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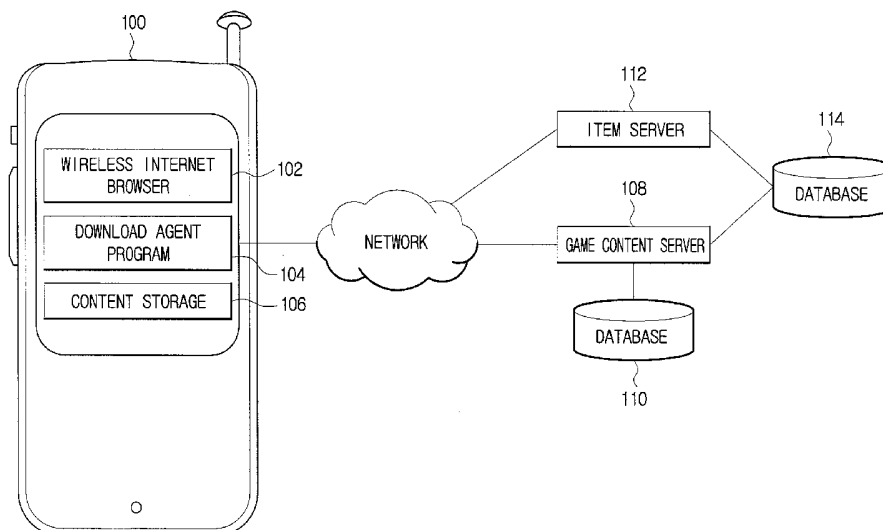
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(54) Title: METHOD FOR PROVIDING CONTENTS



(57) Abstract: The present invention relates to a method and system of providing content, particularly, a method and system of selling additional extension data with charge without changing already-stored execution file. The present invention relates to a game content server comprising a game content list providing module, a package list generating module, a COD module, an application transmitting module, a resource transmitting module and a billing module, and after providing the game content comprising a game execution file and an item file, it is possible to add or change extension data(item file)without changing the game execution file additionally. Also, it is possible to charge the addition or change of extension data of the game content.

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Title of the invention

METHOD FOR PROVIDING CONTENTS

Field of the invention

5 The present invention relates to a method and system of providing content having multi file structure, particularly, a method and system of efficiently billing for content.

Background of the invention

10 Due to the development of mobile communication technology, everyone today possesses a mobile communication terminal. Although the time of carrying a mobile communication terminal increases, the amount of time of talking over the mobile terminal does not increase in proportion to the time of carrying.

 But, life now changes based on the mobile communication terminal that
15 everyone is carrying all the time. Digital camera or MP3 player was already adopted to the mobile communication terminal, and these days, even navigation or LBS(Location based service) is available. In addition, game content in the mobile communication terminal is used as a way of one's spare time.

 But, since there were a limit on the embedded memory of the mobile
20 communication terminal and a transmission speed problem when downloading via

wireless network, there was no large size game content having over 5 Mbytes. Thus, the mainstream games were board games such as very simple and small size puzzle game or card game. Also, since the size of game content was very small, it consisted of one file, and it was no problem to change new content as whole if there was a change in an item
5 being used in game.

But, now the adoption of external memory gives a room of storing, wireless network provides faster download speed, and game content having over 20~100 Mbytes is demanded for providing stylish images and in-depth game. However, there are some problems that downloading content as whole whenever there is a change in items of the
10 game is charged per packet and it takes long time to download.

Detailed description of the invention

Technical objects

Thus, to overcome the aforementioned problems, the object of the present
15 invention is to provide a method and system of transmitting item files of game content, which provides game content, and allows adding and changing extension data that does not change an execution file by using list data simultaneously or after downloading the game content only.

Another object of the present invention is to provide a method and system of
20 billing for extension data of game content.

Still another object of the present invention is to provide a method and system of fixed billing for content having multi file structure, which is for billing content regardless of amount of packets.

Still another object of the present invention is to provide a method and system
5 of fixed billing for content having multi file structure, which is for billing patch or extension pack rather than basic content.

Technical solution

To achieve aforementioned objects, according to the first embodiment of the
10 present invention, there is provided a game content server of selling game content with charge, comprising: a game content list providing module, providing a game content list to a mobile communication terminal; a package list generating module, generating package list data comprising data of a game execution file and an item file, wherein, the game execution file and the item file are included in the game content; a COD module,
15 compiling the game execution file; an application transmitting module, transmitting the game execution file being compiled by the COD module to the mobile communication terminal; a resource transmitting module, transmitting the item file to the mobile communication terminal; and a billing module, requesting transaction of a payment for the game content to the mobile communication terminal and activating the application
20 transmitting module and the resource transmitting module on receiving a transaction

completion signal.

Preferably, the billing module extracts billing data from the game execution file and billing data from the item file and requests transaction of a payment to the mobile communication terminal.

5 To achieve aforementioned objects, according to another aspect of the present invention, there is provided a method of transmitting game content comprising a game execution file and an item file with charge through a game content server, comprising:

(a) receiving a transmission request of a game content list from a mobile communication terminal; (b) transmitting the game content list that is searched in a

10 database to the mobile communication terminal; (c) receiving a purchase request for the game content from the mobile communication terminal, wherein the game content is in the game content list; (d) requesting transaction of a payment to the mobile communication terminal by extracting billing data from the game execution file and the item file of the game content; (e) receiving a transaction completion signal from the

15 mobile communication terminal; and (f) transmitting the game content to the mobile communication terminal.

Preferably, the step (f) is transmitting package list data that is generated by the game content server and comprises data relating to the game execution file and the item file to the mobile communication terminal, and transmitting the game execution file and

20 the item file to the mobile communication terminal, respectively.

To achieve aforementioned objects, according to still another aspect of the present invention, there is provided item server of game content with charge, comprising: an item list providing module, providing an item list to a mobile communication terminal; a resource transmitting module, transmitting the item file to
5 the mobile communication terminal, wherein the item file is in the item list; and a billing module, requesting transaction of a payment for the item file to the mobile communication terminal and activating the resource transmitting module on receiving a transaction completion signal, wherein the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data,
10 and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

To achieve aforementioned objects, according to still another aspect of the present invention, there is provided an item server of game content with charge, comprising: an item list providing module, providing an item list to a first mobile
15 communication terminal; a resource transmitting module, transmitting the item file to a second mobile communication terminal corresponding to identification data being received from the first mobile communication terminal, wherein the item file is in the item list and the identification data is phone number or MIN; and a billing module,
20 requesting transaction of a payment for the item file to the first mobile communication terminal and activating the resource transmitting module on receiving a transaction

completion signal for the item file, wherein the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

5 To achieve aforementioned objects, there is provided an item transmitting system of game content with charge, comprising: an item server, comprising an item list providing module, providing an item list to a mobile communication terminal and a resource transmitting module, transmitting the item file to the mobile communication terminal, wherein the item file is in the item list item server; and a billing server,
10 receiving a billing process request for the item file from the item server, requesting transaction of a payment for the item file to the mobile communication terminal, and transmitting a transaction completion signal to the item server when the transaction completes, wherein the transaction completion signal activates the resource transmitting module, the game content comprises at least one game execution file, data relating to
15 the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

To achieve aforementioned objects, according to another aspect of the present invention, there is provided an item transmitting system of game content with charge,
20 comprising: an item server, comprising an item list providing module, providing an item

list to a first mobile communication terminal and a resource transmitting module, transmitting the item file to a second mobile communication terminal corresponding to identification data being received from the first mobile communication terminal, wherein the item file is in the item list and the identification data is phone number or
5 MIN; and a billing server, receiving a billing process request for the item file from the item server, requesting transaction of a payment for the item file to the first mobile communication terminal and transmitting a transaction completion signal to the item server when the transaction completes, wherein the transaction completion signal activates the resource transmitting module, the game content comprises at least one
10 game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

Preferably, in claim 8 or 9, the mobile communication terminal searches the package list data corresponding to the received item file and makes the item file be
15 dependent to specific game content according to the package list data.

To achieve aforementioned objects, according to still another aspect of the present invention, there is provided a method of transmitting item file of game content with charge through an item server, comprising: (a) receiving a transmission request of an item list from a mobile communication terminal; (b) transmitting the item list to the
20 mobile communication terminal by searching database; (c) receiving a purchase request

for the item file from the mobile communication terminal, wherein the item file is in the item list; (d) requesting transaction of a payment to the mobile communication terminal by extracting billing data from the item file; (e) receiving a transaction completion signal from the mobile communication terminal; and (f) transmitting the item file to the
5 mobile communication terminal, wherein the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

Preferably, The method further comprises between step (c) and step (d): (c-1)
10 transmitting the game content data corresponding to the item file to the mobile communication terminal; and (c-2) receiving a download available signal of the item file from the mobile communication terminal, wherein the mobile communication terminal receives the game content data to check if the game content corresponding to the game content data is stored and transmits the download available signal if stored
15 according to the result.

Also, the step (f) is, if the transmission of the item file was suspended, comparing a size of the downloaded item file and continuously downloading from the point where the downloading was suspended, and after the step (f), the mobile communication terminal searches the package list data corresponding to the received
20 item file and makes the item file be dependent to specific game content according to the

package list data.

To achieve aforementioned objects, according to still another aspect of the present invention, there is provided a method of transmitting item file of game content with charge through an item server, comprising: (a) receiving a transmission request of
5 an item list from a mobile communication terminal; (b) transmitting the item list to the mobile communication terminal by searching database; (c) receiving identification data of gift requesting and gift receiving mobile communication terminal from the mobile communication terminal, wherein the item file is in the item list and the identification data is phone number or MIN(Mobile Identification Number); (d) requesting transaction
10 of a payment to the mobile communication terminal by extracting billing data from the item file; (e) receiving a transaction completion signal from the mobile communication terminal; and (f) transmitting the item file to the gift receiving mobile communication terminal corresponding to the identification data of the gift receiving mobile communication terminal, wherein the game content comprises at least one game
15 execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

Preferably, the step (f) comprises: (f-1) transmitting gift receiving data of the item file to the gift receiving mobile communication terminal; and (f-2) receiving a
20 transmission request for the item file from the gift receiving mobile communication

terminal, wherein according to the transmission request, the item file is transmitted to the gift receiving mobile communication terminal.

Also, the gift receiving data is transmitted via SMS URL callback or email, and the step (f) is, if the transmission of item file was suspended, comparing a size of the downloaded item file and continuously downloading from the point where the downloading was suspended, and after the step (f), the mobile communication terminal searches the package list data corresponding to the received item file and makes the item file be dependent to specific game content according to the package list data.

10 In addition, according to the second embodiment of the present invention, there is provided a fixed rate billing method through a content providing server providing multimedia content to a mobile communication terminal being connected through network, comprising: (a) receiving transmission request data of content consisting multi files from the mobile communication terminal, wherein the multi files
15 comprises at least one of an execution file, DLL file and resource file; (b) generating package list data for the requested content, wherein the package list data comprises data relating to at least one file having billing command; (c) transmitting the package list data to the mobile communication terminal; (d) transmitting multi files consisting content to the mobile communication terminal according to the package list data; and
20 (e) billing based on the file having billing command.

According to the present invention, the method further comprises: (f) counting the amount of packets of the file having billing command; and (g) converting the counted amount of packets into a predetermined amount of packets if the content is a target of fixed rate billing, wherein the step (e) is billing by applying a predetermined
5 rate to the converted amount of packets.

Preferably, the method processes a billing exemption for the other files except the file having billing command.

According to the present invention, the step (b) is generating the package list relating to multi files having non-billing command if the transmission request is for
10 transmitting patch file.

Preferably, the content transmission request data comprises appl ID and unified version data of content, wherein the unified version data is for identifying basic content and extension content, wherein if the requested content is the extension pack, then the step (b) generates the package list data corresponding to the extension pack,
15 wherein the package list data corresponding to the extension pack comprises data relating to at least one first file having billing command among multi files of the basic content's own and data relating to at least one second file having billing command among the multi files of the extension pack's own.

At this, if the mobile communication terminal does not store the basic content
20 corresponding to the requested extension pack, the step (e) is billing based on the

converted amount of packets of the first file and the second file.

Also, if the mobile communication terminal stores the basic content corresponding to the requested extension pack, the step (e) is billing based on the converted amount of packets of the second file.

5 According to the present invention, the content providing server provides at least one extension pack having different unified version and the billing command is assigned to a different file according to the unified version of the extension pack.

Preferably, the content providing server provides at least one extension pack having different unified version and throughout the at least one extension pack, the
10 billing command is designated to same file, wherein the step (g) is converting the file having billing command into different amount of packets according to the different unified version of each extension pack.

According to another aspect of the present invention, there is provided a storage medium including a program containing digital processing device execution
15 instructions for performing the method of billing multimedia content having multi file structure, comprising: (a) receiving transmission request data of the content consisting multi files from a mobile communication terminal, wherein the multi files comprises at least one of an execution file, DLL file and resource file; (b) generating package list data for the requested content, wherein the package list data comprises data relating to
20 at least one file having billing command; (c) transmitting the package list data to the

mobile communication terminal; (d) transmitting multi files consisting the content to the mobile communication terminal according to the package list data; and (e) billing based on the file having the billing command.

