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(54) **CONTINUED TRANSFER OR STREAMING OF A DATA FILE AFTER LOSS OF A LOCAL CONNECTION**

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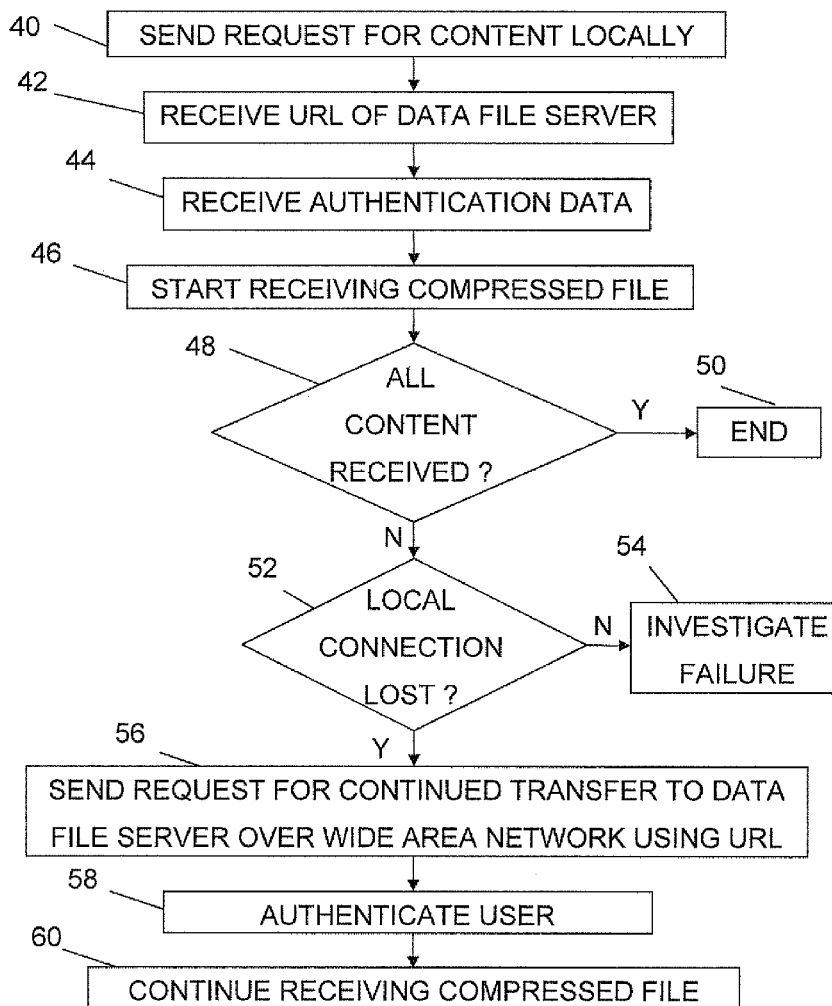
(57) **ABSTRACT**

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A server receives a request for transfer or streaming of a data file sent in the local network from a portable communication device. The server provides the portable communication device with an identifier allowing the data file to be located on the server via a wide area network and transfers or streams the file over the local network to the portable communication device.

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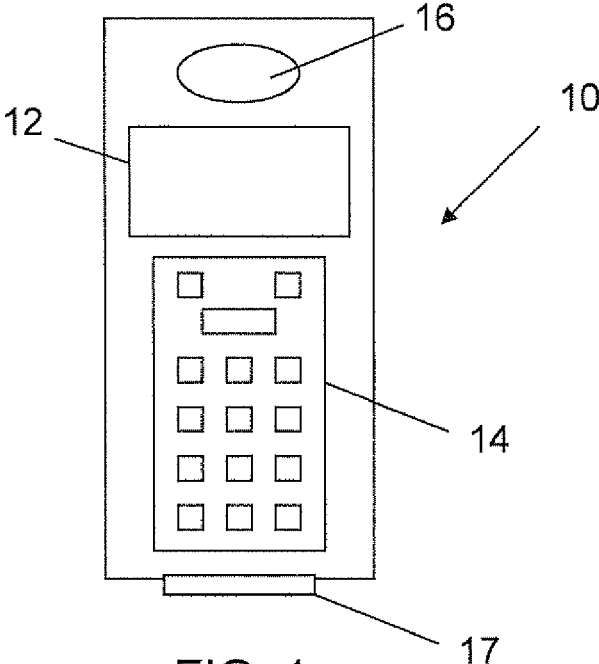


