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(71) **Applicant (for all designated States except US):** **INTELL-PROP LIMITED**; P.O. Box 626, National Westminster House, Le Truchot, St Peter Port, Guernsey GY1 4PW (GB).

(72) **Inventor; and**

(75) **Inventor/Applicant (for US only):** **WILSON, Jeffrey** [GB/GB]; 53 Kiln Road, Fareham, Hampshire PO16 7OH (GB).

(74) **Agent: FRANK B. DEHN & CO.;** St Bride's House, 10 Salisbury Square, London EC4Y 8JD (GB).

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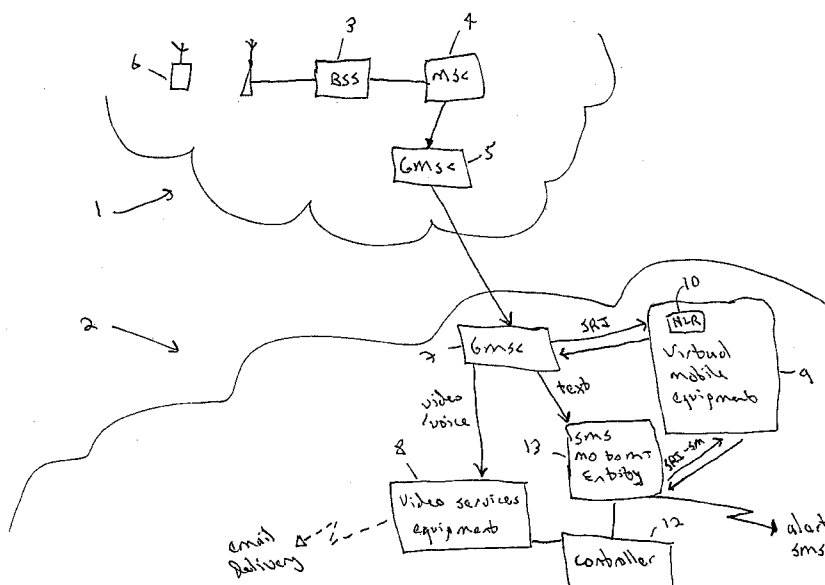
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- (54) Title:** RECORDING OF VIDEO PHONE CALLS AND MESSAGES



- (57) Abstract:** A communications network (2) includes means for recording the calling side of a video call in the form of video services equipment (8). The video services equipment (8) has associated with it a pool of virtual mobile numbers that a caller may dial in order to connect to the video services equipment (8) for the purpose of recording a video call. Once a video call has been recorded and stored, a controller (12) sends a text message to the indicated intended recipient for the call to alert the intended recipient that a video message has been recorded for them. The message recipient is provided with a virtual mobile number that the message recipient can dial to connect to the video services equipment (8) to retrieve the recorded message.

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RECORDING OF VIDEO PHONE CALLS AND MESSAGES

5 The present invention relates to apparatus and methods for telecommunication services, and in particular to services in relation to video calls.

 The use of telecommunications terminals with the ability to make video calls is increasing, both in mobile
10 and fixed-line communications systems. Thus there are increasing numbers of users with the ability to make and wishing to make video calls.

 However, the Applicants have recognised that notwithstanding this, a user with a video phone may find
15 themselves wishing to make a video call to a user without a video phone. It could also be the case that the intended call recipient is unable or unwilling at the time to receive a video call, or that the sender may wish to make a video call to a recipient but without
20 disturbing the recipient or requiring the recipient to respond.

 While it would be possible in such circumstances for, e.g., the video call simply to fail or to not proceed (and for the caller, e.g., to be advised to try
25 later), the Applicants believe that other and potentially more flexible arrangements would be desirable.

 According to a first aspect of the present invention, there is provided a telecommunications system comprising:

30 one or more communications terminals that are capable of making video calls; and

 a communications network infrastructure comprising means for, when a video call is made, recording the calling side of the call for provision to an intended
35 recipient.

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According to a second aspect of the present invention, there is provided a communications network infrastructure, in which a video call from a communications terminal using the network can be made,
5 the network infrastructure comprising:

means for, when a video call is made, recording the calling side of the call for provision to an intended recipient.

According to a third aspect of the present invention, there is provided a method of operating a
10 communications system in which users can make video calls, the method comprising:

when a user makes a video call, recording the calling side of the call in the communications network,
15 whereby it may be provided to an intended recipient.

In the present invention, the calling side of a video call may be recorded in the communications network, for provision to an intended recipient (e.g. a party to be called). In other words, the system can, in effect,
20 record a video message from the caller, e.g. for later provision to an intended recipient. This will allow, for example, a caller wishing to make a video call to a recipient to leave a video message if, for example, the called recipient is unable to take the video call at the
25 time or the caller does not wish to disturb the recipient with a two-way video call.

As will be discussed below, the present invention is also particularly applicable to situations where the recipient does not have a videophone, or does, but would
30 like to receive and collect video messages when his or her video phone is unavailable (e.g. out of range) or when he or she prefers not to use his or her video phone (e.g. for cost reasons).

Thus the present invention can enhance and extend
35 the services and facilities that may be provided to users wishing to make video calls, and, moreover, as will be

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explained further below, can do so in particularly convenient and easy-to-use fashions.

As will be appreciated by those skilled in the art, a video "call" as referred to herein is intended to encompass both unidirectional and bidirectional (and multidirectional) communication, although the calls will typically, as is known in the art, be bidirectional calls. In all cases, as discussed herein, it may be only (and in a preferred embodiment is only) one side (the calling side) of the call that is recorded in the manner of the present invention.