According to still another aspect of the present invention, there is provided a
5 fixed rate billing system, comprising: a content providing server, being connected to a mobile communication terminal via network, receiving transmission request data of content consisting multi files from the mobile communication terminal, wherein the multi files comprises at least one of an execution file, DLL file and resource file, generating package list data for the requested content, wherein the package list data
10 comprises data relating to at least one file having billing command, transmitting the package list data to the mobile communication terminal, and transmitting multi files consisting the content to the mobile communication terminal according to the package list data; and a billing server, billing based on the file having the billing command.

15 Effect of the invention

According to the present invention, by generating list data of multi files to be downloaded and inserting billing data to the list data, it becomes possible to charge for each file that makes up content rather than charge entirely for the amount of packets so efficiently billing management can be performed.

20 Also, the present invention provides an effective billing method and system on

patch or extension pack as well as basic content.

According to the method and system of providing an item file of game content, it becomes possible to provide game content and add and change only extension data which does not change an execution file simultaneously or after downloading game
5 content only.

Also, it is possible to charge for data usage when extension data of game content is added or changed. And, since files are managed by using directories, it is possible to download extension data that is added later in a lower directory of corresponding game content.

10

Brief description of drawings

FIG. 1 shows a game content system according to the present invention;

FIG. 2 shows a game content server according to the present invention;

FIG. 3 shows package list data of game content according to a preferred
15 embodiment of the present invention;

FIG. 4 is a configuration illustrating data of an execution file according to the present invention;

FIG. 5 shows a download agent program according to a preferred embodiment of the present invention;

20 FIG. 6 is a flowchart of a billing method while a game execution file and an

item file are simultaneously downloaded according to a preferred embodiment of the present invention;

FIG. 7 is a block diagram of an item server according to a preferred embodiment of the present invention;

5 FIG. 8 is a configuration illustrating an item file to be additionally provided according to a preferred embodiment of the present invention;

FIG. 9 is a flowchart of selling an additional item file with data usage charge to a buyer according to a preferred embodiment of the present invention;

FIG. 10 is a flowchart of providing an additional item file as a gift with data
10 usage charge to a recipient whom a buyer wants to send according to a preferred embodiment of the present invention;

FIG. 11 is a block diagram of a conventional billing system;

FIG. 12 is a block diagram of a fixed rate billing system for content having multi file structure according to another embodiment of the present invention;

15 FIG. 13 shows one example of list data of a multi file package being generated according to another embodiment of the present invention;

FIG. 14 shows one example of list data of a patch file of a multi file package and an extension pack being generated according to another embodiment of the present invention;

20 FIG. 15 is a flowchart illustrating a fixed rate billing method for basic content

having multi file structure according to another embodiment of the present invention;

FIG. 16 is a flowchart illustrating a fixed rate billing method for extension content having multi file structure according to another embodiment of the present invention; and

5 FIG. 17 is a configuration illustrating data of game execution file according to a preferred embodiment of the present invention.

Description of the invention

The aforementioned objects, features and advantages will be more apparent
10 from the following description in relation to accompanying drawings. In numbering elements in each drawing, same elements appearing on different drawings will have same reference number as possible. Hereinafter, the preferred embodiments of present invention will be described in detail with reference to accompanying drawings.

15 (1) First embodiment

FIG. 1 shows a game content system according to a preferred embodiment of the present invention. Referring to FIG. 1, the game content system comprises a mobile communication terminal 100 and a game content server 108.

The mobile communication terminal 100 comprises a wireless Internet browser
20 102, a download agent program 104 and a content storage 106. The wireless Internet

browser 102 enables the mobile communication terminal to perform data communication. The mobile communication terminal 100 communicates data to and from each server on wireless network through the wireless Internet browser 102. The download agent program 104 checks the completion of transmission, need of patch, etc.,
5 when downloading game content. The download agent program 104 will be described in more detail with reference to FIG. 5. The content storage 106 stores each game content that is received via wireless network. The content storage 106 may be an internal memory of the mobile communication terminal 100 or external memory that can be attached.

10 Here, preferably, the mobile communication terminal 100 has a content management system with directory or folder structure that allows managing plural game content respectively. It is preferable that game content be multi files including more than two files.

The game content server 108 provides various kinds of game content to the
15 mobile communication terminal 100 on wireless network. The game content server 108 may comprise game content database 110 in itself or provide game content that an external content provider provides to the mobile communication terminal 100. The method that the game content server 108 provides game content to mobile communication terminal 100 will be described with reference to FIG. 2.

20 If extension data(hereinafter referred to as 'item file') is downloaded

additionally after download of game content, the game content system according to the present invention may further comprise an item server 112.

The item server 112 provides an item file additionally to the mobile communication terminal 100, received specific game content from the game content server 108 via wireless network. The item file cannot change a game execution file being included in specific game content that the mobile communication terminal received. But, it provides additional data or function when using specific game content. Preferably, in order to improve fun of game without changing an execution file of game, the item file may be one of background screen of game, item that a game character uses, game map, game character and so on. The item server 112 may comprise an item database 114 in itself or be provided from external content provider to provide an item file to the mobile communication terminal 100. The item server 112 will be described with reference to FIG. 7.

Hereinafter, the method of billing with downloading both game execution file and item file together in downloading game content will be described.

FIG. 2 shows a game content server 108 according to the present invention. Referring to FIG. 2, the game content server 108 comprises a content list providing module 200, a package list generating module 202, a COD module 204, an application transmitting module 208, and a resource transmitting module 210(or further comprises

an encryption module 206, an authentication key providing module 212, and a version comparing module 214).

The content list providing module 200 provides a list of game content for a user to select desired game content. The content list can be provided through
5 landline/wireless portal site, and the user receives the content list by computer or mobile communication terminal 100.

The package list generating module 202 generates a package list for files of game content that a user selects to download in the content list. Game content that the user selects is content including more than one file. Since it is difficult to transmit plural
10 files simultaneously or at once via wireless network, it is frequently suspended in the middle of download. In this case, information about which content is suspended and which file has to be downloaded is needed. For this, the package list generating module 202 to generate a package list including data of each file of game content is necessary. The package list includes data for game execution file or item file. The package list will
15 be described in detail with reference to FIG. 3.

The COD module 204 compiles a program made by JAVA to an execution image that can be run on WIPI platform. Namely, the COD module compiles files that needs to be compiled to run on the mobile communication terminal 100 among plural files included in the game content.

20 The encryption module 206 encodes game content by using DRM technology,

so that an authorized person only uses the game content. DRM represents 'Digital Right Management' and means digital copyright management. As a technology and server for protecting profit and right of those who have copyrights by prohibiting illegal use of digital content, this technology is collectively responsible for from generation to
5 distribution/management of content including protection of right and profit of a content provider, prevention from illegal reproduction or duplication, billing for usage, payment agency, and so on. This includes a digital copyright management technology of allowing authorized persons only to use content and to pay charge therefor, software and security technology for authorizing and enforcing copyright, and payment/billing technology.
10 Content identifier DOI(Digital Object Identifier), INDECS for storing data required for electronic trade, watermarking technology for preventing illegal reproduction/duplication and distortion are supporting. DOI is an identification number assigned to digital content, watermarking is the technology of inserting secret information into digital data and identifying who the true digital copyrighter is when a
15 copyright dispute happens. By adopting a security authorization system to content, the use of content without paying a certain amount of charge can be prevented.

The authentication key providing module 212 provides authentication document or authentication key to use game content in the mobile communication terminal 100. Since game content is encoded by the encryption module 206, the
20 authentication document or authentication key is needed to use the encoded content.

It is possible for the game content server 108 to receive already-encoded content when receiving game content from an external content provider. In this case, the encryption module is not needed, however, the authentication key providing module 212 is needed to allow use of the encoded game content in the mobile communication
5 terminal 100.

In a preferred embodiment of the present invention, if it fails to get authentication from the authentication key providing module 212, any user of the mobile communication terminal 100 cannot use the game content that is encoded by the encryption module 206 or an external content provider even if the user downloaded the
10 game content.

The application transmitting module 208 transmits application including plural files being compiled by the COD module 204. The resource transmitting module 210 transmits resource files that do not need to be compiled. In transmitting wireless data over the existing mobile communication system, compiled files and un-compiled files
15 have to be transmitted by different ways. Thus, the game execution file and the item file are transmitted by the application transmitting module 208 and the resource transmitting module 210, respectively. It is preferable to transmit the game execution file needed to be compiled through the application transmitting module 208 and the item files not needed to be compiled through the resource transmitting module 210. Here, the game
20 execution file comprises EXE file, DLL file, etc, and the item file comprises RES file

and ITEM file.

The billing module 214 demands charge to the mobile communication terminal when receiving a purchase request for game content from the mobile communication terminal 100. If the mobile communication terminal 100 reports that the charge for the game content is paid by a small amount transaction and so on, then the billing module recognizes a transaction completion and activates the encryption module 206, the resource transmitting module 210 and the authentication key providing module 212 to approve the encryption, transmission and authentication of game execution file and item file, both included in the game content.

In billing with providing game content, it is also possible to perform the billing by using a billing server(not shown) that was used in the existing mobile communication system without using the billing module 214. In this case, the game content server 108 transmits billing data corresponding to requested game content to the billing server. The billing server requests a transaction to the mobile communication terminal 100 and reports the completion of transaction to the game content server 108 if the transaction completes. Then, the game content server 108 activates the encryption module 206, the resource transmitting module 210 and the authentication key providing module 212 to approve the encryption, transmission and authentication of game execution file and item file, both included in game content.

In addition, the version comparing module 216 can be further comprised. The

version comparing module 214 can be divided into a package comparing part(not shown) and an individual file comparing part(not shown). It is needed to provide an extension pack because game content that was already transmitted to the mobile communication terminal 100 is changed on the whole, or it is needed to be patched because some of plural files included in game content are modified or updated. In this case, it is possible to provide extension pack or patch file by the package comparing part to compare a unified version or by the individual file comparing part to compare sizes of each file or individual versions.

FIG. 3 shows package list data of game content according to a preferred embodiment of the present invention. FIG. 4 and FIG. 17 show configuration data of a game execution file and an item file according to the present invention.

Referring to FIG. 3, package list data 300 comprises a game content name(or game content ID) for identifying game content from other contents, a game content unified version for indicating update data of game content, the number and configuration data of game execution files included in game content, and the number and configuration data of item files. Here, if an item file is added according to another embodiment of the present invention, the package list data 300 may change the number and configuration data of item files.

Referring to FIG. 4, the game execution file 400 comprises a game execution

file ID for identifying itself, version data for indicating update data of the game execution file, a size for indicating size of the game execution file, and billing data for indicating that the game execution file is charged or not when downloading the game execution file. Here, the game execution file may be in the form of one execution file or
5 include plural files. Similarly to this, referring to FIG. 17, the item file 410 comprises an item file ID, version data, size and billing data. The additional item file to be additionally downloaded after downloading game content will be described with reference to FIG. 6.

In the present invention, the game execution file 400 is for executing game
10 content on the mobile communication terminal 100, and may be EXE file, DLL files and so on. DLL file is a dynamic link library file, and a set of small programs. Any of DLL files can be called, if needed, by a large program(execution file) running on the mobile communication terminal 100. The advantage of DLL files is saving RAM space because these files are not loaded together with a main program. DLL file is loaded and
15 executed only when needed. And, in the present invention, the execution file and DLL file are compiled to be an execution image that can be operated on WIPI platform by the COD module 204 of the game content server 108, and are downloaded to the mobile communication terminal 100 by the application transmitting module 208.

The item file is a resource file which means a file relating to background to be
20 displayed during the game, game characters and so on. It is not needed to be compiled

by the COD module 204 of the game content server 108, and is transmitted to the mobile communication terminal 100 by the resource transmitting module 210.

FIG. 5 shows a configuration of download agent program according to the present invention. The download agent program 104 comprises a package list managing module 500, an individual file managing module 502, and a transmission completion checking module 504.

The download agent program 104 is included in the mobile communication terminal 100, and in downloading game content checks if download completes, if patch is needed, and so on.

Before downloading the game content from the game content server 108, the package list managing module 500 requests and downloads package list data 300 of the game content. And, the package list managing module 500 controls the individual file managing module 502 to download game execution files and item files from the application transmitting module 208 and the resource transmitting module 210 of the game content server 108, respectively, based on data of the game execution files and item files in the package list data 300. It is possible to update an item file by amending the package list data 300 if an item file is additionally downloaded later.

The individual file managing module 502 downloads compile-required files and compile-not-required files separately when downloading game content from the

game content server 108. The compile-required game execution file 400 is transmitted by the application transmitting module 208, and the compile-not-required item file 410 is transmitted by the resource transmitting module 210.

The transmission completion checking module 504 checks if download of all files completes when downloading a large size file. Since it is difficult to download a large size file at one time through wireless network, download may be suspended due to disconnection during downloading one file. In this case, the already-downloaded part of the suspended file is temporarily stored in memory of the mobile communication terminal 100. When being connected to wireless network again, the remaining part can be continuously downloaded. Preferably, the point where download starts again may be identified by comparing size of the downloaded part.

Also, in transmitting game content including plural files, it is also difficult to download all files at one time. In this case, a package list of the game content to be downloaded is first transmitted. And then game execution files, item files, etc., in the package list are downloaded. Since the downloaded files and files to be downloaded can be distinguished based on the received package list data 300 even if download is suspended, it is possible to continuously download from the point where the download is suspended.

FIG. 6 is a flowchart of a billing method while a game execution file and an

item file are simultaneously downloaded according to a preferred embodiment of the present invention.