FIG. 1

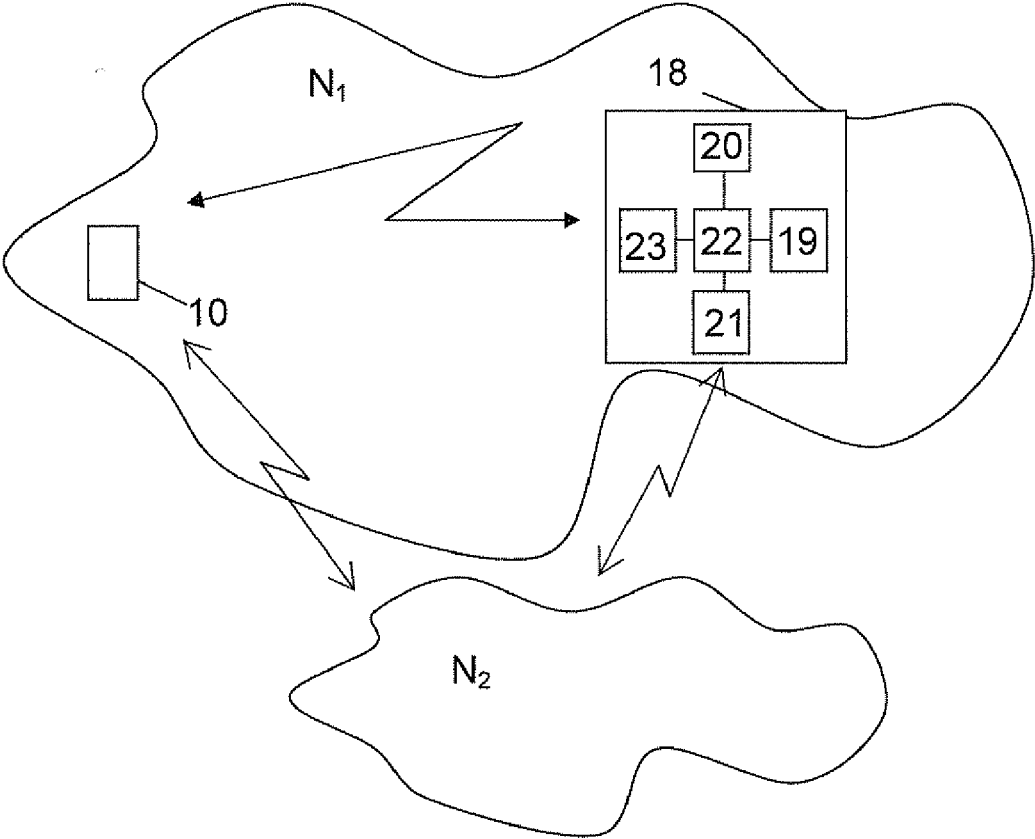
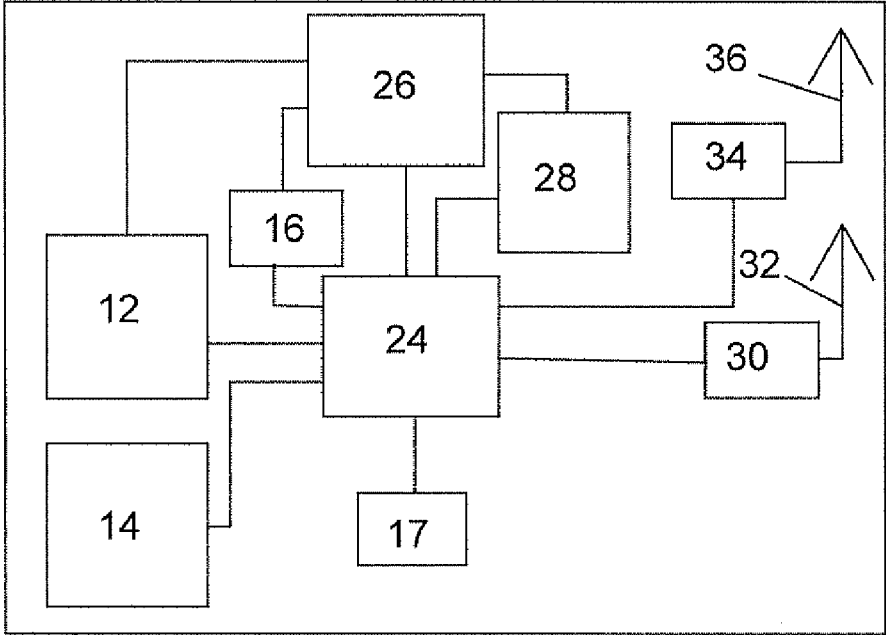
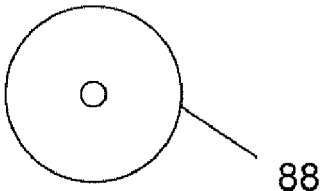