The video call (the calling side of the call) can be recorded on the network in any suitable manner. It is preferably recorded in real-time, i.e. as the call is being made. In this arrangement, the communications terminal will, in effect, and preferably does, transmit the calling side of the video call in a normal fashion to the network (to the recording means on the network), with the call then being recorded on the network. To this end, the recording means on the network should and preferably does comprise, e.g., suitable means that can record a live video call in real-time. It accordingly preferably comprises means that can receive an IP (Internet Protocol) connection, and receive and decode packet data calls and record them.

At least the calling side of the video call should be recorded on the network. However, in a preferred embodiment, the audio signal for the other (non-calling direction) can be and preferably is recorded as well. Thus, in one preferred embodiment the audio signal from both sides of the call is recorded (summed). This would allow the recorded call to also playback the content of, e.g., any outgoing announcements, beeps, etc., broadcast to the caller as the call is recorded.

The recording means on the network can preferably act as a suitable video call "termination", i.e. so that

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the caller's terminal can operate as though a "normal" video call is being made (and will stay connected to the call). Thus the recording means can preferably, e.g., generate and send a suitable return signal to the calling
5 terminal, e.g. so that the call is, in effect, a suitable bidirectional call so far as the calling terminal is concerned. The recording means can accordingly preferably transmit a suitable return video signal to the calling terminal, e.g. to prevent screen artefacts and
10 provide a suitable display at the calling terminal. This video signal preferably displays instructions and/or information relating to the video call recording process.

In a particularly preferred embodiment, the recorded call is stored on the network, e.g., and preferably, such
15 that it can be later delivered to and/or retrieved by the intended recipient. Thus, in a particularly preferred embodiment the network comprises means for (or a step of) recording the calling side of the video call, and storing the recorded call. The call could be stored concurrently
20 as it is recorded, or thereafter.

In a preferred embodiment, the video call recording means and storing means (where provided) is provided on a common platform or equipment of the network, such as a video services equipment. There may be a single such
25 equipment or plural such units in the system. It would also, e.g., be possible for a distributed arrangement to be used, e.g., with the recording and storing of the call taking place at different network nodes.

The video call may be recorded and stored in any
30 suitable format, such as using known formats and standards for the recording and storage of video data. It is preferably stored in a compressed format, so as to provide more efficient storage.

As will be appreciated by those skilled in the art,
35 not all video calls will need to be or be wanted to be recorded in the manner of the present invention. For

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example, where a video call is made to a recipient who is able and willing to receive the call, the call could proceed normally as a two-way video call, without any storage of the call in the manner of the present invention. Thus it should be understood that the present invention need not take effect for and does not take effect for all video calls that are made, but can be and preferably is selectively activated for a video call, e.g., depending on the circumstances of the call, such as the caller's and/or recipient's circumstances and preferences.

Thus, in a particularly preferred embodiment of the present invention, a video call may be selectively recorded for provision to the intended recipient. In such an arrangement, the recording of the video call can preferably be selected (and instigated) by the caller and/or by the called party, and preferably by either the caller or the called party. For example, a user can preferably set their terminal such that all incoming video calls are to be recorded, rather than connected as two-way video calls. Similarly, a calling party can preferably select for their call to be recorded, rather than it being immediately connected to the intended recipient (e.g. the called party).

Thus, in a particularly preferred embodiment, a user receiving a video call can selectively receive the call, and/or have the call recorded (and stored) in the manner of the present invention. The user can preferably, e.g., set their terminal such that all received video calls are to be recorded (until the user changes their settings). Most preferably a user is also or instead able to choose to record or take a video call as a call is received, e.g. on a call-by-call basis. In a preferred embodiment, a user can select to receive the video call and to also have it recorded (and stored). This may be desirable

where, e.g., a user wishes to maintain an archive (store) of video calls that they have received.

Similarly, in a particularly preferred embodiment, a caller (calling party) can choose for their video call to
5 be recorded in the manner of the present invention in the first place, rather than for it to be attempted to be connected to the called party's (intended recipient's) terminal. This would allow the caller to send and record a video message for the called party, irrespective of the
10 called party's current preferences or abilities to take a video call.

It is also preferably possible for a video call to be recorded automatically, for example if it is not answered, and/or dependent on network conditions, etc..
15 Thus, in a preferred embodiment the communications system (network) is able to selectively cause a video call to be recorded (and stored), e.g. and preferably irrespective of the calling and called parties' preferences. For example, if the call cannot be connected, e.g. because
20 the called party is unavailable or unable to take the call, the call is not answered, or because of network conditions, then the network is preferably operable to record and store the call in the manner of the present invention.

It will be appreciated here that where a called party or system operation causes the video call to be recorded, then that may override the caller's desire to place a two-way video call to the called party. It is therefore preferred that where the called party or system
30 operation is to cause a video call to be recorded, the caller is advised of this and given the option of whether to proceed or not (whether to record the call or not), e.g. by means of appropriate announcements or messages.

The selective storing of a video call in the manner
35 of the present invention is preferably achieved by selectively connecting the call to the recording (and

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storage) means in the network. As discussed above, this can preferably be done at the behest of the caller, the intended recipient (called party), and/or of the system itself. It should be noted here that accordingly, where
5 a video call is to be recorded in the manner of the present invention, the call may not be, and in a preferred embodiment preferably is not, also connected to the communications terminal of the called party for a live two-way call. (However, as discussed above, in one
10 preferred embodiment a two-way call will still be connected to the recipient in addition the video call being recorded.)

