIFICATION OF SUBJECT MATTER

H04L 29/08 (2006.01)i
G06F 9/445 (2006.01)i