FIG. 2



10

FIG. 3



88

FIG. 6

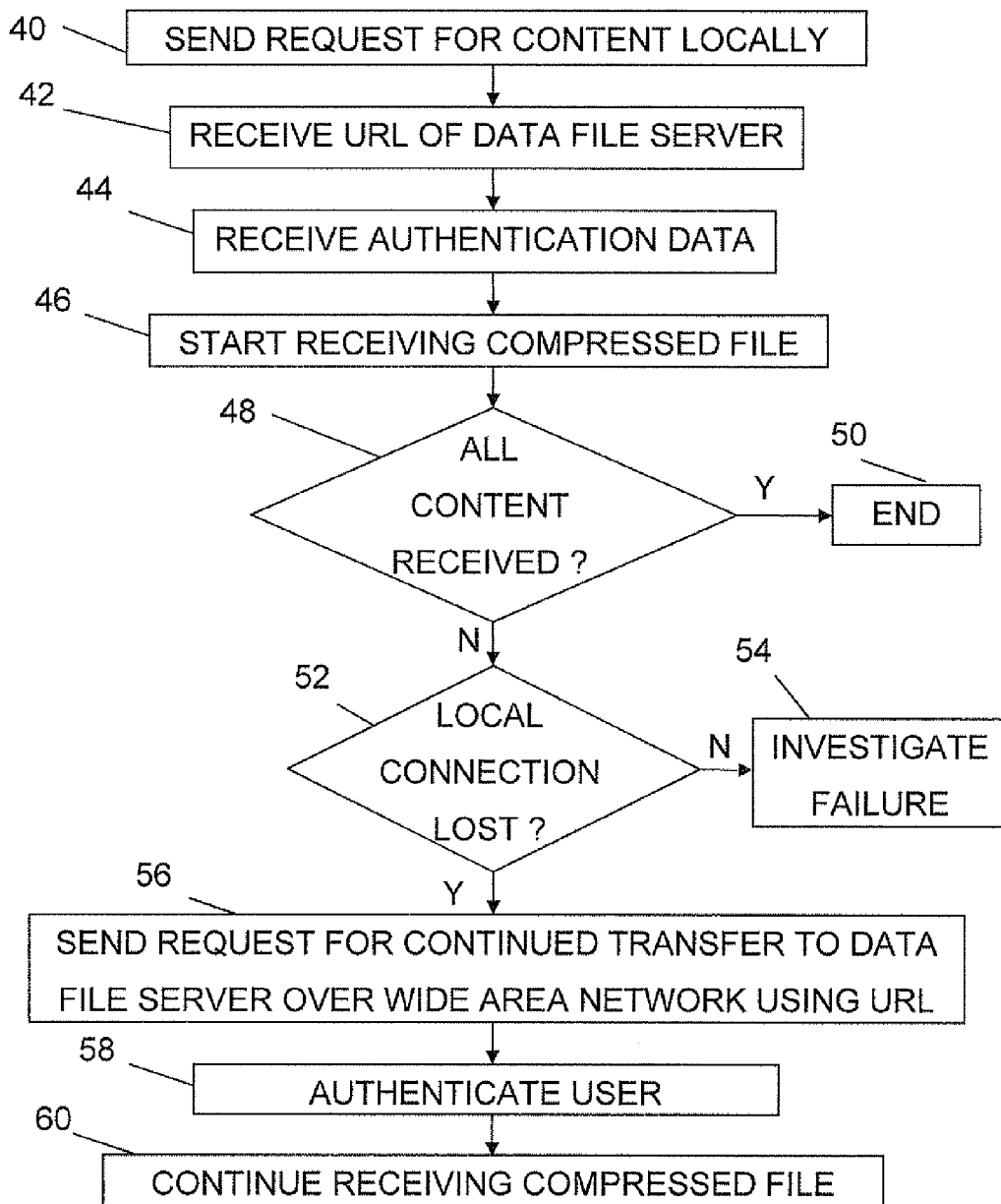


FIG. 4

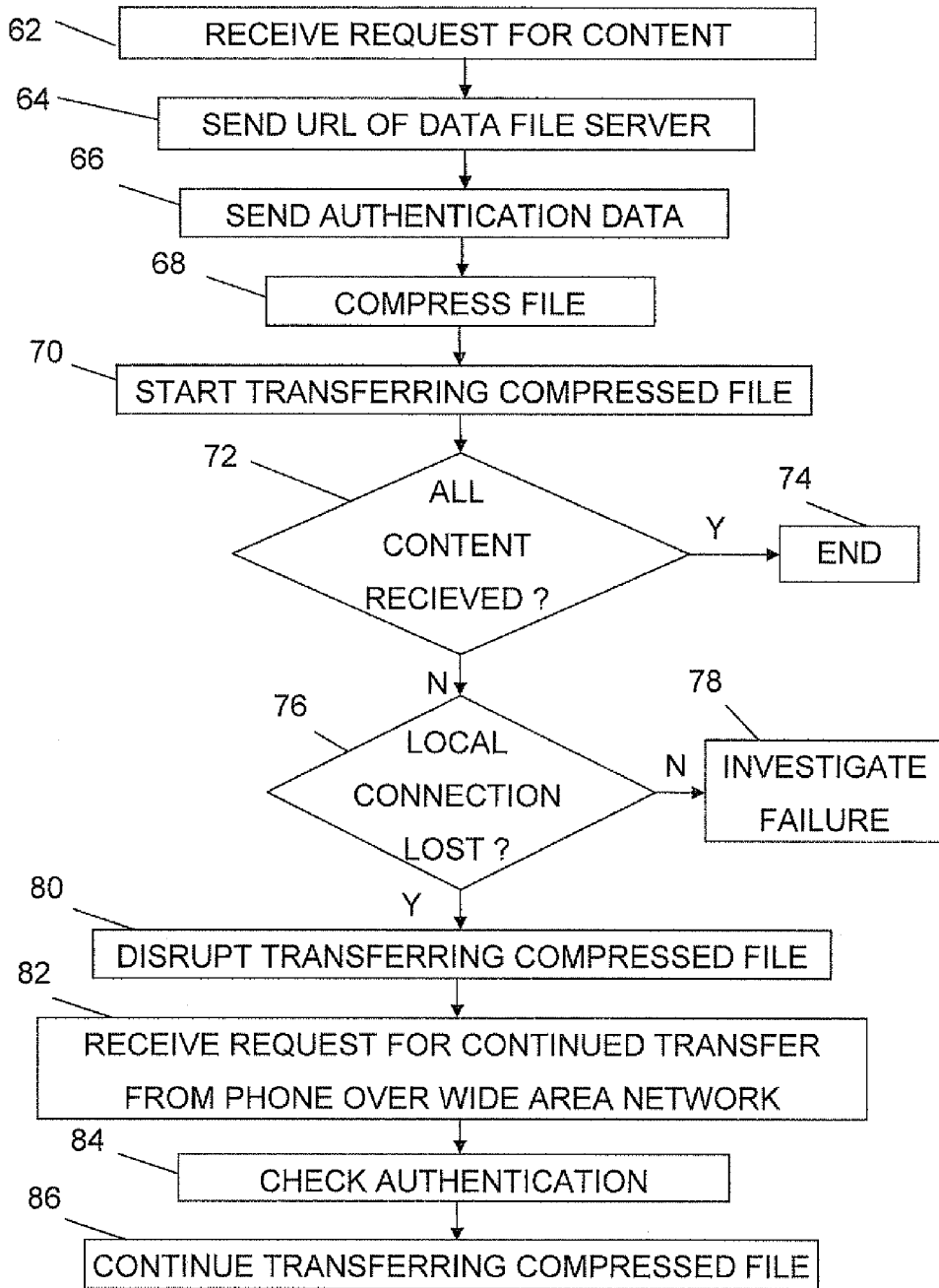


FIG. 5

**CONTINUED TRANSFER OR STREAMING  
OF A DATA FILE AFTER LOSS OF A LOCAL  
CONNECTION**

RELATED APPLICATION

**[0001]** This application claims priority under 35 U.S.C. §119 based on U.S. Provisional Application Ser. No. 60/805, 538, filed Jun. 22, 2006, the disclosure of which is hereby incorporated herein by reference.

TECHNICAL FIELD OF THE INVENTION

**[0002]** The present invention relates to transferring or streaming data files. More particularly, the present invention relates to transferring or streaming a data file from a data file server to a portable communication device.

DESCRIPTION OF RELATED ART

**[0003]** Portable communication devices, such as cellular phones, more and more frequently include various sorts of media playing functionalities. Content may then be transferred or streamed to such a device via, for instance, a data file server handling various types of data files in a local network when this functionality is to be used in the portable communication device.

**[0004]** However, as a portable communication device is moved around, it is possible that the data file being transferred or streamed may be interrupted because the connection over which the streaming or transfer was being made may be lost. This means that the user of the portable communication device will not be able to enjoy the data files in the way he/she expects.