Referring to FIG. 6, at step S600, the mobile communication terminal 100 requests a list of game content to the game content server 108. At step S602, the game content server 108 generates the list of game content that is stored in its database or is provided from an external content provider and transmits it to the mobile communication terminal 100. At step S604, the mobile communication terminal 100 requests for purchase for game content desired to download in the received list of game content. This embodiment relates to download game content including both the game execution file 400 and the item file 410. At step S606, the game content server 108 extracts billing data included in the game execution file 400 and billing data included in the item file 410. And, the game content server 108 requests a transaction based on each billing data to the mobile communication terminal 100. The request of transaction can be performed by the game content server 108, or by a billing server, which was used in the existing mobile communication system, as response to a request from the game content server 108. At step S608, the mobile communication terminal 100 pays data usage charge for the game execution file 400 and the item file 410 included in the game content by a small amount transaction, etc. And, transaction completion data is transmitted to the game content server 108. Here, if the transaction request is made by the billing server, the billing server can report data of transaction completion to the game

content server 108.

At step S610, the game content server 108 transmits the paid game content to the mobile communication terminal 100. At step S612, when the download completes, the mobile communication terminal 100 transmits a transmission completion signal to the game content server 108. At step S614, the game content server 108 transmits a response signal for the transmission completion signal to the mobile communication terminal 100.

In the above, the method of billing while game execution files and item files are simultaneously downloaded was described.

Hereinafter, a method of billing for additionally downloading item files only when the mobile terminal already stores game content will be described in detail.

FIG. 7 is a block diagram of an item server according to a preferred embodiment of the present invention. The item server 112 transmits item files without changing game content that was transmitted to the terminal, preferably the game execution file 400 in the game content, and bills for data usage.

Referring to FIG. 7, the item server 112 comprises an item list providing module 702, an encryption module 704, a resource transmitting module 706, an authentication key providing module 708, and a billing module 710.

The item list providing module 702 provides a list of items corresponding to

each game content for a user to select a desired item. The item list can be provided through landline/wireless portal, and a user can receive the item list by computer or mobile communication terminal 100.

The encryption module 704 encodes the item file for the authorized user only
5 to use the item file by using DRM technology. By adopting the security authorization system to each item file, the use of content without paying a certain amount of charge can be prevented.

The authentication key providing module 708 provides authentication document or authentication key to use the item file received from the mobile
10 communication terminal 100. Since the item file is encoded by the encryption module 206, the authentication document or authentication key is needed to use the encoded content. Namely, the encryption module 704 and the authentication key providing module 708 are provided by a pair.

In a preferred embodiment of the present invention, if it fails to get
15 authentication from the authentication key providing module 708, the user of the mobile communication terminal 100 cannot use the item file that is encoded by the encryption module 704 even if the user downloaded or copied the item file.

Encryption of the item file can be performed by an external item provider, and in this case, the item server may not comprise the encryption module 704 and the
20 authentication key providing module 708.

The resource transmitting module 706 transmits compile-not-required resource files. Since the item file is a resource file, it is downloaded to the mobile communication terminal 100 by the resource transmitting module 706 that transmits without compile.

5 The billing module 710 demands a payment of usage charge to the mobile communication terminal 100 when receiving a purchase request of an item file from the mobile communication terminal 100. If the mobile communication terminal 100 reports that the charge for game content (the corresponding item file) is paid by a small amount transaction and so on, then the billing module recognizes a transaction completion and
10 activates the encryption module 704, the resource transmitting module 706 and the authentication key providing module 708 to approve the encryption, transmission and authentication of item file.

 In billing with providing item file, it is also possible to perform the billing by using a billing server(not shown) that was used in the existing mobile communication
15 system without using the billing module 710. In this case, the item server 112 transmits billing data corresponding to the requested item file to the billing server. The billing server requests a transaction to the mobile communication terminal 100 and reports the completion of transaction to the item server 112 if the transaction completes. Then, the item server 108 activates the encryption module 704, the resource transmitting module
20 706 and the authentication key providing module 708 to approve the encryption,

transmission and authentication of item file.

In addition, the item server 112 may further comprise a version comparing module 710. If the item file that was transmitted to the mobile communication terminal 100 is modified/changed or updated, the version comparing module 710 may perform
5 patch of the item file by comparing the unified version or size of the item file.

The version comparing module(not shown) can be comprised in the download agent program 104 of the mobile communication terminal 100 as well as the item server 112. Namely, when the item server 112 extracts version data of an item file to be downloaded and transmits it to the mobile communication terminal 100, the version
10 comparing module of the download agent program 104 extracts version data of the existing item file stored in the content storage 106 and compares each other. The item file can be downloaded only if the version is updated according to the comparison result.

FIG. 8 shows a configuration illustrating an item file to be additionally
15 provided according to a preferred embodiment of the present invention.

Referring to FIG. 8, an additional item file 800 comprises an item name, a game content main name(ID), version data of item file, size, and billing data. The item name is an identifier for distinguish each item file. The game content main name(ID) indicates data of game content to which the additional item file 800 should be included.
20 By the game content main name(ID), the mobile communication terminal 100 searches

the game content where the additional item file 800 should be stored, and stores the additional item file 800 in the predetermined lower directory of the searched game content. At this time, package list data 300 of the game content must be updated with data relating to the additional item file 800.

5 If the additional item file 800 is large and the download does not completes at one time, the item file is renamed as a temporary file(e.g., item.tmp, etc) and then the download proceeds. When the mobile communication terminal 100 accesses to the wireless network, a temporary file storing module(not shown), where the temporary file is stored, is searched by an auto search or a user's download continuation request. Total
10 size of the additional item file 800 and size of currently downloaded temporary file is compared by using size data of the additional item file being stored in the temporary file storing module, and the continuous download proceeds. If total size and size of temporary file are equal, then the download completes and the temporary file is renamed as original name of the additional item file 800 to be stored in the lower
15 directory of the corresponding game content.

In the present invention, if a large number of game content are stored in the mobile communication terminal 100, the additional item file 800 should be downloaded dependently to its corresponding game content. The game content includes many files and each file is managed by directory concept.

20 For example, if a specific game content was stored in "/game#1" directory, any

game execution file of the game content is stored in “/game#1/exefile” directory, and any item file is stored in “/game#1/itemfile” directory. Namely, all shows that the higher directory is “/game#1” indicating the specific game content. If an additional item file 800 is downloaded additionally, the specific game content is searched by using content
5 main name data included in the additional item file 800. And, if there is no “/game#1/itemfile” directory as a lower directory of “/game#1”, then it is newly generated to download, and if there is, the additional item file 800 is downloaded to that directory so that it can be downloaded dependently to the specific game content. It is apparent that any method of downloading the additional item file 800 dependently to the
10 specific game content may be included within the scope of range known to those who skilled in the art.

If the additional item file 800 is additionally downloaded later, the package list managing module 500 among each module of the download agent program 104 as
15 shown in FIG. 5 has the following function.

The package list managing module 500 checks that game content corresponding to the additional item file 800 to be downloaded is already stored in the mobile communication terminal 100. If the mobile communication terminal 100 selects the additional item file 800 to download, the item server 112 transmits the game content
20 main name(ID) corresponding to the selected additional item file 800. On receiving the

game content main name, the mobile communication terminal 100 searches game content and, if there is the game content corresponding to the game content main name, the package list managing module 500 reports to the item server 112 that the download of the item file is possible. If there is no game content corresponding to the game content main name in the mobile communication terminal 100, the package list managing module 500 reports to the item server 112 that the download of the item file is not possible.

Also, when the download of the additional item file 800 completes and it is stored in a lower directory of the game content, package list data of the game content is updated. Since the downloaded additional item file becomes included in the game content, package list data 300 is also updated with data relating to the downloaded additional item file 800.

Basically, in purchase of the additional item file 800 only, it is possible in the present invention to download the additional item file 800 when a basic title(or extension pack) is not stored in the mobile communication terminal 100. Here, basic title or extension pack means game content that was already downloaded to the mobile communication terminal 100. But, preferably, it is possible to allow the download of the additional item file 800 when the basic title(or extension pack) was stored in the mobile communication terminal 100. Also, although game content is not stored in the mobile

communication terminal of a user who receives the additional item file 800 as a gift, the additional item file can be downloaded by putting the gift in a gift depository or using a gift acceptance function and so on. Of course, even in this case, it is preferable to allow the user who received gift to download the additional item file 800 from the gift depository after downloading the basic title or extension pack of game content to the mobile communication terminal. Hereinafter, methods of selling the additional item file 800 with data usage charge will be described with a case that a user purchases the additional item file 800 and downloads it to his own mobile communication terminal 100 and a case that a user purchases the additional item file 800 and downloads it to another's mobile communication terminal 100.

FIG. 9 is a flowchart of selling an additional item file 800 with data usage charge to a buyer according to a preferred embodiment of the present invention. It describes the case of receiving a purchase request of an additional item file 800 from the mobile communication terminal 100 that already stores game content corresponding to the additional item file 800.

Referring to FIG. 9, at step S900, the mobile communication terminal 100 requests an item list to the item server 112 via landline/wireless portal. At step S902, the item server 112 searches a list of item file from its database 114 or an external item file provider and transmits it to the mobile communication terminal 100. At step S904, the

mobile communication terminal 100 selects a desired item from the item list and requests for item purchase. In this case, to item to purchase may be one or more than two. At step S906, the item server 112 extracts billing data from file data of the item to purchase and demands transaction of a payment to the mobile communication terminal

5 100. The request of transaction can be performed by the item server 112, or by a billing server, which was used in the existing mobile communication system, as response to a request from the item server 112. At step S908, the mobile communication terminal 100 pays data usage charge for the item to purchase by a small amount transaction, etc. And, transaction completion data is transmitted to the item server 112. Here, if the transaction

10 request is made by the billing server, the billing server can report data of transaction completion to the item server 112.

At step S910, the item server 112 transmits the additional item file 800 to the mobile communication terminal 100 that paid data usage charge. At this, since the additional item file 800 is extension data used only for specific game content, it should

15 be stored in a lower directory of that game content. Thus, the item server 112 may transmit amended package list data including data of the additional item file 800. Or, the mobile communication terminal 100 can amend package list data with the additional item file 800 by itself. At step S912, update for the amended package list data completes, and all additional item files 800 are downloaded. At step S914, when the download of

20 the additional item file 800 completes, the mobile communication terminal 100

transmits a transmission completion signal to the item server 112. At step S916, the item server 112 transmits a response signal for the transmission completion signal to the mobile communication terminal 100.

Here, another step will be performed between step S904 and S906. If there is
5 an item purchase request at step S904, the item server 112 extracts the game content main name corresponding to the additional item file 800 to purchase and transmits it to the mobile communication terminal 100. The mobile communication terminal 100 checks if there is package list data 300 corresponding to the received game content main name in the content storage 106. Since it means that basic title or extension pack of
10 game content corresponding to the additional item file 800 to purchase is already stored in the mobile communication terminal 100 if exists, then it is reported to the item server 112 that download is available. Then, steps S906 through S918 are performed. But, since it means that basic title or extension pack of game content corresponding to the additional item file 800 to purchase is not stored in the mobile communication terminal
15 100 if not exists, then it is reported to item server 112 that download is not available, and the mobile communication terminal 100 displays the failure of item purchase.

Also, between step S908 and S910, a step of encoding the paid additional item file 800 to be used only in the mobile communication terminal 100 authorized by the item server 112 can be performed. In this case, the item server 112 transmits the
20 additional item file 800 and authentication key simultaneously or successively at step

S910.

FIG. 10 is a flowchart of providing an additional item file 800 as a gift with data usage charge to a recipient according to a preferred embodiment of the present invention.

Referring to FIG. 10, at step S1000, the mobile communication terminal 100 of a gift provider who wants to give a gift requests an item list to the item server 112 via landline/wireless portal. At step S1002, the item server 112 searches a list of item file from its database 114 or an external item file provider and transmits it to the mobile communication terminal 100 of the gift provider. At step S1004, the mobile communication terminal 100 of the gift provider selects items to give as a gift from the received item list and requests for an item gift. At this time, identification data(e.g., CTN(phone number) or MIN(Mobile Identification Number)) of a gift recipient who will download the gifted item is transmitted to the item server 112 simultaneously or successively. In this case, the item to give as a gift may be one or more than two. At step S1006, the item server 112 extracts billing data from file data of the item to give as a gift and demands transaction of a payment to the mobile communication terminal 100 of the gift provider. The request of transaction can be performed by the item server 112, or the billing server that was used in the existing mobile communication system requests transaction to the mobile communication terminal 100 of the gift provider as response to

a request from the item server 112. At step S908, the mobile communication terminal 100 of the gift provider pays data usage charge for the item to give as a gift by a small amount transaction, etc., and completes transaction. And, transaction completion data is transmitted to the item server 112. Here, if the transaction request is made by the billing server, the billing server can report data of transaction completion to the item server 112.

At step S1010, the item server 112 transmits the additional item file 800 to the mobile communication terminal 1000 of the recipient. At this, since the additional item file 800 is extension data used only for specific game content, it should be stored in a lower directory of that game content. Thus, the item server 112 may transmit amended package list data including data of the additional item file 800. Or, the mobile communication terminal 1000 of the recipient can amend package list data with the additional item file 800 by itself. At step 1012, update for the amended package list data completes, and all additional item files 800 are downloaded. At step S1014, when the download of the additional item file 800 completes, the mobile communication terminal 1000 of the recipient transmits a transmission completion signal to the item server 112. At step S1016, the item server 112 transmits a response signal for the transmission completion signal to the mobile communication terminal 1000 of the recipient.