(As will be appreciated by those skilled in the art, references herein to connecting or attempting to connect
15 the video call to a user and/or the recording means on the network, etc., are intended, unless the context otherwise requires, to refer to the system directing the call to the appropriate terminal (end point) and do not necessarily require a successful call connection to
20 ultimately be established.)

Thus, in a preferred embodiment a user can indicate and set whether video calls that are directed to them should be attempted to be connected to their communications terminal or should be attempted to be
25 connected to (should be diverted to) the recording (and storage) means on the network, or should be connected to both the called party's (intended recipient's) terminal and the recording and storage means on the network, with the system then directing the call accordingly. As
30 discussed above, a user can preferably do this on a call-by-call basis, or can set this for all video calls (until the setting is changed by the user).

Equally, as discussed above, the system or network itself can preferably, e.g. in accordance with one or
35 more, preferably predefined, criteria, attempt to connect

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a video call (divert a video call). to the recording (and storage) means on the network.

In the case where the video call is to be recorded at the behest of the receiving party (e.g. because they
5 have set incoming video calls to be diverted to or copied to the recording facility), then the diversion of the call and the connection to the recording (and storing) means can be set up and achieved in any suitable manner. For example, this could work in a similar manner to
10 existing voice mail systems for voice messages.

Similarly, in the case where the communications system infrastructure system operates to automatically cause a video call to be recorded, then the diversion and connection of the call could again proceed in a
15 predefined manner in the communications system.

It will be appreciated that in these arrangements, the video call will typically be diverted from its original destination (e.g. the called party) to the recording means on the network. The system is
20 accordingly preferably operable to ensure that suitable synchronisation of the video signal is maintained following the call transfer (diversion), as is known in the art.

For example, in these arrangements, the calling
25 (sending) device is preferably instructed to transmit a "start" picture frame immediately after the call transfer (diversion). This will help to maintain synchronisation. (As is known in the art, for video playback to commence mid-stream, a "start" frame is needed by the receiver
30 (unlike an audio signal where playback can start from any point).)

Similarly, the switch or other means that causes the call transfer is preferably operable to maintain synchronisation independently with the calling terminal
35 and the destination terminal (e.g. recording means) it is switching the call to. This could be done in any

suitable manner, e.g., by the network or switch itself decoding and re-encoding the video signal as it passes it on, as is known in the art.

In a particularly preferred embodiment, a calling
5 party making a video call can, as discussed above,
(selectively) indicate (to the system) whether the call
should be attempted to be connected to the called party's
(intended recipient's) communications terminal or should
be attempted to be connected to the recording (and
10 storage) means in the network, with the system then
attempting to connect the call accordingly. In other
words, a calling party can preferably, in effect, attempt
to connect directly to (place their call directly to) the
recording means on the network, in order, e.g., to record
15 their call, without first attempting to connect to the
intended recipient at all.

(As will be appreciated by those skilled in the art,
references here to "direct" connection to the recording
means on the network are intended to refer to the call
20 being placed or connected to the recording means in the
first place (which may still be via, e.g., various
switches, routers, etc., in the network), in contrast to
a call which may initially be placed elsewhere (e.g. to
the intended recipient) and then diverted or transferred
25 to the recording means.)

It is believed that this arrangement is particularly
advantageous, since it allows, e.g., a calling party to
deliberately select to record their video call for
provision to the recipient, i.e. facilitates the
30 recording of the video call being at the sender's
(caller's) behest. This will allow the caller to, e.g.,
send a video message to a recipient who does not have a
video-call capable terminal, and/or to send a video
message to a recipient (whether they have a video-call
35 enabled terminal or not) without (first) disturbing the
recipient with the call.

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It is accordingly believed that these arrangements are new and advantageous in their own right.

Thus, according to a fourth aspect of the present invention, there is provided a telecommunications system
5 comprising:

one or more communications terminals that are capable of making video calls;

a communications network infrastructure comprising means for recording the calling side of a video call; and

10 means for allowing a caller making a video call to make the video call to the video call recording means on the network infrastructure.

According to a fifth aspect of the present invention, there is provided a communications network
15 infrastructure, in which a video call can be made by a communications terminal using the network, the network infrastructure comprising:

means for recording the calling side of a video call; and

20 means for allowing a caller making a video call to make the video call to the video call recording means on the network infrastructure.

According to a sixth aspect of the present invention, there is provided a method of operating a
25 communications system in which users can make video calls, the method comprising:

a user making a video call indicating to the communications system that the call should be attempted to be connected to a video call recording means in the
30 communications network; and

the communications system in response to such an indication, attempting to connect the video call to the video call recording means of the network.

As will be appreciated by those skilled in the art,
35 these aspects and embodiments of the invention can and preferably do include any one or more or all of the

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preferred and optional features of the invention described herein, as appropriate.

In these arrangements where the caller can make their video call to the recording means in the first place, this can be achieved and the user can indicate their desire to do this, in any suitable and desired manner. For example, the caller could, e.g., first send a message, or include with their call a message, indicating this fact, in response to which the system would operate to connect the video call to the recording and storage means, rather than trying to connect it to the called party.

However, in a particularly preferred embodiment, the arrangement is such that the caller can dial a call directly to the recording (and storage) means, when he or she wishes to do so. This is preferably achieved by the system having one or more phone numbers and/or codes that can be used to direct a video call to the recording (and storage) means (i.e. such that, in effect, the caller can dial the respective code or number for the video recording means and thereby be connected to the video call recording means to make the video call (to leave the video message)).

In this arrangement, the code or number for calling the video call recording (and storage) means could comprise, e.g., a suitable short code for on-network use (which may, e.g., and preferably, either be followed by entry of the identity of the intended recipient (e.g. after the call is answered), or may be, e.g., sent as a prefix to the identity of the intended recipient (e.g. the recipient's number)).