**[0005]** Aspects of the invention advantageously provide a way to continue transferring or streaming a data file even though the connection is lost.

SUMMARY OF THE INVENTION

**[0006]** Aspects of the present invention are directed toward enabling a continued transferring or streaming of a data file between a portable communication device and a data file server in a local network even though a local connection is lost.

**[0007]** Aspects described herein provide a method of transferring or streaming at least one data file to a portable communication device from a data file server in a local network that can be continued even though a local connection is lost.

**[0008]** According to a first aspect of the present invention, a method of transferring or streaming at least one data file to a portable communication device from a data file server in a local network comprises the steps of: receiving a request for transfer or streaming of at least one data file from the portable communication device in the local network, providing the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and transferring or streaming the file over the local network to the portable communication device as long as a local connection exists.

**[0009]** A second aspect of the present invention includes the features of the first aspect and further comprises the steps of determining that a local connection no longer exists, disrupting the transferring or streaming, receiving a request, via a wide area network, for continued transfer or streaming

over the wide area network and continuing the transfer or streaming of the data file over the wide area network.

**[0010]** A third aspect of the present invention includes the features of the second aspect and further comprises the steps of determining that a local connection once again exists, disrupting the transferring or streaming over the wide area network, and resuming transfer or streaming over the local network.

**[0011]** A fourth aspect of the present invention includes the features of the second aspect, wherein the identifying data comprises authentication data and further comprising the steps of receiving authentication data together with the request for continued transfer or streaming, determining if the correct authentication data has been provided and continuing the transfer only if the authentication data is correct.

**[0012]** A fifth aspect of the present invention includes the features of the second aspect, further comprising the step of determining a point in the data file after which continued transfer or streaming is to be made and continuing transfer or streaming from this point.

**[0013]** A sixth aspect of the present invention includes the features of the first aspect, further comprising the step of changing the coding of the file before transfer or streaming.

**[0014]** Other aspects of the present invention provide a data file server in a local network that enables a continued transferring or streaming of a data file between a portable communication device and the data file server even though a local connection is lost.

**[0015]** According to a seventh aspect of the present invention, a data file server in a local network comprises: an archive control unit controlling a data file archive and configured to receive a request for transfer or streaming of at least one data file from the portable communication device in the local network, provide the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and transfer or stream the file over the local network to the portable communication device as long as a local connection exists.

**[0016]** An eighth aspect of the present invention includes the features of the seventh aspect, wherein the archive control unit is further configured to determine that a local connection no longer exists, disrupt the transfer or streaming, receive a request, via a wide area network, for continued transfer or streaming over this wide area network and continue the transfer or streaming of the data file over this wide area network.

**[0017]** A ninth aspect of the present invention includes the features of the eighth aspect, wherein the archive control unit is further configured to determine that a local connection once again exists, disrupt the transferring or streaming over the wide area network, and resuming transfer or streaming over the local network.

**[0018]** A tenth aspect of the present invention includes the features of the eighth aspect, wherein the identifying data comprises authentication data and the archive control unit is further configured to receive authentication data together with the request for continued transfer or streaming, determine if the correct authentication data has been provided and continue the transfer only if the authentication data is correct.

**[0019]** An eleventh aspect of the present invention includes the features of the tenth aspect, wherein the archive control unit is further configured to determine a point in the

data file after which continued transfer or streaming is to be made and continuing transfer or streaming from this point.

**[0020]** A twelfth aspect of the present invention includes the features of the eighth aspect, wherein the archive control unit is further configured to determine a point in the data file after which continued transfer or streaming is to be made and continue transfer or streaming from this point.

**[0021]** A thirteenth aspect of the present invention includes the features of the seventh aspect, wherein the archive control unit is further configured to at least order the changing of the coding of the file before transfer or streaming.

**[0022]** A fourteenth aspect of the present invention is directed towards a data file server in a local network comprising: means for receiving a request for transfer or streaming of at least one data file from the portable communication device in the local network, means for providing the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and means for transferring or streaming the file over the local network to the portable communication device as long as a local connection exists.

**[0023]** Additional aspects of the present invention provide a computer program product that enables a continued transferring or streaming of a data file between a portable communication device and a data file server in a local network even though a local connection is lost.

**[0024]** According to a fifteenth aspect of the present invention, a computer program product for transferring or streaming at least one data file to a portable communication device from a data file server in a local network comprises: computer program code, configured to make the data file server perform, when said program code is loaded in the data file server, a method comprising: receiving a request for transfer or streaming of at least one data file from the portable communication device in the local network, providing the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and transferring or streaming the file over the local network to the portable communication device as long as a local connection exists.

**[0025]** Still other aspects of the present invention provide a method of receiving in a portable communication device at least one transferred or streamed data file from a data file server even though a local connection is lost.

**[0026]** According to a sixteenth aspect of the present invention, a method of receiving in a portable communication device at least one transferred or streamed data file from a data file server in a local network comprises the steps of: sending a request for transfer or streaming of at least one data file to the data file server via the local network, receiving identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and receiving the file or stream over the local network as long as a local connection exists.

**[0027]** A seventeenth aspect of the present invention includes the features of the sixteenth aspect and further comprises the steps of determining that a local connection no longer exists, sending a request, via a wide area network, for continued transfer or streaming over this wide area network using said identifier, and continuing receiving the file or stream over this wide area network.

**[0028]** An eighteenth aspect of the present invention includes the features of the seventeenth aspect and further comprises the steps of determining that a local connection once again exists, sending a request for resumed transfer or streaming over this local network, and resuming receiving the file or stream over the local network.

**[0029]** A nineteenth aspect of the present invention includes the features of the seventeenth aspect, wherein the identifying data comprises authentication data and further comprising the steps of sending authentication data together with the request for continued transfer or streaming, for safeguarding the transfer to the right recipient.

**[0030]** A twentieth aspect of the present invention includes the features of the sixteenth aspect, wherein the coding of the file has been changed before being received.

**[0031]** Still further aspects of the present invention are directed toward providing a portable communication device that allows continued transferring or streaming of a data file between a data file server in a local network and the portable communication device, which enables receiving the data file even though a local connection is lost.