Here, another step will be performed between step S1008 and S1010. After there is transaction completion at step S1008, the item server 112 extracts the game content main name corresponding to the additional item file 800 to give as a gift to the

mobile communication terminal 900 of the recipient. The mobile communication terminal 900 of the recipient checks if there is package list data corresponding to the received game content main name in the content storage 106.

If exists, it means that basic title or extension pack of game content
5 corresponding to the gifted additional item file 800 is already stored in the mobile communication terminal 1000 of the recipient. Thus, it is reported to the item server 112 that download is available. Then, step S1010 through S1016 are performed.

But, if not exists, it means that basic title or extension pack of game content corresponding to the gifted additional item file 800 is not stored in the mobile
10 communication terminal 1000 of the recipient. At this time, the mobile communication terminal 1000 of the recipient can download the gifted additional item file 800 after downloading the basic title or extension pack of the game content. Namely, after registering the gifted additional item file 800 to the mobile communication terminal 1000 of the recipient, the additional item file 800 can be downloaded by storing basic
15 title or extension pack of the corresponding game content and reporting it to the item server 112.

At step S1010, the following method is also possible in the download.

Gift receipt detail is reported to the mobile communication terminal 1000 of the recipient. This can be performed by SMS, E-mail or gift depository. Then, the
20 mobile communication terminal 1000 of the recipient can download data relating to the

additional item file 800 through wireless Internet access by SMS(SMS callback URL), or from the gift depository. Here, the gift depository is a program that is already stored in the mobile communication terminal 1000 of the recipient, and when receiving the additional item file 800 as a gift, displays data such as wireless Internet access address to download the additional item file 800 on screen of the mobile communication terminal 1000 of the recipient.

Also, the recipient can give the gifted additional item file 800 to another person as gift. In this case, since it is already paid by the first gift provider, further transaction is not needed.

Also, between step S1008 and S1010, a step of encoding the paid additional item file 800 to be used only in the mobile communication terminal 100 authorized by the item server 112 can be performed. In this case, the item server 112 at step S1010 transmits the additional item file 800 and authentication key at the same time or successively.

(2) Second embodiment

FIG. 11 is block diagram of a conventional billing system.

As shown in FIG. 11, a mobile communication terminal 1110 can receive multimedia content from a content providing server 1120 via wireless data network. At this time, the data network comprises base station, packet control function(PCF), packet

data serving node(PDSN) and so on.

The file that the content providing server 1120 provides to the mobile communication terminal 1110 comprises a header including IP data and billing data as well as content to be downloaded, and a packet counting server 1130 counts the number
5 of packets that the content providing server 1120 transmits to the mobile communication terminal 1110 and reports the number of packets to a billing server 1140. And then, the billing server 1140 calculates actual charge by applying a rate per one packet and demands it to a user.

Since this packet billing is performed on IP level(layer 3) in the conventional
10 billing server, total size of data(the number of packets) is figured out and then rate per one packet is applied to the total size.

But, according to the aforementioned method, there is a problem that an excessive packet download charge for large size content such as game is imposed to user.

15

FIG. 12 is a block diagram of a fixed rate billing system for content having multi file structure according to the present invention. As shown in FIG 12, the system according to the present invention comprises a mobile communication terminal 1200, a content providing server 1210, a content database 1220, a billing server 1230, and a
20 packet counting server 1240.

The mobile communication terminal 1200 comprises a wireless Internet browser 1201, a download agent 1202, a content storage 1203 and a content launcher 1204.

The wireless Internet browser 1201 such as 'KUN' provided by KTFreetel
5 enables the mobile communication terminal 1200 to perform data communication. The mobile communication terminal 1200 can communicate data with plural servers on wireless network through the wireless Internet browser 1201.

The download agent 1202 checks the completion of transmission, need of patch, etc., when downloading content from the content providing server 1210. As download
10 agent was already described in FIG. 5, same description will be omitted here.

The content storage 1203 stores various kinds of game content received through wireless network. The content storage 1203 may be a built-in memory of the mobile communication terminal 1200 or an external memory that can be attached. Here, preferably, the mobile communication terminal 1200 has a content management system
15 with directory structure or folder structure enabling to receive a large number of content and manage each content.

The content launcher 1204 runs content that a user downloads.

The content providing server 1210 provides various kinds of multimedia content to the mobile communication terminal 1200 on wireless network. Content being
20 provided by the content providing server 1210 according to the present invention is

multimedia content of multi file structure, which consists of at least two files, and comprises game, moving picture, and so on.

Here, the multi file may comprise execution file(exe file), DLL file and resource file.

5 The content providing server 1210 may comprise content database 110 in itself or provide multimedia content that an external content provider provides to the mobile communication terminal 1200. A method that the content providing server 1210 provides multimedia content to the mobile communication terminal 1200 will be described.

10 In addition, the content providing server 1210 in FIG. 12 may have same configuration as shown in FIG. 2, and each module was already described, so same description will be omitted here.

FIG. 13 shows one example of list data of a multi file package being generated according to the present invention. Package list data in FIG. 13 is the package list of FIG. 15 4 in a different way. According to one embodiment of the present invention, one of plural files included in the package list comprises a billing command.

In content downloading via mobile network, it was common to charge by the amount of transmitted packet. But, when indiscriminately charged by the amount of packets, it may happen to charge senselessly for large size multimedia content, 20 especially game content.

According to the present invention, the billing command is only included in at least one of multi files in order to prevent charging too much for transmission of multimedia content. The content providing server 1210 inserts data of the file including billing data in package list data, and then transmits it to the mobile communication terminal. According to one embodiment of the present invention, if there is a request from the mobile communication terminal, the content providing server 1210 transmits the latest package list data to the mobile communication terminal 1200. The mobile communication terminal 1200 receives the latest package list data and requests download of required files based on the received package list data.

For example, if downloading content for the first time, the mobile communication terminal 1200 requests download of all files included in the package list. If downloading a patch file when basic content is stored, the mobile communication terminal requests download of files having different version data of individual files among multi files of the basic content to the content providing server 1210.

Also, when downloading an extension pack which is not basic content, if the basic content was already stored, the mobile communication terminal requests download of multi files of extension pack's own, namely, at least one file that is not included in the basic content, and if basic content was not stored, then the mobile communication terminal requests download of all files consisting of the extension pack.

At this time, according to a preferred embodiment of present invention, fixed

rate billing can be performed when the first downloading of the basic content and downloading of the extension pack except patch files.

According to the present invention, the mobile communication terminal 1200 receives package list data including data of billing command, and requests download of required files. Header data in download request signal of the mobile communication terminal 1200 includes data of files including billing command. The packet counting server 1240 keeps monitoring this, and if the download is performed, counts the number of packets of multi files.

At this time, the packet counting server 1240 counts the amount of packets of multi files being downloaded. If content being downloaded is a target of fixed rate billing, the packet counting server omits the amount of packets of files including non-billing command, and converts the amount of packets of files including billing command into the predetermined amount of packets and sends it to the billing server 1230.

The billing server performs a billing process by applying a certain rate to the amount of packets transmitted from the packet counting server 1240. For content having multi file structure like the present invention, the packet counting server 1240 transmits converted the amount of packets for a certain file to the billing server 1230 so that the reasonable billing becomes possible.

For example, if only exe file 1301 has the billing command and the other files

has non-billing command in content of which total size is 100M, the packet counting server 1230 counts not only packets of exe file 1301 but also packets of the other files 1302-1309. But, the packet counting server 1230 omits the amount of packets of the other files, and transmits the converted amount of packets(e.g., 300K) of the exe file 1301 to the billing server 1230. By this, it is possible to perform the fixed rate billing even when transmitting content consisting of plural files. FIG. 14 shows one example of list data of a patch file of a multi file package and extension pack being generated according to the present invention.

Referring to FIG. 14, package list data of multi files, which the content providing server 1210 generates, comprises list data of multi files of basic content, list data of patch file, and list data of multi files of extension pack.

In a preferred embodiment of the present invention, multi files of basic content consists of exe, dll1, dll2, dll3, dll4, res1, res2 and item1, and patch file consists of exe*, dll1*, dll3* and des1*(Here, * indicates file to be actually downloaded).

The extension pack, if basic content was already stored in the mobile communication terminal 1200, consists of exe*, dll1*, dll5, res2* and res3, and if basic content was not stored in the mobile communication terminal 1200, consists of exe*, dll1*, dll2, dll3, dll4, dll5, res1, res2*, res3 and item1.

Each file shares same Appl ID, but has different unified version data. In this embodiment, unified version data of the basic content is 1.00.01, unified version data

of the patched content is 1.00.20, and unified version data of the extension pack is 2.00.03.

Here, 1 or 2, which is the first number, is major version data for identifying basic content and extension pack.

5 As described above, exe files. dll1 to dll5, res1 and res2 among multi files consisting extension pack are multi files being shared by the basic content, and res3 and item 1 file are multi files of extension pack's own which are not in the basic content.

According to the present invention, when transmitting patch file or extension pack of content consisting multi files, it is possible to perform differential billing.

10 First of all, transmitting patch file will be described in detail.

Patch file can be transmitted when the mobile communication terminal already stores basic content. In this case, the content providing server 1210 may receive appl. ID and version data of certain content from the mobile communication terminal 1200.

Here, the version data is not only unified version of the basic content that the
15 mobile communication terminal 1200 stores but also unified version data of the basic content.

According to one embodiment of the present invention, the content providing server 1210 generates the latest package list data of content that the mobile communication terminal 1200 stores and transmits it to the mobile communication
20 terminal 1200.

Since package list data according to the present invention comprises individual version data of each multi file, the mobile communication terminal 1200 compares version data of multi files of the already-stored content with version data of multi files in the latest package list data, and requests download of required files to the content providing server 1210.

At this time, since the latest package list data that the content providing server 1210 provides is package list data for patch file, it does not include data of files having billing command. By this, if the mobile communication terminal 1200 requests download of the required file, header data does not comprise billing command. At this time, even though the packet counting server 1240 counts the number of packets of each file, it omits the counted amount of packets and transmits it to the billing server 1230.

Thus, since the billing server 1230 does not receive packet amount data for the patch file from the packet counting server, the billing server processes transmission of patch file as charge exemption.

Next, transmitting multi files consisting extension pack will be described in detail.

As described above, part of multi files consisting extension pack are shared by that consisting basic content. These shared files are files of basic content's own, and the others are files of extension pack's own.

In providing extension pack based on this classification, billing point is

designated at least one of multi files of the basic content's own, and also at least one of multi files of the extension pack's own.

Namely, at least one of multi files of the basic content's own comprises billing command, and also at least one of multi files of the extension pack's own comprises
5 billing command.

For example, if there is a content transmission request from a user, the content providing server 1210 according to the present invention checks whether this request is for the basic content or the extension pack. If the request is for transmitting the extension pack, the latest package list of the extension pack is generated and transmitted
10 to the mobile communication terminal 1200.

If the mobile communication terminal 1200 does not have the basic content, it requests download of all files in the extension pack package list.

In this case, the mobile communication terminal 1200 requests download files having billing command of the basic content's own and files having billing command of
15 the extension pack's own. The packet counting server 1240 identifies billing command to count the number of packets of files having billing command of the basic content's own and perform a packet amount conversion process. Also, independently to this, the packet counting server 1240 counts the number of packets of files having billing command of the extension pack's own and performs a packet amount conversion
20 process.

Then, each converted packet amount is transmitted to the billing server 1230, and the billing server performs billing process for the download of the extension pack by applying the predetermined rate to each converted packet amount.

But, if the mobile communication terminal 1200 already stores the basic content, the mobile communication terminal 1200 requests download of files of the extension pack's own. Even if it requests files of the basic content's own, it will be regarded as request for patch file.

Thus, the packet counting server 1240 performs a packet amount conversion process only for files having billing command of the extension pack' own. Since the billing server 1230 performs the billing process based on the converted packet amount of files of the extension pack' own, the charge for downloading the extension pack will be much cheaper than the case that the basic content is not stored.

It may be possible that there are many kinds of extension packs having different unified version. According to the present invention, it is possible to perform differential billing for extension packs having different versions based on files having billing command.

Extension packs having different unified version may also share same files, and on the other hand, each extension pack has its own file. The present invention can perform the billing process by inserting billing command to files of each extension pack's own, or by inserting billing command to files shared by each extension pack with

referring to version data.

In the first method, billing command will be inserted to different files according to each unified version, and this data is generated by the content server 1210 and is included in the package list data.

5 Thus, if the mobile communication terminal 1200 requests download of the extension pack, the packet counting server 1240 counts the number of packets of files having billing command. At this time, the amount of packets for each file may be different, and according to this, the converted packet amounts may be different.

10 Like this, since the converted packet amounts, of which each is generated differently, is sent to the billing server 1230, it becomes possible to perform billing for each extension pack differently.

 Additionally, in the second method, billing command will be inserted to the same file. Thus, the packet amount of files having billing command will be converted to the same value by the packet counting server 1240. But, the packet counting server 15 1240 converts packet amounts in a different rate with referring to the unified version, and then transmits it to the billing server 1230.

 It also becomes possible to perform the billing process individually for each extension pack by the differently converted packet amounts.

 FIG. 15 is a flowchart illustrating a fixed rate billing method for basic content 20 having multi file structure according to another embodiment of the present invention.