In a particularly preferred embodiment the number or numbers for calling the video call recording means comprise a virtual mobile number (address) or numbers, since that will then allow, as is known in the art, access to the video recording (and storage) means from

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any network and not just in its home network. (As is known in the art, "virtual mobile" provides a home location register function for a virtual telephone number, i.e. a number that may be associated with, e.g.,
5 host equipment, such as video call recording and storage means, on a network, rather than a real physical mobile communications terminal. By arranging for a home location register (HLR) function to respond to queries relating to virtual mobile numbers by returning the
10 address of a network node designated for handling the desired virtual mobile function, connection to the virtual mobile function network node is made possible from any network.)

Thus, in a particularly preferred embodiment, the
15 video call recording (and storage) means on the network can be and is associated with one or more virtual mobile numbers, and/or short codes which a calling party can then use to connect to the recording means, e.g., to record a video message for another user. In effect, the
20 caller would make a video call to a virtual mobile number or short code associated with the video call recording and storage means, so as to connect thereto.

In these arrangements, there may, e.g., be a single short code or virtual mobile number that is to be used
25 for the recording and storage means. In this case all callers wishing to record a video call would dial that number or short code. However, in a particularly preferred embodiment, there is more than one short code and/or virtual mobile number, such as (and preferably) a
30 pool of plural virtual mobile numbers and/or short codes, that may be used for this purpose.

Where plural virtual mobile numbers and/or short codes are associated with the video call recording means, users of the system can preferably have allocated to them
35 one or more of these short codes and/or virtual mobile

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numbers that when dialled will connect the video call to the recording means.

Thus, in a particularly preferred embodiment, there are one or more general numbers and/or short codes that
5 can be called to connect to the video call recording means, together with one or more short codes and/or virtual mobile numbers that may be (and preferably are) allocated to particular users for the purpose of calling the video call recording means.

10 In a particularly preferred embodiment, one or more of the virtual mobile numbers and/or short codes that can be called to connect to the video call recording and storage means may be, and preferably are, associated with particular users of the communications system. Most
15 preferably in these arrangements, a user can be associated with a virtual mobile number or short code as a calling party and/or as a called party (intended call recipient).

In a particularly preferred such embodiment, users
20 can be associated with a virtual mobile number and/or short code as a called party (intended call recipient) for that virtual mobile number or short code. This would then allow, e.g., a video call to be recorded for the user associated with the virtual mobile number and/or
25 short code, etc., simply by dialling the virtual mobile number or short code with which the user is associated as a call recipient (called party).

Thus, in a particularly preferred embodiment the system stores a set of short codes and/or virtual mobile
30 numbers that are associated with the video call recording means in association with the identity of intended call recipients for video calls made to those short codes and/or virtual mobile numbers. Most preferably (as will be discussed below) the short codes and/or virtual mobile
35 numbers are also stored in association with a caller identity.

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In these arrangements, each, e.g., intended recipient user could be allocated a different, unique short code or virtual mobile number. In this case, there would, in effect, be a set of virtual mobile numbers and/or short codes that is common to (used by) all users. However, this may require a significant number capacity, depending on how many users are involved.

Thus, in a preferred embodiment, the same short code and/or virtual mobile number can be used (at the same time) for different called (intended recipient) parties. This could be achieved by, and preferably is achieved by, e.g., associating the relevant virtual mobile number or short code with the caller's identity (e.g. CLI (calling line identity)), as well as with the intended recipient's identity. This would then allow the same virtual mobile number or short code to have different meanings (i.e. to identify different intended recipients) for different callers, such that the same virtual mobile number or short code could be used by different callers to record video calls for different intended recipients. In this case each calling user would, in effect, use the same set of virtual mobile numbers and/or short codes, but those short codes and/or virtual mobile numbers would be allocated independently (e.g. to different intended recipients) for each caller and the meaning of the short codes and/or virtual mobile numbers (i.e. the identity of the intended recipient) would depend also on the caller's identity.

In these arrangements, a user of the system can preferably set up (have allocated to them) a virtual mobile number and/or short code that the user will then be associated with as the intended recipient for video calls directed to that virtual mobile number and/or short code. This will allow a user to set up for themselves a virtual mobile number or short code that third parties can call to record video calls (messages) for that user.

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Thus, in a preferred embodiment, a user can set up for themselves a virtual mobile number or short code that third parties can call to record video calls (messages) for that user. Third parties can then simply make a
5 video call to the virtual mobile number set up by the user for this purpose to leave video messages for the user in question.

Setting up a virtual mobile number or short code for a user in this manner can be done in any suitable and
10 desired manner.

For example, a user could request the allocation of a virtual mobile number or short code for this purpose from the communications system, e.g., via a short message (e.g. SMS) messaging arrangement or by calling an
15 operator or via a web-based interface, and then be provisioned with (allocated) a virtual mobile number or short code accordingly. Thus, in a preferred embodiment, a user can request allocation to himself or herself of a short code or virtual mobile number to be used to direct
20 video calls for that user to the video call recording means.

In these arrangements, a user who has set up a virtual mobile number or short code for other callers to use to record video calls for that user can preferably
25 also set up a video and/or audio prompt that callers to the virtual number or short code will receive. This could be done, e.g., by the user making a video (or audio) call to an appropriate number (e.g. a virtual mobile number set up for this purpose) to record their
30 prompt, and/or by the user sending an email with a video or audio file attachment to an email address designated for this purpose.