**[0032]** According to a twenty-first aspect of the present invention, a portable communication device comprises: at least one communication unit for communicating in a local network and a wide area network, and a control unit configured to send a request for transfer or streaming of at least one data file to the data file server via the local network, receive identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and receive the file or stream over the local network as long as a local connection exists.

**[0033]** A twenty-second aspect of the present invention includes the features of the twenty-first aspect, wherein the control unit is further configured to determine that a local connection no longer exists, send a request, via the wide area network, for continued transfer or streaming over this wide area network using said identifier, and continue receiving the file or stream over this wide area network.

**[0034]** A twenty-third aspect of the present invention includes the features of the twenty-second aspect, wherein the control unit is further configured to determine that a local connection once again exists, send a request for resumed transfer or streaming over this local network, and resume receiving the file or stream over the local network.

**[0035]** A twenty-fourth aspect of the present invention includes the features of the twenty-second aspect, wherein the identifying data comprises authentication data and the control unit is further configured to send authentication data together with the request for continued transfer or streaming, for safeguarding the transfer to the right recipient.

**[0036]** A twenty-fifth aspect of the present invention includes the features of the twenty-first aspect, wherein the coding of the file has been changed before being received.

**[0037]** A twenty-sixth aspect of the present invention includes the features of the twenty-first aspect, wherein it is a cellular phone.

**[0038]** A twenty-seventh aspect of the present invention is directed toward a portable communication device comprising: means for sending a request for transfer or streaming of at least one data file to the data file server via the local network, means for receiving identifying data comprising an identifier allowing the data file to be located on the server via

a wide area network, and means for receiving the file or stream over the local network as long as a local connection exists.

**[0039]** Additional aspects of the present invention provide yet another computer program product that enables a continued transferring or streaming of a data file between a portable communication device and a data file server in a local network even though a local connection is lost.

**[0040]** According to a twenty-eighth aspect of the present invention, a computer program product for receiving in a portable communication device at least one transferred or streamed data file from a data file server in a local network comprises: computer program code, configured to make the portable communication device execute, when said program code is loaded in the portable communication device, a method comprising: sending a request for transfer or streaming of at least one data file to the data file server via the local network, receiving identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and receiving the file or stream over the local network as long as a local connection exists.

**[0041]** Still additional aspects of the present invention provide a system that allows continued transferring or streaming of a data file between a data file server and the portable communication device even though a local connection is lost.

**[0042]** According to a twenty-ninth aspect of the present invention, a system for transferring or streaming at least one data file to a portable communication device from a data file server in a local network comprises: at least one radio communication unit, at least one data file archive, a data file server comprising an archive control unit controlling the data file archive and configured to receive a request for transfer or streaming of at least one data file from the portable communication device in the local network, provide the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and transfer or stream the file over the local network to the portable communication device as long as a local connection exists, and a portable communication device having at least one communication unit for communicating in a local network and a wide area network, and a control unit configured to send said request for transfer or streaming, receive said identifying data, and receive said file or stream over the local network as long as the local connection exists.

**[0043]** Aspects of the invention provide, among other things, the following advantages. Aspects of the invention allow the continued transfer or streaming of files when a local connection is lost. Transfer or streaming is often slowed down because of a required change of coding. This means that a portable communication device that is to receive such a file may lose the local connection, for instance, if it moves out of the local network. Aspects described herein, therefore, ensure that the content continues to be transferred or streamed in case the local connection is lost. Aspects described herein are also provided in a simple and user friendly way without a user having to get involved. That is, some of the aspects described herein may be automatically performed, without user input.

**[0044]** It should be emphasized that the term “comprises/comprising” when used in this specification is taken to specify the presence of stated features, integers, steps or

components, but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0045]** The present invention will now be described in more detail in relation to the enclosed drawings, in which:

**[0046]** FIG. 1 shows a portable communication device in the form of a cellular phone,

**[0047]** FIG. 2 schematically shows the device in FIG. 1 connected to a data file server in a local network and via a wide area network,

**[0048]** FIG. 3 shows a block schematic of relevant parts of the device in FIG. 1 for providing aspects described herein,

**[0049]** FIG. 4 shows a flow chart of a method of receiving a data file from the data file server according to an embodiment of the present invention,

**[0050]** FIG. 5 shows a flow chart of a method of transferring a data file to the portable communication device according to an embodiment of the present invention, and

**[0051]** FIG. 6 shows a CD ROM disc on which program code for executing a method according to the invention is provided.

#### DETAILED DESCRIPTION OF EMBODIMENTS

**[0052]** A portable communication device **10** according to the present invention is shown in FIG. 1. In a preferred embodiment, the device is a cellular phone **10** having a display **12**, a user input unit in the form of a keypad **14** including a number of keys as well as a speaker **16**. The phone **10** also has a system connector **17**. Via the system connector **17**, it is possible to connect the phone to other devices such as a personal computer (PC) or a data file server. The keypad **14** is used for entering information, such as selecting of functions and responding to prompts and the display **12** is used for displaying functions and prompts to a user of the phone, as well as for presenting video. The speaker **16** is arranged to emit sound, such as speech or music being played by the phone or the sound associated with video. A cellular phone is just one example of a device in which aspects described herein can be implemented. The invention can for instance also be used in a PDA (personal digital assistant), a palm top computer, a lap top computer, a media player or any device that has media processing functionality, such as the ability to play or record media files, and the ability to connect to a data file server, such as via a wide area network (WAN), for instance using a PC card, as well as locally. The local connection is preferably a wireless connection, but may also be via a wired connection, such as a cable.