Referring to FIG. 15, when the mobile communication terminal 1200 accesses wireless Internet by the wireless Internet browser 1201(S1500), the content providing server 1210 provides a list of content(S1502). If a user selects content and transmits it to the content providing server 1210(S1504), the content providing server 210 generates
5 package list data for multi files(S1506). Then, this is transmitted to the mobile communication terminal 1200(S1508).

The mobile communication terminal 1200 requests download of required files by referring to the package list data to the content providing server 1210(S1510).

Then, the content providing server 1210 transmits the required file to the
10 mobile communication terminal(S1512).

When multi files are being downloaded, the packet counting server 1240 counts the number of packets to be transmitted to the mobile communication terminal 1200(S1514).

Among this, files having billing command are identified(S1516), and the
15 amount of packets of the file is converted in the predetermined packet amount(S1518).

In this, the converted packet amount is transmitted to the billing server 1230(S1520), and the billing server 1230 performs billing by applying the predetermined rate to the converted packet amount(S1522).

20 FIG. 16 is a flowchart illustrating a fixed rate billing method for extension

content having multi file structure according to another embodiment of the present invention.

The case, that the mobile communication terminal 1200 requests for the transmission of extension packs and files having billing command of the extension pack's own are same, will be described.

Referring to FIG 16, when the mobile communication terminal 1200 requests for the transmission of the extension pack(S1600), the content providing server 1210 generates package list data of the extension pack(S1602).

The content providing server 1210 transmits the package list data of the extension pack to the mobile communication terminal 1200(S1604).

The mobile communication terminal 1200 requests the download of required files according to the package list to the content providing server 1210(S1606), and the content providing server 1210 downloads the requested file to the mobile communication terminal 1200(S1608).

Here, the required file, if the mobile communication terminal 1200 already stored basic content, may comprise files to be patched among files of the basic content's own and files of the extension pack's own, or if the basic content is not stored, may comprise all files consisting the extension pack.

When multi files are being downloaded, the packet counting server 1240 counts the number of packets to be transmitted to the mobile communication terminal

1200(S1610).

Among this, files having billing command are identified(S1612).

At this time, the packet counting server 1240 identifies extension pack unified version of files that are being downloaded(S1614), and converts the counted packet
5 amount with a different rate according to the identified unified version(S1616).

The converted packet amount is transmitted to the billing server 1230(S1618), and the billing server 1230 performs billing by applying the predetermined rate to the converted packet amount(S1620).

10 Industrial applicability

The aforementioned preferred embodiments of the present invention are for describing the present invention, so those who skilled in the art will understand there will be many of alternatives, changes, and addition, and these alternatives, changes, and addition will be included within the scope of the following claims.

15

Claims

1. A game content server of selling game content with charge, comprising:

a game content list providing module, providing a game content list to a mobile communication terminal;

5 a package list generating module, generating package list data comprising data of a game execution file and an item file, wherein, the game execution file and the item file are included in the game content;

a COD module, compiling the game execution file;

an application transmitting module, transmitting the game execution file being
10 compiled by said COD module to the mobile communication terminal;

a resource transmitting module, transmitting the item file to the mobile communication terminal; and

a billing module, requesting transaction of a payment for the game content to the mobile communication terminal and activating said application transmitting module
15 and said resource transmitting module on receiving a transaction completion signal.

2. The game content server in claim 1, wherein said billing module extracts billing data from the game execution file and billing data from the item file and requests transaction of a payment to the mobile communication terminal.

3. A method of transmitting game content comprising a game execution file and an item file with charge through a game content server, comprising:

(a) receiving a transmission request of a game content list from a mobile communication terminal;

5 (b) transmitting the game content list that is searched in a database to the mobile communication terminal;

(c) receiving a purchase request for the game content from the mobile communication terminal, wherein the game content is in the game content list;

(d) requesting transaction of a payment to the mobile communication terminal
10 by extracting billing data from the game execution file and the item file of the game content;

(e) receiving a transaction completion signal from the mobile communication terminal; and

(f) transmitting the game content to the mobile communication terminal.

15

4. The method in claim 3, wherein said step (f) is transmitting package list data that is generated by the game content server and comprises data relating to the game execution file and the item file to the mobile communication terminal, and transmitting the game execution file and the item file to the mobile communication terminal,
20 respectively.

5. An item server of game content with charge, comprising:

an item list providing module, providing an item list to a mobile communication terminal;

5 a resource transmitting module, transmitting the item file to the mobile communication terminal, wherein the item file is in the item list; and

a billing module, requesting transaction of a payment for the item file to the mobile communication terminal and activating said resource transmitting module on receiving a transaction completion signal,

10 wherein the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

15 6. An item server of game content with charge, comprising:

an item list providing module, providing an item list to a first mobile communication terminal;

a resource transmitting module, transmitting the item file to a second mobile communication terminal corresponding to identification data being received from the first mobile communication terminal, wherein the item file is in the item list and the

20

identification data is phone number or MIN; and

a billing module, requesting transaction of a payment for the item file to the first mobile communication terminal and activating said resource transmitting module on receiving a transaction completion signal for the item file,

5 wherein the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

10 7. The item server in claim 5 or 6, wherein the mobile communication terminal searches the package list data corresponding to the received item file and makes the item file be dependent to specific game content according to the package list data.

15 8. An item transmitting system of game content with charge, comprising:

an item server, comprising

an item list providing module, providing an item list to a mobile communication terminal and

a resource transmitting module, transmitting the item file to the mobile

20 communication terminal, wherein the item file is in the item list item

server; and

a billing server, receiving a billing process request for the item file from said item server, requesting transaction of a payment for the item file to the mobile communication terminal, and transmitting a transaction completion signal to said item server when the transaction completes,

wherein the transaction completion signal activates said resource transmitting module, the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

9. An item transmitting system of game content with charge, comprising:

an item server, comprising

an item list providing module, providing an item list to a first mobile communication terminal and

a resource transmitting module, transmitting the item file to a second mobile communication terminal corresponding to identification data being received from the first mobile communication terminal, wherein the item file is in the item list and the identification data is phone number or MIN; and

a billing server, receiving a billing process request for the item file from said item server, requesting transaction of a payment for the item file to the first mobile communication terminal and transmitting a transaction completion signal to said item server when the transaction completes,

5 wherein the transaction completion signal activates said resource transmitting module, the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

10 10. The item transmitting system in claim 8 or 9, wherein the mobile communication terminal searches the package list data corresponding to the received item file and makes the item file be dependent to specific game content according to the package list data.

15 11. A method of transmitting item file of game content with charge through an item server, comprising:

(a) receiving a transmission request of an item list from a mobile communication terminal;

20 (b) transmitting the item list to the mobile communication terminal by

searching database;

(c) receiving a purchase request for the item file from the mobile communication terminal, wherein the item file is in the item list;

(d) requesting transaction of a payment to the mobile communication terminal
5 by extracting billing data from the item file;

(e) receiving a transaction completion signal from the mobile communication terminal; and

(f) transmitting the item file to the mobile communication terminal,
wherein the game content comprises at least one game execution file, data
10 relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

12. The method in claim 11 further comprising between step (c) and step (d):

15 (c-1) transmitting the game content data corresponding to the item file to the mobile communication terminal; and

(c-2) receiving a download available signal of the item file from the mobile communication terminal,

wherein the mobile communication terminal receives the game content data to
20 check if the game content corresponding to the game content data is stored and

transmits the download available signal if stored according to the result.

13. The method in claim 11, wherein said step (f) is, if the transmission of the item file was suspended, comparing a size of the downloaded item file and continuously
5 downloading from the point where the downloading was suspended.

14. The method in claim 11, wherein after said step (f), the mobile communication terminal searches the package list data corresponding to the received item file and makes the item file be dependent to specific game content according to the
10 package list data.

15. A method of transmitting item file of game content with charge through an item server, comprising:

(a) receiving a transmission request of an item list from a mobile
15 communication terminal;

(b) transmitting the item list to the mobile communication terminal by searching database;

(c) receiving identification data of gift requesting and gift receiving mobile communication terminal from the mobile communication terminal, wherein the item file
20 is in the item list and the identification data is phone number or MIN(Mobile

Identification Number);

(d) requesting transaction of a payment to the mobile communication terminal by extracting billing data from the item file;

(e) receiving a transaction completion signal from the mobile communication terminal; and

(f) transmitting the item file to the gift receiving mobile communication terminal corresponding to the identification data of the gift receiving mobile communication terminal,

wherein the game content comprises at least one game execution file, data relating to the game execution file is managed by a package list data, and the mobile communication terminal receives the item file to update the package list data to include data of the item file.

16. The method in claim 15, wherein said step (f) comprises:

(f-1) transmitting gift receiving data of the item file to the gift receiving mobile communication terminal; and

(f-2) receiving a transmission request for the item file from the gift receiving mobile communication terminal,

wherein according to the transmission request, the item file is transmitted to the gift receiving mobile communication terminal.

17. The method in claim 15, wherein the gift receiving data is transmitted via SMS URL callback or email.

5 18. The method in claim 15, wherein said step (f) is, if the transmission of item file was suspended, comparing a size of the downloaded item file and continuously downloading from the point where the downloading was suspended.

19. The method in claim 15, wherein after said step (f), the mobile
10 communication terminal searches the package list data corresponding to the received item file and makes the item file be dependent to specific game content according to the package list data.

20. A fixed rate billing method through a content providing server providing
15 multimedia content to a mobile communication terminal being connected through network, comprising:

(a) receiving transmission request data of content consisting multi files from the mobile communication terminal, wherein the multi files comprises at least one of an execution file, DLL file and resource file;

20 (b) generating package list data for the requested content, wherein the package

list data comprises data relating to at least one file having billing command;

(c) transmitting the package list data to the mobile communication terminal;

(d) transmitting multi files consisting content to the mobile communication terminal according to the package list data; and

5 (e) billing based on the file having billing command.

21. The fixed rate billing method in claim 20 further comprising:

(f) counting the amount of packets of the file having billing command; and

(g) converting the counted amount of packets into a predetermined amount of
10 packets if the content is a target of fixed rate billing,

wherein said step (e) is billing by applying a predetermined rate to the converted amount of packets.

22. The fixed rate billing method in claim 20 or 21 further comprising
15 processing a billing exemption for the other files except the file having billing command.

23. The fixed rate billing method in claim 20 or 21, wherein said step (b) is generating the package list relating to multi files having non-billing command.

20 24. The fixed rate billing method in claim 20 or 21, wherein the content

transmission request data comprises appl ID and unified version data of content, wherein the unified version data is for identifying basic content and extension content, wherein if the requested content is the extension pack, then said step (b) generates the package list data corresponding to the extension pack,

5 wherein the package list data corresponding to the extension pack comprises data relating to at least one first file having billing command among multi files of the basic content's own and data relating to at least one second file having billing command among the multi files of the extension pack's own.

10 25. The fixed rate billing method in claim 24, wherein if the mobile communication terminal does not store the basic content corresponding to the requested extension pack, said step (e) is billing based on the converted amount of packets of the first file and the second file.

15 26. The fixed rate billing method in claim 24, wherein if the mobile communication terminal stores the basic content corresponding to the requested extension pack, said step (e) is billing based on the converted amount of packets of the second file.

20 27. The fixed rate billing method in claim 20 or 21, wherein the content

providing server provides at least one extension pack having different unified version and the billing command is assigned to a different file according to the unified version of the extension pack.

5 28. The fixed rate billing method in claim 20 or 21, wherein the content providing server provides at least one extension pack having different unified version and throughout the at least one extension pack, the billing command is designated to same file,

 wherein said step (g) is converting the file having billing command into
10 different amount of packets according to the different unified version of each extension pack.

 29. A storage medium including a program containing digital processing device execution instructions for performing the method of billing multimedia content
15 having multi file structure, comprising:

 (a) receiving transmission request data of the content consisting multi files from a mobile communication terminal, wherein the multi files comprises at least one of an execution file, DLL file and resource file;

 (b) generating package list data for the requested content, wherein the package
20 list data comprises data relating to at least one file having billing command;

(c) transmitting the package list data to the mobile communication terminal;

(d) transmitting multi files consisting the content to the mobile communication terminal according to the package list data; and

(e) billing based on the file having the billing command.

5

30. A fixed rate billing system, comprising:

a content providing server, being connected to a mobile communication terminal via network, receiving transmission request data of content consisting multi files from the mobile communication terminal, wherein the multi files comprises at least one of an execution file, DLL file and resource file, generating package list data for the requested content, wherein the package list data comprises data relating to at least one file having billing command, transmitting the package list data to the mobile communication terminal, and transmitting multi files consisting the content to the mobile communication terminal according to the package list data; and

a billing server, billing based on the file having the billing command.

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31. The fixed rate billing system in claim 30 further comprising a packet counting server, counting the amount of packets of the file having the billing command and converting the counted amount of packets into a predetermined amount of packets if the content is a target of fixed rate billing,

wherein said billing server applies a predetermined rate to the converted amount of packets.

32. The fixed rate billing system in claim 30, wherein said billing server
5 processes a billing exemption for the other files except the file having the billing command.

33. The fixed rate billing system in claim 30, wherein if the transmission
request of the content is a transmission request for patch file, said content providing
10 server generates the package list relating to multi files having non-billing command.