In a particularly preferred embodiment, it is also or instead (and most preferably also) possible for a user
35 to set up (have allocated to them) a virtual mobile number and/or short code that they can use to make a

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video call to (to cause a video call to be connected to) the video call recording (and storage) means. This would then allow the user themselves to make a video call directly to the video call recording means, e.g. when
5 they wish to record a video message, rather than place a two-way video call.

Again, in this arrangement, the allocation of a short code or virtual mobile number to a user for this purpose can be done in any suitable and desired manner.

10 For example, a user could, as discussed above, request the allocation of a virtual mobile number or short code for this purpose from the communications system, e.g., via a short message (e.g. SMS) messaging arrangement or by calling an operator or over the
15 Internet, and then be provisioned with (allocated) a number or short code accordingly. Thus, a user can preferably request allocation to himself or herself of a short code or virtual mobile number to be used to direct video calls made by that user to the video call recording
20 means.

In a particularly preferred embodiment of these arrangements of the invention, a user can associate a virtual mobile number and/or short code allocated to the user for connecting to the video call recording means
25 with (the identity of) an intended recipient (e.g. the intended recipient's number or email address) for video calls made using that number or short code. This would then allow, e.g., the user to of their own volition place a video call to the recording (and storage) means for a
30 particular intended recipient (called party), without, e.g., the caller needing to know the intended recipient's "video call recording" number and even if the party to be called does not have an allocated or known "video call recording" number. Thus, in a particularly preferred
35 embodiment, a user (the caller (sender)) can associate a virtual mobile number for video call recording with a

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third party user of the system (i.e. an intended given recipient for the call) (and then, e.g. store the number in their (the caller's) phonebook, e.g. on their terminal) for use to record video calls for that
5 recipient.

In these embodiments of the present invention, a user can associate an intended recipient with a virtual mobile number or short code in any suitable and desired fashion. For example, by an appropriate exchange of
10 messages (e.g. SMS messages) with the communications system, a user could be allocated a virtual mobile number or short code for this purpose and inform the system of the intended recipient (e.g. phone number) that they wish to associate with the allocated virtual mobile number or
15 short code. Alternatively or additionally, a user could, e.g., call an operator or use an Internet-based system to request a short code or virtual mobile number and to associate it with the desired call recipient.

In these various arrangements, a given user can
20 preferably have allocated to them a plurality of virtual mobile numbers and/or short codes, and can, preferably, associate each such number or short code with a different intended recipient. As discussed above there is preferably a pool of plural virtual mobile numbers and/or
25 short codes that can each be used by plural different users.

Preferably the allocations and associations of the virtual mobile numbers and/or short codes can be queried and changed in use, e.g., upon request of a user. It is
30 also preferably possible for a user to be able to query the system, e.g. to ascertain how many virtual numbers they have available, and/or what virtual numbers they have associated with which third parties.

In these arrangements, a virtual mobile number
35 allocated to a given caller (user) is preferably also, as discussed above, associated with the identity of the

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caller (e.g. their calling line identity (CLI)), as well as with the identity of the intended recipient. This firstly allows, as discussed above, the same virtual numbers, etc., to be in use for different callers at the same time. The stored caller identity can also, e.g., when a call is made to the virtual mobile number, etc., be compared with the actual caller's identity to see that the caller to the virtual number is the expected (correct) caller.

As will be appreciated from the above, in a particularly preferred embodiment of the present invention, the recording (and storage) means has associated with it a plurality of virtual mobile numbers which may be used to connect a video call to the recording (and storage) means, and which virtual mobile numbers may all or in part be associated with particular users of the system, and, e.g., either allocated by a user to particular intended recipient, or taken by a user to allow third parties to record video calls to that user.

It will be appreciated that in these various arrangements, where the video call is connected to the video call recording (and storage) means, rather than another user of the system, it is still necessary for the system to be able to identify the intended (final) recipient for the video call.

When the video call is initially placed to the intended recipient but is then diverted for whatever reason to the video call recording means, the identity of the intended recipient can be and preferably is derived from the call that is originally made.

Similarly, where a call is placed to a short code or virtual mobile number for the recording means that is associated with or allocated to a particular intended recipient user, as discussed above, then the short code or virtual mobile number used (together with, e.g., the

caller's identity, where appropriate) will itself identify the intended recipient. Accordingly, in these arrangements, a recorded video call dialled to a particular short code or virtual mobile number having an associated intended recipient is preferably associated with the identity of the intended user with which the short code or virtual mobile number is associated, so as to identify the intended recipient of the (recorded) video call.

10 However, in the case of calls made, e.g., to a "general" virtual mobile number or short code for the recording means, that will not automatically identify the intended recipient, and so there is preferably some other technique provided for that purpose. Again, any
15 suitable, and, e.g., known, technique could be used for this. For example, the caller could in making and/or setting up the call indicate the identity of the intended recipient, e.g. in a message sent to the system, and/or by a post dialling entry. As discussed above, in the
20 case of short codes, for example, the intended recipient's number (identity) could be appended (e.g. suffixed) to the short code, or the recipient's number could be entered after the short code has been dialled. Similarly, when a common virtual mobile number is used,
25 the recipient's number could be entered after the virtual mobile number has been dialled. Alternatively or additionally, the system could itself prompt the caller to give the identity of the intended recipient.

 In a preferred embodiment, the recorded video calls
30 are associated with (e.g. stored in association with) a suitable identifier for the intended recipient (e.g. their number), as this will then facilitate provision of the recorded call to the intended recipient. This can be achieved in any suitable manner, such as by using
35 suitable techniques already known in the art.