**[0053]** FIG. 2 shows the cellular phone **10** provided in a local wireless network  $N_1$  and wirelessly communicating with a media file server **18** (also referred to herein as the data file server **18**) also provided in the local network  $N_1$ . The local network  $N_1$  is preferably a home network and it can include such other things as one or more PCs, stereo equipment, TVs, video equipment, etc. The local network  $N_1$  is preferably a wireless local area network (LAN). Alternatively, other ways of providing local communication is possible, such as, for instance using Bluetooth™, universal serial bus (USB) ports on a computer and infrared (IR) links. The local network  $N_1$  may have a limited physical extension, which means that the cellular phone **10** may for long periods

of time be provided outside of the local network  $N_1$ . The data file server **18** may include a data file archive **20** comprising a number of data files, which may be music, for instance, which is coded or uncoded using MP3, and/or video files, such as DVD files. The data file server **18** furthermore may include an archive control unit **22**, a code changing unit **19** as well as a first radio communication unit **21** and a second radio communication unit in the form of a proximity communication unit **23**, which may be a WLAN or Bluetooth™ communication unit.

**[0054]** Since the portable communication device may be a cellular phone **10**, it is also able to communicate using one or more wide area networks, where one network  $N_2$  is shown in FIG. 2. This network may be a cellular GPRS network or a cellular UMTS network. The invention, however, is not limited to use in these types of networks, but can be implemented in any wireless wide area network allowing the transfer or streaming of data files. In addition, the data file server **18** may be able to communicate via network  $N_2$  using the first radio communication unit **21**. In this manner, the phone **10** has more than one route through which it may contact the data file server **18**. In FIG. 2, the second network  $N_2$  is shown as covering another area than the area covered by the local network  $N_1$ . However, it should be understood that in practice, the second network  $N_2$  normally covers a very large area and normally also covers the area covered by the local network  $N_1$ .

**[0055]** FIG. 3 shows a portion of the interior of the cellular phone **10** that is relevant with respect to aspects of the present invention. The phone **10** includes a control unit **24** connected to a third radio communication unit **30** for communication in the wide area network  $N_2$ , to a fourth radio communication unit in the form of a proximity communication unit **34**, which may thus be a WLAN or Bluetooth™ communication unit for communication in the local network  $N_1$ , to a data processing unit **26**, which in this embodiment is a DVD player, to the keypad **14**, to the display **12**, to a local file store **28**, to the speaker **16** and to the system connector **17**. The third radio communication unit **30** is connected to a first antenna **32** for communication with the wide area network  $N_2$  and the fourth communication unit **34** is connected to a second antenna **36** for communication with the local network  $N_1$ . The data processing unit **26**, (referred to in this embodiment as DVD player **26**) is connected to the speaker **16** as well as to the file store **28** and the display **12**. As an alternative, it is furthermore possible that several other types of data processing units are provided, in order to handle media of different types provided in the phone **10**, such as, for instance, a music player and a camera and/or other media recording units as well as other media playing, editing and presenting units. Thus all types of units that can play, display, create, review or record media files can be used.

**[0056]** The functioning of the present invention will now be described in relation to the previously described FIGS. 1-3 together with FIG. 4, which shows a flow chart of a method of receiving a data file from the data file server according to an embodiment of the present invention provided in the phone, and FIG. 5, which shows a flow chart of a method of transferring a data file to the portable communication device from the file server according to an embodiment of the present invention.

**[0057]** The present invention will in the following be described with an example in relation to a user, where media

files are provided as video files, for instance DVD files. It should, however, be understood that the present invention can be used for other types of coding as well as other types of media files, such as, for instance, music files and image files. It may also be applied to already compressed files.

**[0058]** Assume that a user has a data file archive **20** provided in the server **18** in his home network  $N_1$ . Further assume that there are several data files in the data file archive **20**. A user may wish to transfer or stream a file to the phone in order to enjoy the file at that location. A user may therefore select to transfer a data file, which in this example is a DVD video file to the cellular phone **10**. The user may therefore select, via the keypad **14** of the phone **10** to transfer a DVD file from the data file archive **20** for watching a movie. The user may be provided with the possibility to browse the content of the data file archive **20** via a wireless connection in the local network  $N_1$  between the data file server **18** and the phone **10** using the second and fourth radio communication units **23** and **34**. The file selection is received by the control unit **24**, which therefore sends a request for transfer of the selected content, i.e., data file, to the archive control unit **22** of the server **18** over a connection via the fourth and second radio communication units **34** and **23** (FIG. 4, block **40**). This request is thus sent locally. The request may be received by the archive control unit **22** of the server **18** (FIG. 6, block **62**).

**[0059]** Upon the reception of this request, the archive control unit **22** first retrieves an identifier of the server **18** associated with the wide area network  $N_2$  as well as associated with the data file, which identifier in this embodiment is a uniform resource locator (URL) that enables the finding of an IP address of the server **18** in the network. The URL is here a podcast type link to the coded content, i.e., to the DVD file. The identifier in the form of the URL is then sent to the control unit **24** of the phone **10** over the local network  $N_1$ , (block **64**), which URL is thus received by the phone control unit **24** (block **42**). The archive control unit **22** also sends authentication data, for instance in the form of encryption and decryption keys (block **66**), which authentication data is received by the phone control unit **24** also over the local network  $N_1$  (block **44**). Once this has been done, file transfer is now possible. The archive control unit **22** fetches the DVD file from data file archive **20** and forwards it to the code changing unit **19**. The archive control unit **22** then orders the code changing unit **19** to change code, whereupon the code changing unit **19** changes the coding of the file and in this embodiment compresses the file (block **68**). This may, for instance, be done in order to fit the file to the limited size of the display **12** in the phone **10**. It is also possible to use other types of compression. Thereafter the archive control unit **22** starts transferring the compressed file to the phone control unit **24** over the local network  $N_1$  (block **70**), which control unit **24** thereby starts receiving the compressed file (block **46**).

**[0060]** As the transfer is being made the archive control unit **22** checks if the phone **10** has received all the content, i.e., the whole DVD file (block **72**), and if it has, the method is ended (block **74**). Also the phone control unit **24** checks if the whole content has been received (block **48**), and if it has, the method is ended also by the phone **10** (block **50**). If not all content has been received by the phone (block **72**), the archive control unit **22** investigates if the local connection has been lost (block **76**). If the local connection has not been lost, the archive control unit **22** investigates the failure

(block 78). In addition, the phone control unit 24 investigates if the local connection has been lost (block 52), in case all content has not been received, (block 48). If the local connection has not been lost (block 52), the phone control unit 24 may also investigate the failure (block 54), for instance through querying the archive control unit 22.