34. The fixed rate billing system in claim 30, wherein the content transmission
request data comprises appl ID and unified version data of the content, wherein unified
version data comprises major data for identifying between the basic content and the
15 extension content,

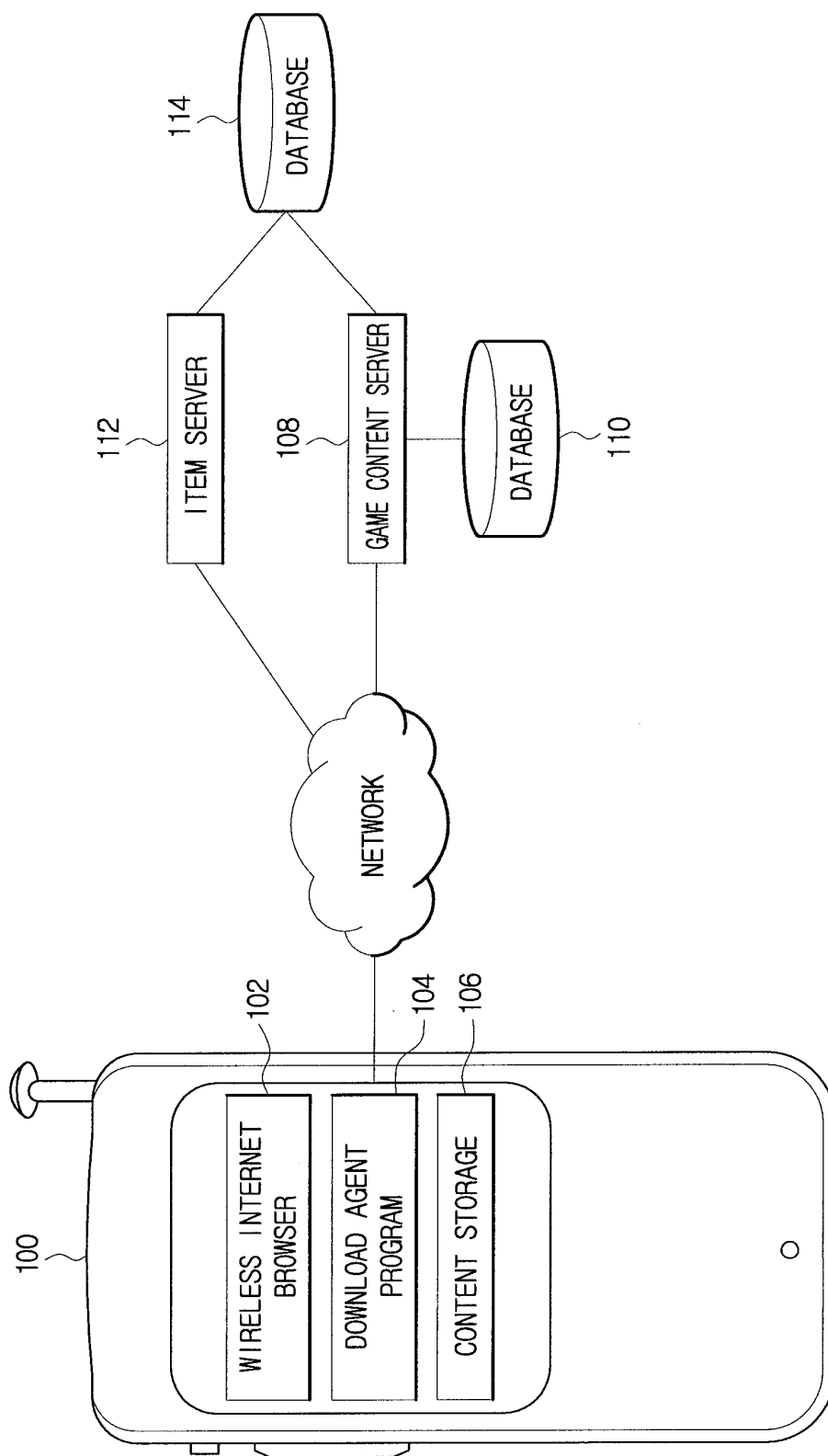
wherein if the requested content is the extension pack, then said content
providing server generates the package list data corresponding to the extension pack,

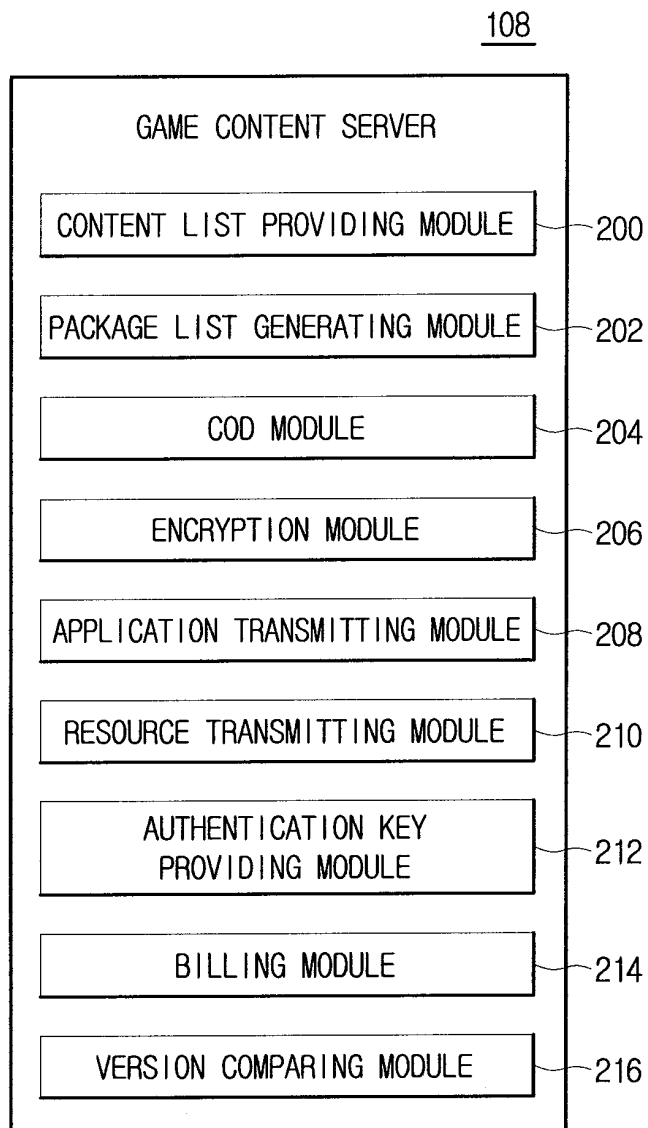
wherein the package list data corresponding to the extension pack comprises
data relating to at least one first file having billing command among multi files of basic
20 content's own and data relating to at least one second file having billing command

among multi files of extension pack's own.

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FIG. 1



2/15
FIG. 2

3/15
FIG. 3

300

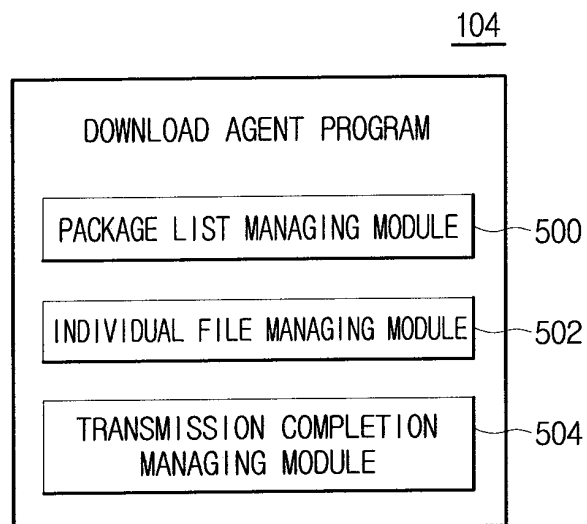
GAME CONTENT MAIN NAME(ID)
CONTENT UNIFIED VERSION
NUMBER OF GAME EXECUTION FILE
GAME EXECUTION FILE CONFIGURATION DATA
NUMBER OF ITEM FILE
ITEM FILE CONFIGURATION DATA