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Associating a recorded call with the identity of the intended recipient can also be used, e.g., to check that the recording is being provided to the correct recipient. For example, if a caller dials-in to receive their video
5 messages, comparing the caller's identity (e.g. CLI) with the identity of the intended recipient associated with the recording can be used as a check that the recording (if identified by means other than the caller's identity) is for that recipient.

10 In a particularly preferred embodiment, a caller can indicate that a recorded video call is to be sent to a plurality of intended recipients. This would allow a caller to send a recorded video call to a group of plural recipients. This can be done, e.g., using the techniques
15 discussed above for associating intended recipients with video calls to be made.

Thus, the caller could, e.g., indicate by a messaging exchange with the system the group of recipients for the call. Additionally or alternatively,
20 where short codes or virtual mobile numbers are used, a given short code or virtual mobile number could be associated with plural intended recipients. Thus, in a particularly preferred embodiment, a virtual mobile number and/or short code used in the manner of the
25 present invention may be associated with plural different intended recipients (e.g. recipient phone numbers and/or email addresses, etc.).

In these arrangements, the recorded (and, e.g., stored) video call is accordingly preferably associated
30 with (e.g. stored in association with) the plural intended recipients for the call.

Once a video call has been recorded, then the intended recipient (or recipients) of the call is preferably alerted to that fact. Such alerts could,
35 e.g., be sent by way of a text message (e.g. an SMS message) or voice message to the intended recipient's

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communications terminal. Other forms of alert, such as by email would also or instead be possible. It is preferably possible for a user to set or configure the form of alerts that they will receive.

5 Thus, in a preferred embodiment, the system also comprises (e.g. the recording means also comprises or has associated with it) means for sending an alert to the intended recipient (or recipients) of the call, when a call has been recorded. The alert messages that are sent
10 preferably indicate the identity of the sender of the recorded video call.

Once a video call has been recorded, then it can preferably be stored for later retrieval by or delivery to the intended recipient (or recipients), and/or it can
15 be automatically delivered to the intended recipient (or recipients). This can be done in any suitable and desired manner.

An intended recipient can preferably retrieve and/or have delivered the stored call in a number of different
20 ways (e.g. once they have been alerted to the existence of a recorded call), and preferably can set up or configure the system to deliver the stored call in their preferred fashion, either on a call-by-call basis, or, for example, for all recorded calls (until the setting is
25 changed).

For example, if a recipient has a video call capable phone, they can preferably retrieve the stored call using their video phone. In a particularly preferred embodiment, a user can also or instead request to receive
30 only the stored audio of the call, for the call to be forwarded to another number, and/or for the stored call to be forwarded by email to a particular email address. These latter arrangements may be preferred where, e.g., the user does not have a video-call enabled terminal
35 available.

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Indeed, it is a particularly preferred embodiment of the present invention for the recorded video call to be provided or delivered to the intended recipient in a form other than as a video call, such as, for example, as
5 discussed above, via email. This is particularly advantageous because it can allow a user who does not have a video-call capable terminal, or who does not wish to use their video-call enabled terminal, still to receive the recorded video message. In these
10 arrangements, the alternative form that the recorded video call is provided in can comprise any suitable and desired such form. For example, the recorded call could be, and preferably is, provided as an email, as the audio part of the video call only, and/or as a text document
15 comprising the audio of the call (e.g. via email or text (e.g. SMS) message). In a particularly preferred arrangement the recorded video call is provided as an email (e.g. as a video attachment to an email).

Thus, in a particularly preferred embodiment, the
20 system infrastructure (and preferably the video call recording means) on the network) comprises means for or a step of providing the recorded video in an alternative format, and accordingly preferably comprises means for or a step of converting the video call to alternative
25 (delivery) format. Thus, the system preferably comprises means for or a step of converting the video call for email delivery, converting the video call to an audio only signal (extracting the audio signal from the video call), and/or converting the audio signal from the video
30 call to text, etc..

It is believed that these arrangements for allowing a video call to be delivered to an intended recipient in an alternative format are new and advantageous in their own right.

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Thus according to a seventh aspect of the present invention, there is provided a telecommunications system comprising:

one or more communications terminals that are
5 capable of making video calls; and
a communications network infrastructure comprising means for, when a video call is made, providing the calling side of the call in an alternative format for provision to an intended recipient.

10 According to an eighth aspect of the present invention, there is provided a communications network infrastructure, in which a video call can be made by a communications terminal using the network, the network infrastructure comprising:

15 means for, when a video call is made, providing the calling side of the call in an alternative format for provision to an intended recipient.

According to ninth aspect of the present invention, there is provided a method of operating a communications
20 system in which users can make video calls, the method comprising:

when a user makes a video call, providing the calling side of the call in an alternative format to an intended recipient.

25 As will be appreciated by those skilled in the art, these aspects of the invention may and preferably do include any one or more or all of the preferred and optional features of the invention described herein. Thus, for example, the video call is preferably recorded
30 on the network. Similarly, it is preferably provided in an alternative format by converting the call to an alternative format. The alternative format is preferably via email, or an audio signal only or as text, as discussed above.

35 In a preferred arrangement of these aspects and embodiments of the invention, a user can set up a default

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delivery arrangement for recorded video calls that are sent to them, for example for them to always be sent by email. This could be done, e.g., by associating (by the recipient associating) a virtual mobile number allocated to the user for the purpose of recording video calls with the desired delivery mechanism.

It is also preferred for a user also or instead to be able to select the call delivery mechanism in use. For example a user could send an appropriate message to the system to indicate their preferred delivery mechanism, for example as a reply (e.g. reply SMS message) to the recorded video call "alert" that they receive.