**[0061]** In case the local connection has been lost (blocks 52 and 76), which may be due to the fact that the phone 10 has moved out of the coverage of the local network  $N_1$ , the archive control unit 22 disrupts the transfer of the file (block 80), and determines a position in the file or a portion of the file that it knows that the phone 10 has received. Thereafter, it awaits the phone 10 once again connecting to it. The phone control unit 24, on the other hand, now sends a request for continued transfer to the data file server 18 over the wide area network  $N_2$  using the third communication unit 30 (block 56). The phone control unit 24 may accomplish this through locating an IP-address of the server 18 associated with the URL it received. This address of the server 18 is typically obtained via a name lookup in a domain name system (DNS) server using the URL. The URL also directly locates the data file. The archive control unit 22 of the server 18 receives this request via the first communication unit 21 (block 82). Now the archive control unit 22 signals the phone control unit 24 to perform authentication. The phone control unit 24 now authenticates the user (block 58). This may be accomplished by using the authentication data it received when communicating in the local network  $N_1$ . The archive control unit 22 receives this authentication data and checks if it is the correct authentication data (block 84), and if the phone passes this check it continues transferring the DVD file to the phone control unit 24 (block 86). Here it continues transferring from the point it previously determined. In this manner, the transfer of the file is continued as a podcast to the phone 10. The phone control unit 24 thus continues receiving the file over the wide area network  $N_2$ . When the whole file has been received, the phone control unit 24 stores it in the file store 28 and thereafter the user may now watch the DVD at his/her phone 10 via the DVD player 26.

**[0062]** It should here be realized that instead of transferring a file, a file may be streamed to the phone 10. In this case, change of coding may be performed through transcoding. It is also possible that no change of coding is performed. That is, it may not be needed because the file already has a suitable coding. In the case of transferring a file, a change of coding may also be made after the actual transfer has been made to the phone. The local connection may be provided using the system connector 17 and a cable, for instance, connected to a USB port of the server 18, as well as via Bluetooth™ or IR links. It should also be realized that both the phone and archive control units may keep checking if it is possible to communicate over the local network after connection has been lost the first time. Either of them may then decide to resume communication over the local network when it is again possible. Normally, however, the decision is made in the phone 10.

**[0063]** In this way, the invention allows the continued transfer or streaming of files when a local connection is lost. Transfer or streaming is often slowed down because of a required change of coding. This means that a portable communication device that is to receive such a file may lose all local connections, for instance, if it moves out of the local network. The present invention therefore ensures that the

content is continued to be transferred or streamed in case the local connection is lost. It is furthermore provided in a simple and user friendly way without the user having to get involved (e.g., in an automatic manner). Because of the authentication being made, the user is furthermore safeguarded from the wrong people getting hold of the content.

**[0064]** The control unit 24 and data processing unit 26 in the phone 10 according to the present invention are preferably provided in the form of one or more processors with corresponding memory containing the program code for performing the functions of these units, whereas the local storage is provided as a memory module or a part of a memory module, which may be a RAM, ROM, a flash memory or a memory stick. Normally the radio communication units are provided as separate hardware modules, for instance in the form of application specific integrated circuits (ASICs). They may however be combined in the same module. The different hardware units of the phone 10 may furthermore be connected using a data bus.

**[0065]** In the server 18, the archive control unit 22 and code changing unit 19 may likewise be implemented through the use of one or more processors with one or more corresponding memories comprising program code for performing their functions. The archive may be provided as one or more memory modules, for instance in form of hard discs and may furthermore be distributed throughout the local network. The radio communication units may here also be provided in the form of ASIC circuits.

**[0066]** The program code mentioned above can also be provided on one or more computer program products such as a CD ROM disc 88 as depicted in FIG. 6, which will perform the invention when loaded into a phone having suitable processing capabilities or when loaded into the server. Naturally other types of products can be provided for this, such as, for instance, a removable memory such as a memory stick, or another computer readable medium. The computer program product can also be provided as software, which is downloaded remotely from a server either outside or inside the cellular network or be downloaded via a computer like a PC to which the phone is temporarily connected.

**[0067]** There are a number of further variations that can be made to the present invention in addition to those already mentioned. The local network may include only the server 18 and the phone 10. It is thus also possible that the phone 10 communicates directly with the server 18. The local network may also include several other devices. The server 18 may furthermore be provided in a DVD player, a stereo or other such device. The radio communication units of the local network may be provided in each device, such as in the server 18, but the server 18 may just as well have a link to a radio communication unit provided as a separate entity in the local network. The same is also true for the code changing unit 19. The server 18 may thus have a link to a code changing unit provided as a separate entity in the network. It is also possible that the data file archive 20 is provided as an entity that is separate from the archive control unit 22.

**[0068]** Although the present invention has been described in connection with specific embodiments, it is not intended to be limited to the specific form set forth herein. Rather, the scope of the present invention is limited only by the accompanying claims and their equivalents.

What is claimed is:

1. A method of transferring or streaming at least one data file to a portable communication device from a data file server in a local network, comprising:

receiving a request for transfer or streaming of at least one data file from the portable communication device in the local network;

providing the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network; and

transferring or streaming the data file over the local network to the portable communication device via a local connection.

2. The method according to claim 1, further comprising: determining that a local connection no longer exists;

receiving a request, via a wide area network, for continued transfer or streaming of the data file over the wide area network; and

continuing the transfer or streaming of the data file over the wide area network.

3. The method according to claim 2, further comprising: determining that a local connection once again exists;

disrupting the transferring or streaming of the data file over the wide area network; and

resuming transfer or streaming of the data file over the local network.

4. The method according to claim 2, wherein the identifying data comprises authentication data, the method further comprising:

receiving authentication data together with the request for continued transfer or streaming;

determining if the correct authentication data has been provided; and

continuing the transfer if the authentication data is correct.

5. The method according to claim 2, further comprising: determining a point in the data file after which continued transfer or streaming is to begin; and

continuing transfer or streaming from the point.