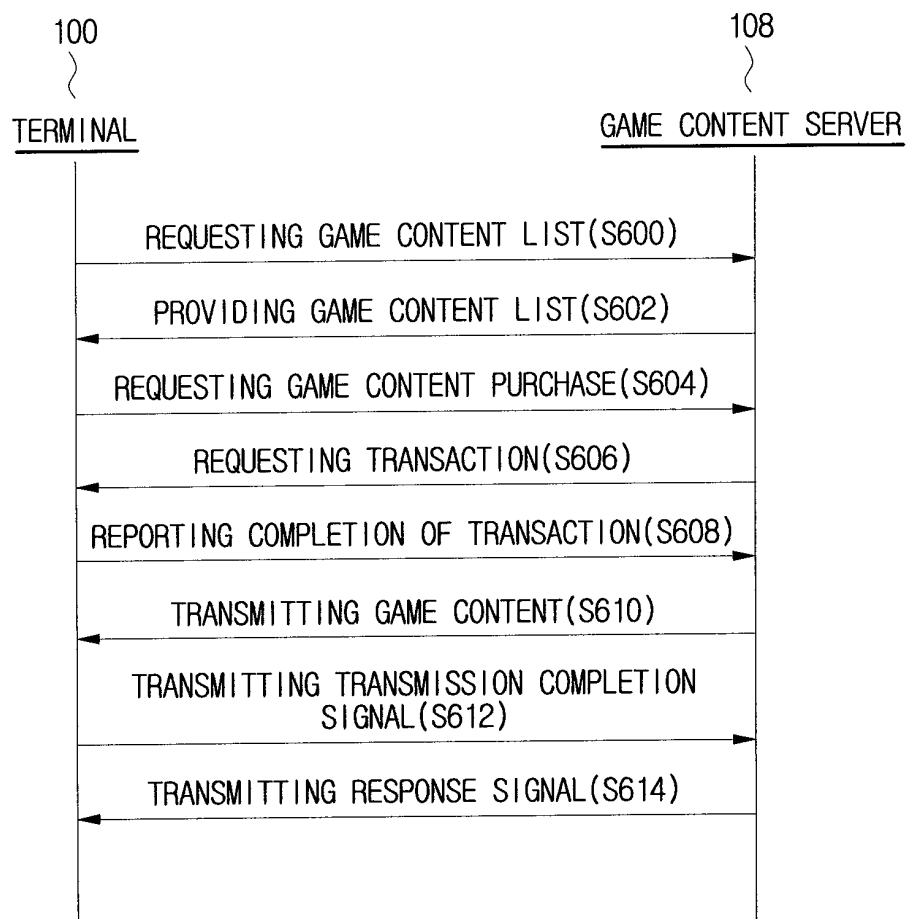
FIG. 4

400

EXECUTABLE FILE ID	VERSION DATA	SIZE	BILLING DATA
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FIG. 5



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FIG. 6

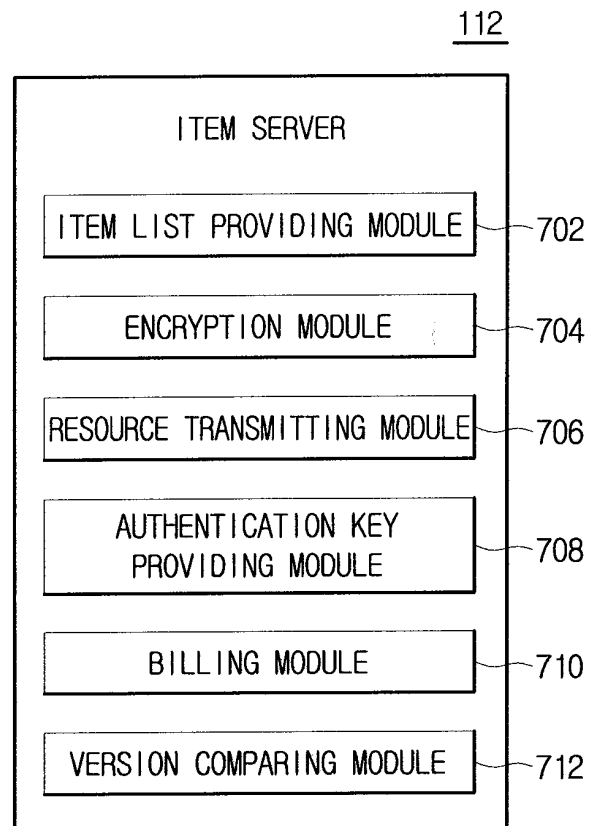
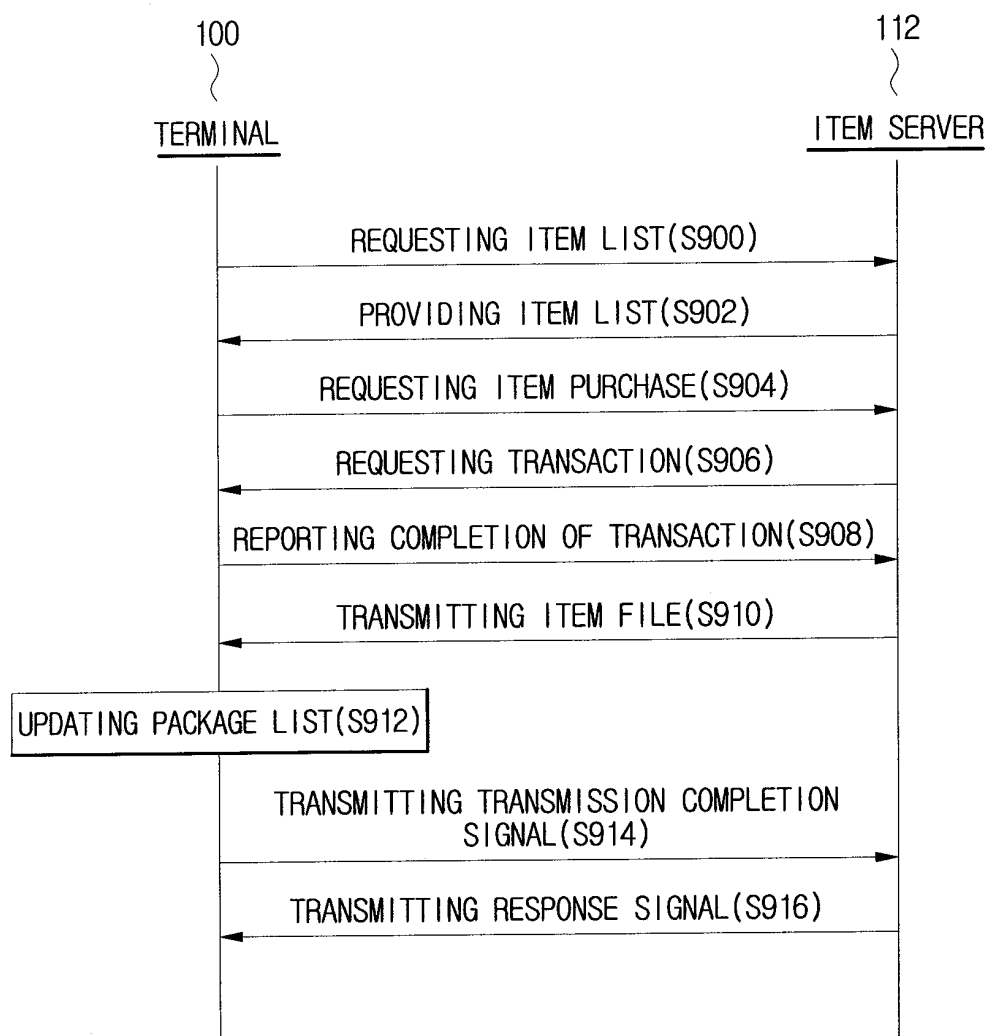
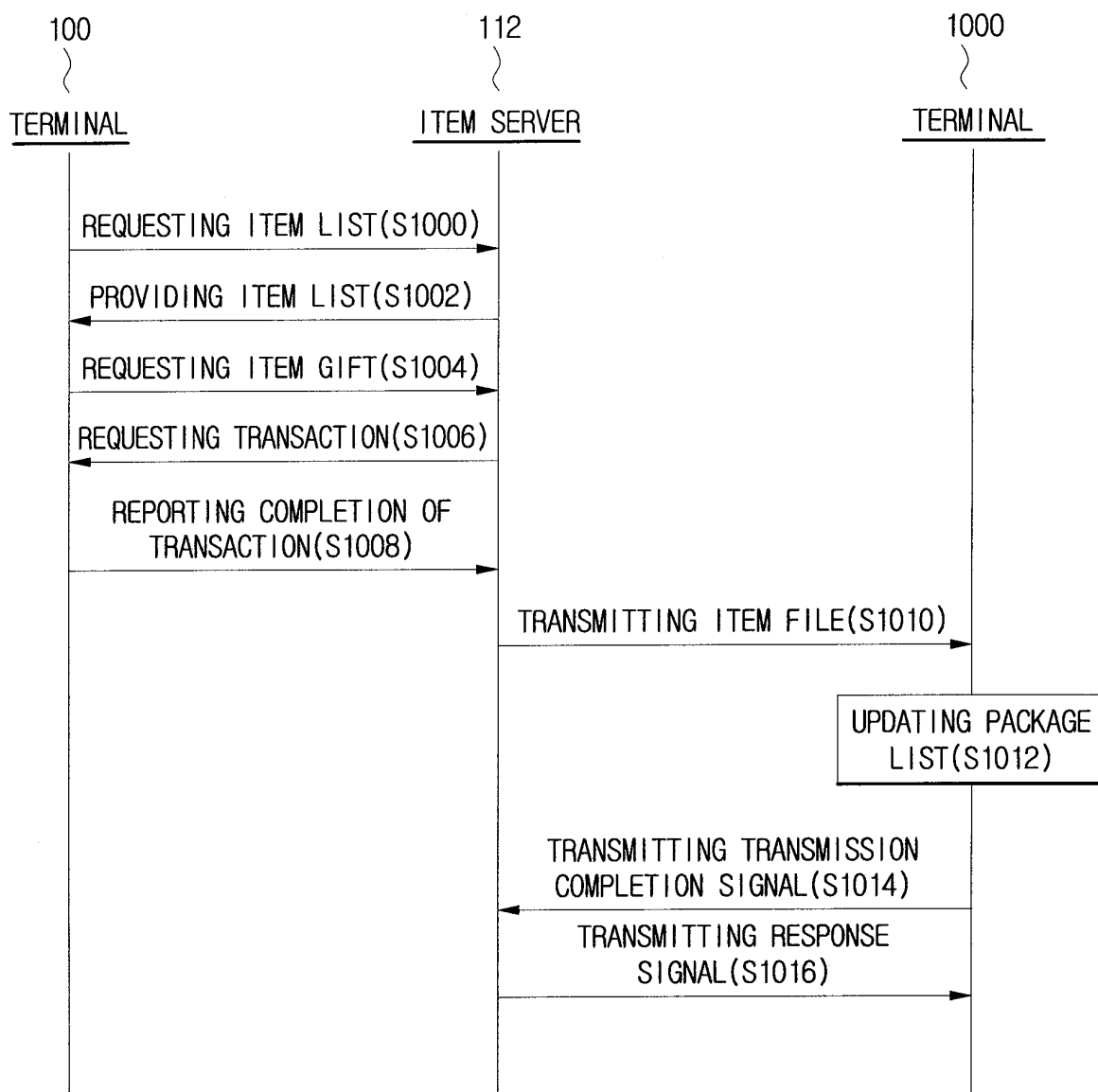
6/15
FIG. 7

FIG. 8

800

ITEM FILE ID	GAME CONTENT MAIN NAME(ID)	VERSION DATA	SIZE	BILLING DATA
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7/15
FIG. 9

8/15
FIG. 10

9/15
FIG. 11

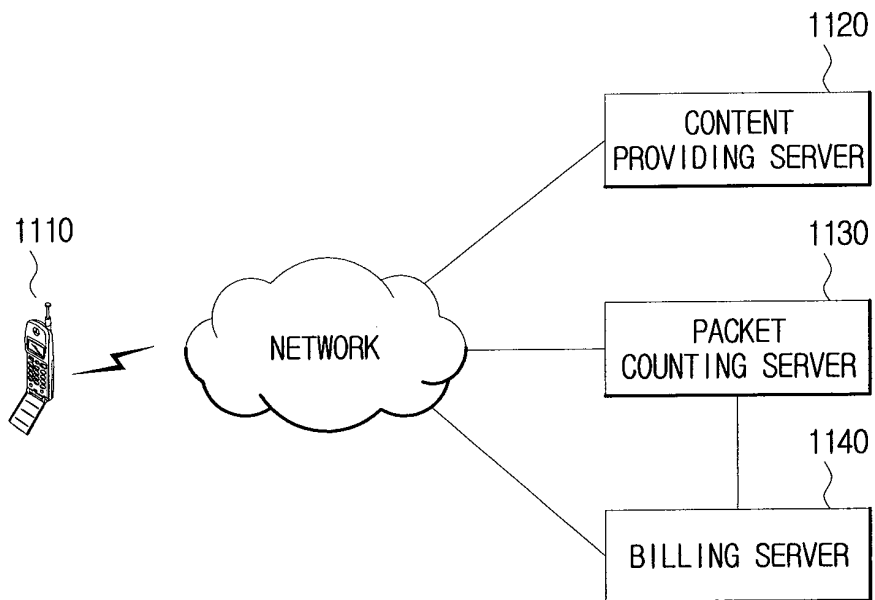
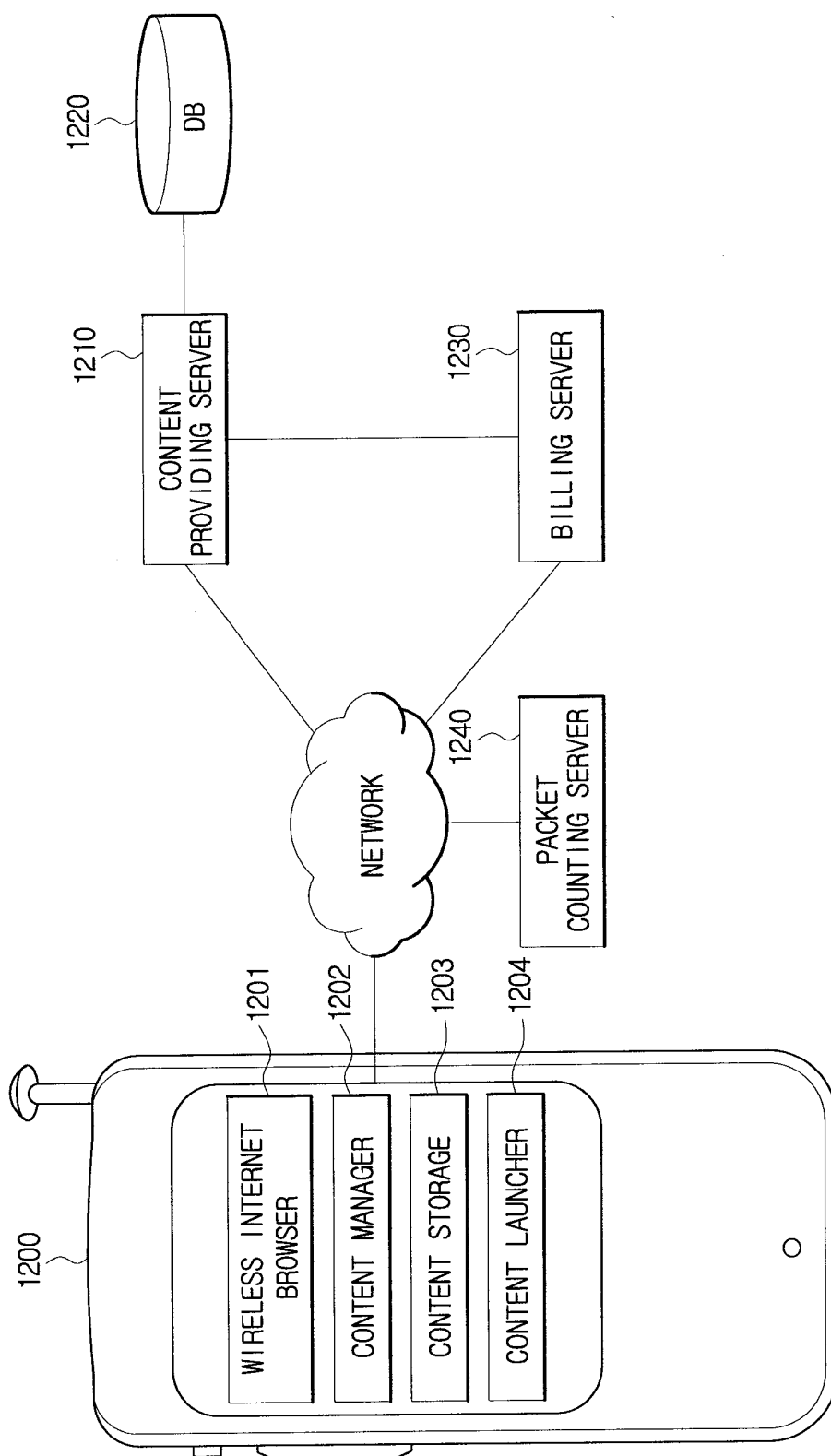