In a particularly preferred such embodiment, the alert that is sent to a user when there is a recorded video call for them is used to prompt the user to select their preferred delivery mechanism.

In a preferred embodiment, a or the recipient of a recorded video call can dial-in to (call) the recording means to retrieve the message (e.g. in a similar way to voice mail systems operate). This would be particularly suitable where, e.g., the user has a video-call capable phone. Thus, there could be, e.g., a common number or numbers that all parties can call to retrieve recorded video calls, with, e.g., the calling party's identity being used to retrieve the correct recorded call(s).

Additionally or alternatively, individual recipients could be allocated an individual number to call (e.g. a virtual mobile number or short code) to retrieve the message or their messages. In this case a user could either have a number to call for this purpose more permanently allocated to them (e.g. where they themselves have set up a virtual mobile number for receiving recording video calls and so might expect to receive such calls), or could be allocated a number temporarily, and on a dynamic basis, in use, with e.g. such numbers being

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allocated on a call-by-call basis. In the latter case in particular, the number to call to retrieve the recorded video call could, e.g., be and preferably is given in the alert message that is sent to the intended recipient to
5 advise them of the existence of the recorded video call.

In these arrangements, where a recorded video call is directed to a group of intended recipients, then in a preferred embodiment, each of the intended recipients is allocated the same call retrieval (access) number to dial
10 to retrieve the call, although other arrangements, such as to allocate each group member a different access number, would, of course, be possible.

The recorded video call "access" (retrieval) number or numbers in these arrangements can be allocated in any
15 suitable and desired manner. In a preferred embodiment, similar techniques to those discussed above for allocating numbers for recording video calls are used. Thus, there is preferably a pool of "access" numbers that the system can allocate to recorded video call recipients
20 for this purpose on a dynamic basis.

Similarly, the "access" numbers used in these arrangements may be any suitable such numbers, but are preferably virtual mobile numbers and/or short codes for connecting to the video call recording means, for the
25 reasons discussed above.

It is also accordingly preferred for these dial-in (access) numbers also to be associated with the call recipient's identity (e.g. CLI), so that the same (virtual mobile) access number may be used for different
30 recipients simultaneously, and, e.g., so that a check against the call recipient's identity can be made when the call recipient calls-in to retrieve the recorded video call.

Indeed, as discussed above, it is in general
35 preferred to store the intended recipient's identity (e.g. CLI) in association with a recorded video message,

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so that the recipient's identity can be checked when the recorded video call is being retrieved.

In these arrangements, the user can preferably dial in the number to retrieve the recorded video call using a voice or video call. If the user makes a video call to the number to retrieve their call, they can preferably, as they have a suitable video call capable phone, receive the recorded video call if they wish. This could be automatic, or the system could present the user with options as to how they wish to receive the call. Similarly, if the user makes a voice call to the access number, they can preferably receive the audio only (of the calling side or both sides of the recorded call) of the recorded video call, again either automatically or as an option presented to the user.

In a particularly preferred embodiment, when a user dials in (by video or voice) to retrieve their call, the user can, as discussed above, elect to receive only the audio of the recorded video call, and/or to have the recorded video call sent to another destination, such as to a different, selected phone number, as an email attachment to a selected email address, or as a text document (e.g. via email or SMS). Again, a user can preferably be presented with and activate these options via a message exchange when they receive the alert, and/or when they dial-in to retrieve the recorded video call.

It is also accordingly preferred for the system to, e.g., offer a caller retrieving a recorded video message options such as to replay, rewind, fast forward, keep or delete the recorded call, etc..

As discussed above, in a particularly preferred embodiment, a recorded video call can be delivered to the intended recipient via email. This would allow, for example, a user who does not have a video-call capable phone to still be able to accept and receive video

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messages from other users, by setting up an arrangement whereby the video messages can be forwarded by email to the called user.

Thus, as discussed above, the network (e.g. and
5 preferably the recording means on the network) preferably comprises means for delivering a recorded video call via email. This could be done, e.g., by preparing the recorded video call as an email attachment and then forwarding it on to the appropriate email address.

10 In these arrangements, the email address to send the call to can be indicated as desired. For example, where there is a virtual mobile number (or short code) set up for use to record a video call for a particular recipient or recipients, the virtual mobile number or short code
15 could be and is preferably associated with the email address (or addresses) to be used for that recipient (or recipients).

Thus, in a particularly preferred embodiment, a user can associate a virtual mobile number or short code
20 allocated for the purposes of directing video calls to the video call recording means with an email address to which a recorded video message made to the virtual mobile number or short code in question should be sent via email (i.e. the email address of the intended recipient or
25 recipients for the recorded video call). This would then allow, e.g., a calling user simply to place a video call to the virtual mobile number or short code associated with the intended recipient(s), with the system then in response to the call to the virtual mobile number,
30 converting the calling side of the video call (the video message) to a suitable email attachment and forwarding it by email to the intended recipient's indicated email address, or sending an alert to the called party to advise them that the email is available.

35 In these arrangements, a user can again associate an email address or addresses with a virtual mobile number

or short code for recording video calls made to that number or short code in any desired and suitable manner.

For example, similar techniques to those described above for associating a virtual mobile number or short code with the intended recipient's identity can be used to associate a virtual mobile number or short code with a particular email address or addresses. Thus, for example, where a user has set up a virtual mobile number or short code to be used for recording video calls to a third party recipient, they could associate an email address with the virtual mobile number or short code by sending the email address in a suitable text message, as discussed above, or by calling a network operator or by using an Internet-based interface.