6. The method according to claim 1, further comprising: changing the coding of the file before transfer or streaming.

7. A data file server in a local network, comprising:

an archive control unit controlling a data file archive and configured to:

receive a request for transfer or streaming of at least one data file from a portable communication device in the local network,

provide the portable communication device with identifying data comprising an identifier allowing the data file to be located on the data file server via a wide area network, and

transfer or stream the data file over the local network to the portable communication device via a local connection.

8. The data file server according to claim 7, wherein the archive control unit is further configured to:

determine that a local connection no longer exists,

disrupt the transfer or streaming,

receive a request, via a wide area network, for continued transfer or streaming of the data file over the wide area network, and

continue the transfer or streaming of the data file over the wide area network.

9. The data file server according to claim 8, wherein the archive control unit is further configured to:

determine that a local connection once again exists,

disrupt the transferring or streaming over the wide area network, and

resuming transfer or streaming over the local network.

10. The data file server according to claim 8, wherein the identifying data comprises authentication data and the archive control unit is further configured to:

receive authentication data together with the request for continued transfer or streaming,

determine if the received authentication data is correct, and

continue the transfer if the authentication data is correct.

11. The data file server according to claim 10, wherein the archive control unit is further configured to:

determine a point in the data file after which continued transfer or streaming is to be made, and

continue transfer or streaming from the point.

12. The data file server according to claim 8, wherein the archive control unit is further configured to:

determine a point in the data file after which continued transfer or streaming is to be made, and

continue transfer or streaming from this point.

13. The data file server according to claim 7, wherein the archive control unit is further configured to:

at least order the changing of the coding of the data file before transfer or streaming.

14. A data file server in a local network, comprising:

means for receiving a request for transfer or streaming of at least one data file from a portable communication device in the local network;

means for providing the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network; and

means for transferring or streaming the file over the local network to the portable communication device while a local connection exists.

15. A computer program product for transferring or streaming at least one data file to a portable communication device from a data file server in a local network, comprising computer program code configured to make the data file server perform, when said program code is loaded in the data file server, a method comprising:

receiving a request for transfer or streaming of at least one data file from the portable communication device in the local network;

providing the portable communication device with identifying data comprising an identifier allowing the data file to be located on the server via a wide area network; and

transferring or streaming the file over the local network to the portable communication device as long as a local connection exists,

16. A method of receiving in a portable communication device at least one transferred or streamed data file from a data file server in a local network, comprising:

sending a request for transfer or streaming of at least one data file to the data file server via the local network;

receiving identifying data comprising an identifier allowing the data file to be located on the server via a wide area network; and

- receiving the file or stream over the local network via a local connection.
- 17.** The method according to claim **16**, further comprising:
- determining that a local connection no longer exists;
  - sending a request, via a wide area network, for continued transfer or streaming over the wide area network using said identifier; and
  - continuing receiving the file or stream over the wide area network.
- 18.** The method according to claim **17**, further comprising:
- determining that a local connection once again exists;
  - sending a request for resumed transfer or streaming over the local network; and
  - resuming receiving the file or stream over the local network.
- 19.** The method according to claim **17**, wherein the identifying data comprises authentication data, the method further comprising:
- sending authentication data together with the request for continued transfer or streaming, for safeguarding the transfer to a correct recipient.
- 20.** The method according to claim **16**, wherein the coding of the file has been changed before being received.
- 21.** A portable communication device comprising:
- at least one communication unit for communicating in a local network and a wide area network; and
  - a control unit configured to
    - send a request for transfer or streaming of at least one data file to the data file server via the local network,
    - receive identifying data comprising an identifier allowing the data file to be located on the server via a wide area network, and
    - receive the file or stream over the local network provided a local connection exists.
- 22.** The portable communication device according to claim **21**, wherein the control unit is further configured to:
- determine that a local connection no longer exists,
  - send a request, via the wide area network, for continued transfer or streaming over the wide area network using said identifier, and
  - continue receiving the file or stream over the wide area network.
- 23.** The portable communication device according to claim **22**, wherein the control unit is further configured to:
- determine that a local connection once again exists,
  - send a request for resumed transfer or streaming over the local network, and
  - resume receiving the file or stream over the local network.
- 24.** The portable communication device according to claim **22**, wherein the identifying data comprises authentication data and the control unit is further configured to:
- send authentication data together with the request for continued transfer or streaming, for safeguarding the transfer to the right recipient.
- 25.** The portable communication device according to claim **21**, wherein the coding of the file has been changed before being received.
- 26.** The portable communication device according to claim **21**, wherein the portable communication device comprises a cellular phone.
- 27.** A portable communication device comprising:
- means for sending a request for transfer or streaming of at least one data file to a data file server via a local network;
  - means for receiving identifying data comprising an identifier allowing the data file to be located on the data file server via a wide area network; and
  - means for receiving the data file or stream over the local network provided that a local connection exists.
- 28.** A computer program product for receiving in a portable communication device at least one transferred or streamed data file from a data file server in a local network comprising: computer program code, configured to make the portable communication device execute, when said program code is loaded in the portable communication device, a method comprising:
- sending a request for transfer or streaming of at least one data file to the data file server via the local network;
  - receiving identifying data comprising an identifier allowing the data file to be located on the data file server via a wide area network; and
  - receiving the file or stream over the local network as long as a local connection exists.
- 29.** A system for transferring or streaming at least one data file to a portable communication device from a data file server in a local network, the system comprising:
- at least one radio communication unit;
  - at least one data file archive;
  - a data file server comprising:
    - an archive control unit controlling the data file archive and configured to:
      - receive a request for transfer or streaming of at least one data file from the portable communication device in the local network,
      - provide the portable communication device with identifying data comprising an identifier allowing the data file to be located on the data file server via a wide area network, and
      - transfer or stream the data file over the local network to the portable communication device provided that a local connection exists; and
  - a portable communication device comprising:
    - at least one communication unit for communicating in a local network and a wide area network, and
    - a control unit configured to:
      - send said request for transfer or streaming,
      - receive said identifying data, and
      - receive said data file or stream over the local network provided that the local connection exists.

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