FIG. 12



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FIG. 13

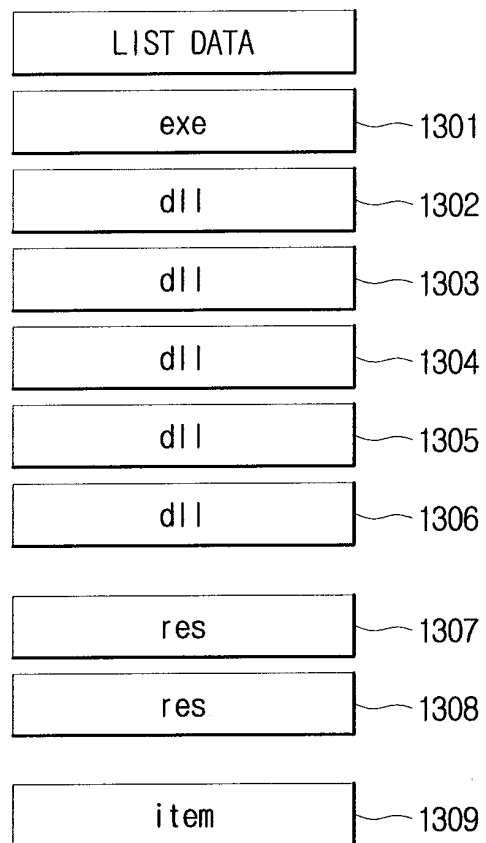


FIG. 14

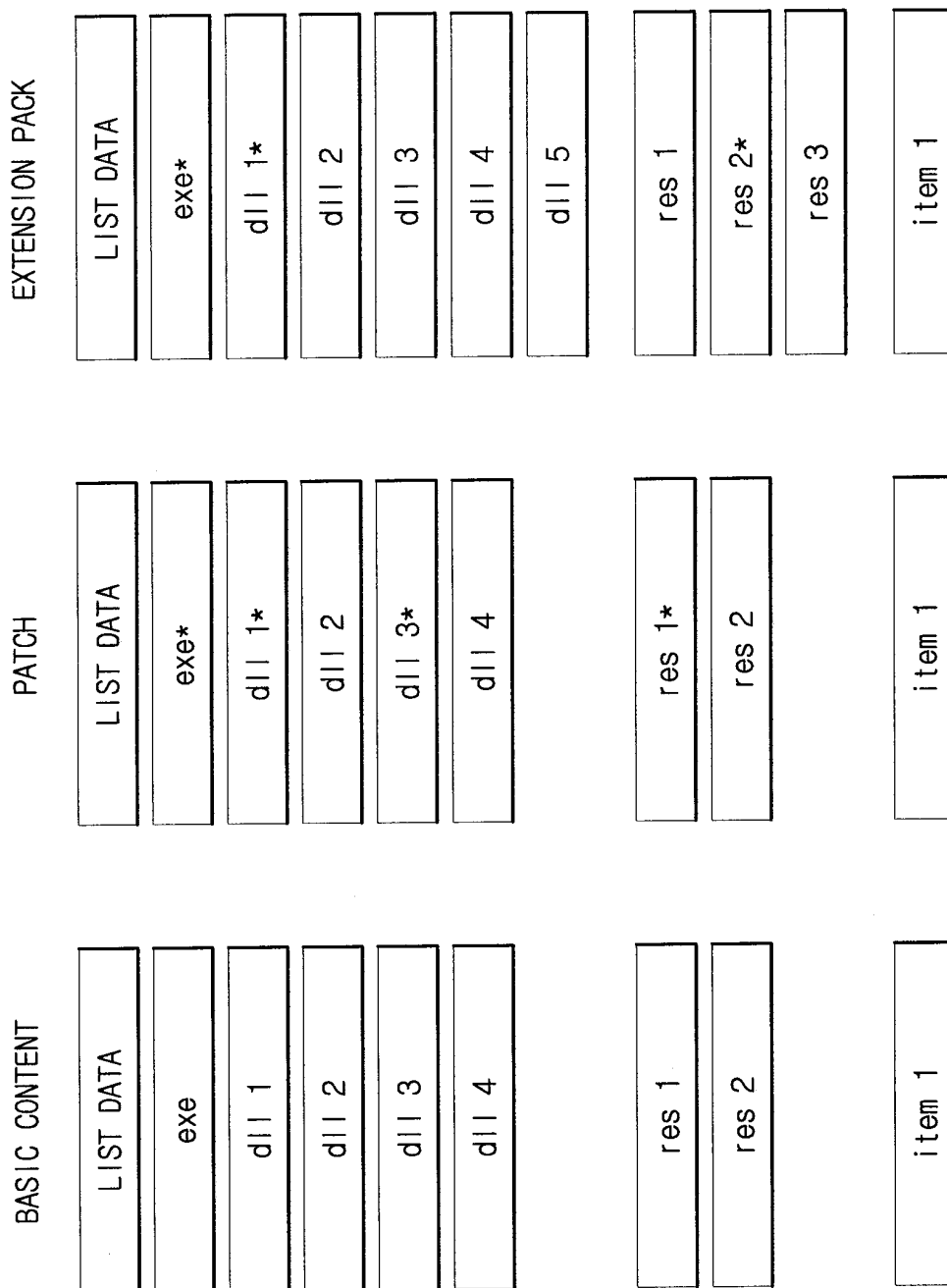


FIG. 15

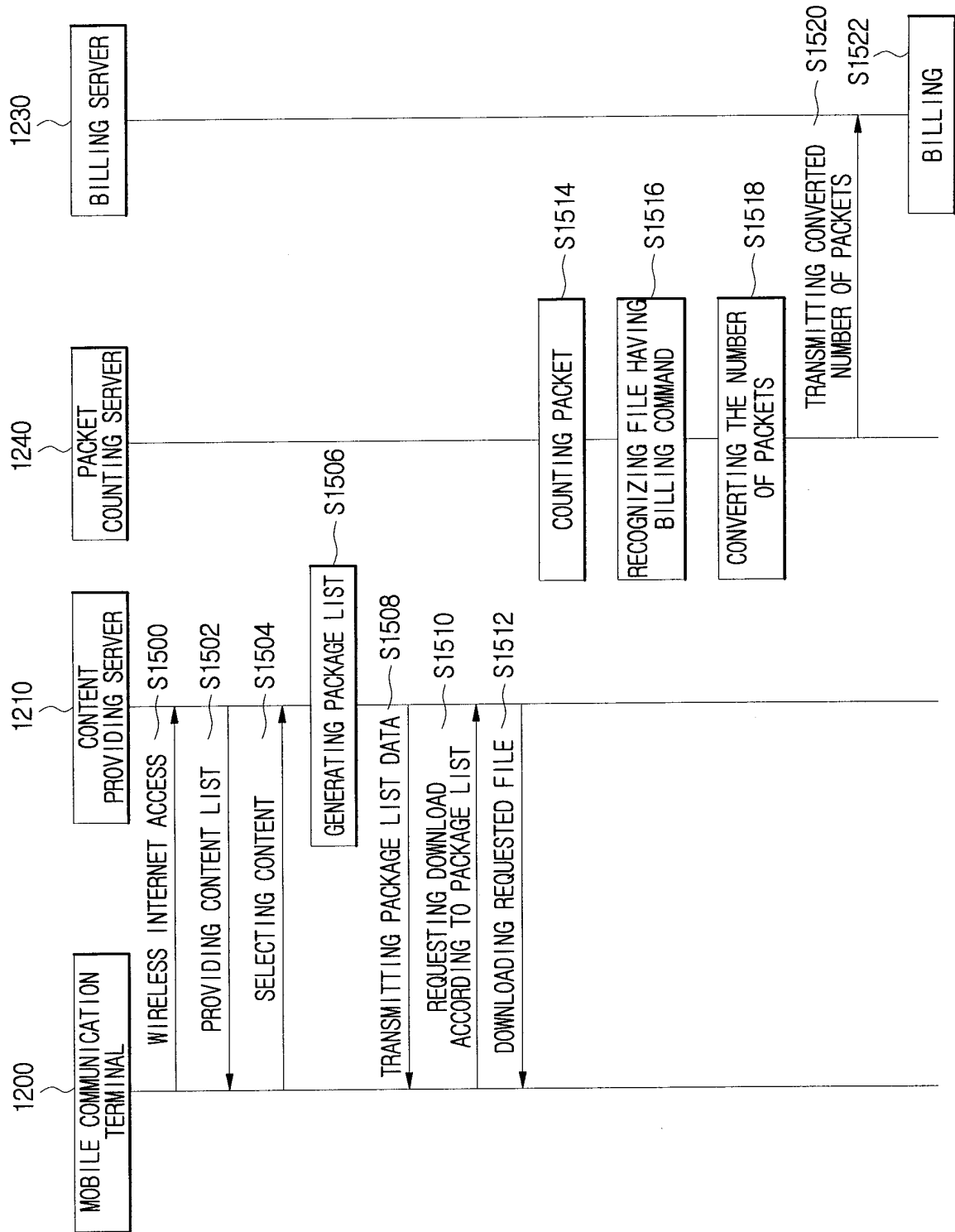
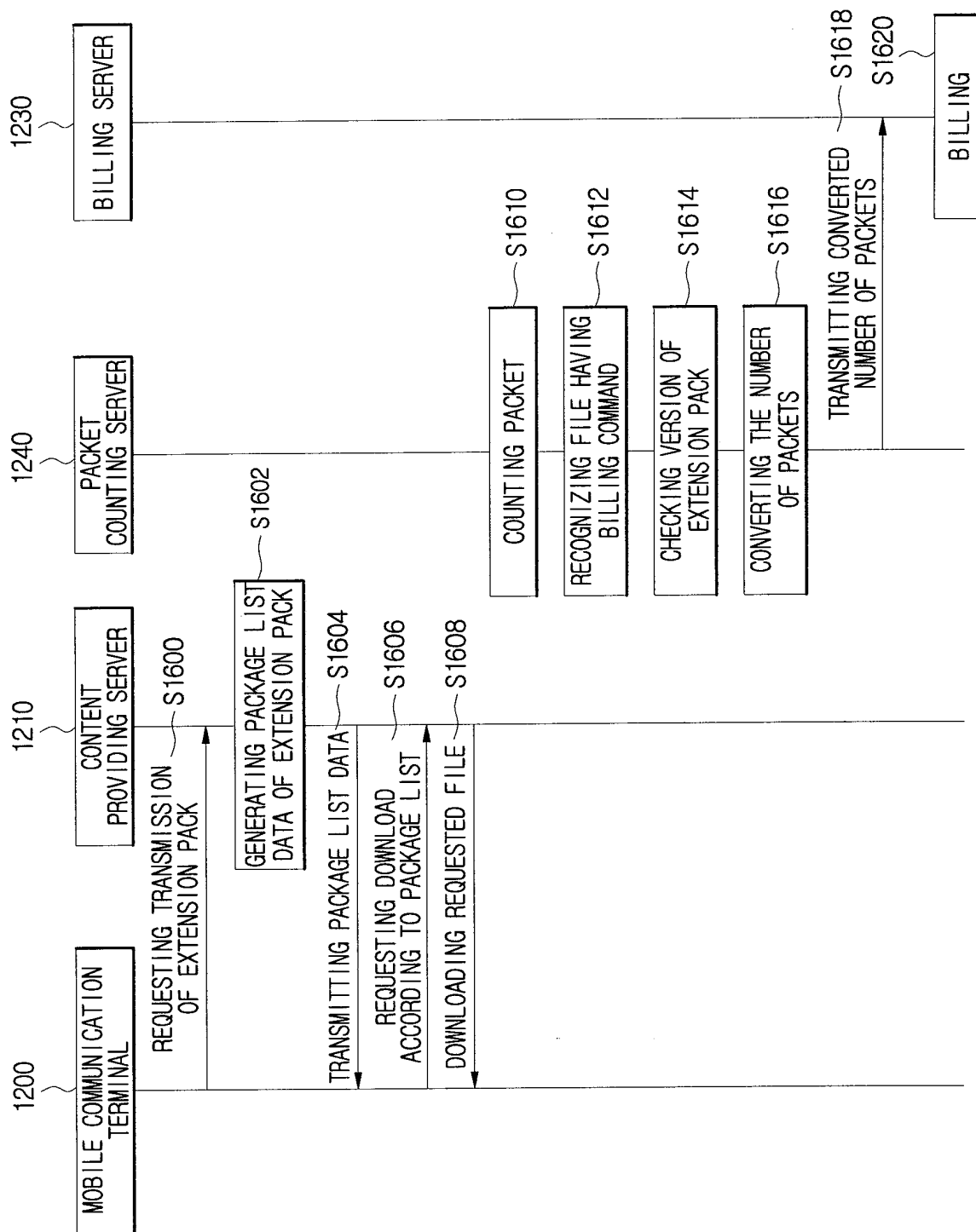


FIG. 16



15/15
FIG. 17

410

ITEM FILE ID
VERSION DATA
SIZE
BILLING DATA
.
.
.
ITEM FILE ID
VERSION DATA
SIZE
BILLING DATA

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2006/001355**A. CLASSIFICATION OF SUBJECT MATTER****G06Q 30/00(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)

IPC8 G06Q30/00J0

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

Korean Patents and applications for inventions since 1975

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

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

eKIPASS "item, billing, game, content, multi, mobile"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 2003-30586 A (PARK, YEOUN IL) 18 APRIL 2003 See abstract.	1-20, 29,30
A	claims 1-2, 8-25; figures 2-7, 15-19. page4, lines 4-27.	21-28, 31-34
Y	KR 10-389093 B1 (EASYNEGO CO., LTD.) 25 JUNE 2003 See abstract.; claim 1.	1-20, 29,30
A	figures 1-4.	21-28, 31-34
A	KR 2004-32010 A (SK TELECOM CO., LTD.) 14 APRIL 2004 See abstract; figures 2-8.	1, 3, 5, 8, 11, 12, 20
	claims 1-7, 13, 18-20.	
A	KR 2002-67248 A (WOORIRANG WORLD CO., LTD.) 22 AUGUST 2002 See abstract; figure 1-4.	1, 3, 5, 8, 11, 12, 20
	claims 1, 8, 11, 14, 17, 19.	
A	JP 14-169822 A(NTT DATA CO., LTD.) 14. JUNE 2002 See abstract; figure 10.	1, 3, 5, 8

☒ 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

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"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

21 JULY 2006 (21.07.2006)

Date of mailing of the international search report

21 JULY 2006 (21.07.2006)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
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Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, Jung Jin

Telephone No.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2006/001355

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 2003-73855 A (LEE, YO MIN et al.) 19 SEPTEMBER 2003 See abstract; figure 5. claims 4-5.	1, 3, 5, 8, 11, 12, 20
A	JP 13-300144 A(SONY COMPUTER ENTERTAINMENT CO., LTD.) 30. OCTOBER 2001 See abstract; claim 1.	1, 3, 5, 8

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2006/001355

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JP14169822 A2	14.06.2002	None	
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