Similarly, a user can preferably self-provision an email address to be associated with the user's virtual mobile number (or short code) to be used for receiving recorded video calls, and preferably without the need for recourse to the network operator. This may be achieved, for example, by sending a message (e.g. a text message) to the system (e.g. and preferably to the virtual mobile number in question) that includes the email address (e.g. in a predefined syntax that specifies the email address). Other arrangements, such as using a voice or video call, and, e.g., DTMF detection to transmit a predefined character coding to specify the email address, or speech recognition to determine the email address, or using an Internet-based system to set up the email address, would, of course, be possible. It would also, e.g., be possible for the system to provide default email addresses for users who are still to specify their own chosen email addresses.

It is believed that an arrangement for allowing a user to configure a virtual mobile number to allow video calls to be forwarded by email is new and advantageous in its own right.

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Thus, according to a tenth aspect of the present invention, there is provided a system for use with a telecommunications system that supports the use of virtual mobile addresses, the system comprising:

5 means for allowing a user to associate an email address with a virtual mobile address; and

means for enabling a video call that is made to the virtual mobile address to be delivered by email to the email address associated with the virtual mobile address.

10 According to an eleventh aspect of the present invention, there is provided a method of operating a telecommunications system that supports the use of virtual mobile addresses, the method comprising:

a user associating an email address with a virtual
15 mobile address; and

delivering a video call that is made to the virtual mobile address by email to the email address associated with the virtual mobile address.

As will be appreciated by those skilled in the art,
20 these aspects of the invention can and preferably do include any one or more or all of the preferred and optional features of the invention described herein, as appropriate. Thus, for example, a user is preferably allocated a virtual mobile number and can then associate
25 it with an email address, e.g., in the manners discussed above.

It is also or instead (and preferably also) preferably possible for a video call sender to be able to indicate to the system the email address to which the
30 recorded video call is to be sent by other means, e.g., as the call is being made. This could be done, e.g., by the sender sending to the system the email address to use, e.g. via a message (e.g. SMS message) sent to the system or via a message exchange (e.g. SMS message
35 exchange) with the system. For example, once the video call is connected to the recording means on the network,

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the caller could be prompted to send the email address to be used.

In these arrangements where a call is to be sent by email to an intended recipient, and the system is already
5 aware of the destination email address, then the system can and preferably does automatically forward the call by email, e.g., immediately, to the intended recipient, e.g. and preferably without first requiring a response from the intended recipient. In these arrangements, the
10 system could and preferably does send an alert to the intended recipient (e.g. by SMS message) that the call exists, or could simply forward the call without first sending an alert.

In a particularly preferred embodiment, the intended
15 call recipient can be invited to give an email address to which the recorded call should be delivered. This could be done, e.g., and preferably is done, by the alert sent to the intended recipient that the recorded video call exists prompting the recipient to respond with an email
20 address to which the recorded call should be sent. This arrangement may be preferable, since the service would then be transparent to all senders, and the recipient's action is taken at the point of need. In a preferred such arrangement, the recipient can also select for the
25 system to remember (record) the email address that they give for use for future recorded video calls.

In this arrangement, a recipient would be notified of (alerted to) the recorded video call (e.g. by a text message sent to their communications terminal) and then
30 respond with their email address to receive the waiting call (message).

Where a recorded video call is sent on by email to an intended recipient, then in a preferred embodiment, the recipient is also sent an alert when that has
35 happened, e.g. via text (SMS) message. This alert could

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also, e.g., and preferably does, invite the recipient to save the email address that has been used for future use.

Where a user receives alerts (e.g. via text (SMS) message) to which replies are requested or possible, for example to advise the system of the email address to be used, then it is preferred that the alert is arranged such that simply replying to the alert directs the reply to the appropriate component on the network (rather than to, e.g., the original caller), as it is the "network", rather than the original caller, that needs to receive and process the reply.

This can be achieved in any suitable manner. For example, rather than the alert carrying the CLI (calling line identity) of the original caller (in which case any reply would be directed to the original caller), the alert could carry a network address CLI (e.g. short code), so that any reply will go to the appropriate network equipment, rather than the original caller. In this case, the original caller's identity could, if desired, and preferably, be included in the content of the alert instead.

(Where a reply to the network is not required (e.g. because the recipient already has an email address set up), then the alert could still carry the sender's identity (CLI), if desired, and that would then allow the recipient's terminal to translate it and present the caller's name, as is known in the art.)

In a preferred embodiment, when a caller connects to the video call recording means on the network, they receive a video announcement inviting them to start leaving a message. This announcement could also, e.g., prompt the caller to give the identity of the intended call recipient, where that is necessary. It is also preferred for a caller to be able to review, record or abandon the recorded video call.

While the video call is being recorded, the back channel to the caller could be unused, but in a preferred embodiment is used to transmit to the caller (as discussed above, this may be necessary to keep the caller's terminal connected to the call in any event). Such transmissions could relate, e.g., to information about the recording, such as how much recording time is left, progress information that the recording is taking place, or, e.g., be used for advertising or other transmissions.

As will be appreciated by those skilled in the art, in use of the present invention, the network infrastructure will need to store and keep track of video call recordings, intended recipients, virtual mobile numbers, etc., to initiate and respond to alerts (e.g. SMS alerts) sent to called parties, to allocate virtual numbers to users of the system, etc.. Thus, in a preferred embodiment, the network infrastructure comprises a controller or controllers that can carry out one or more and preferably all of these functions and that is preferably associated with the video call recording (and storage, where provided) means on the network.

The system, e.g., controller, preferably also records the time and date of each call (and, where allocated, of a virtual mobile access number allocated to the recipient of the call to allow the recipient to retrieve the call), and, e.g., and preferably, acts to delete recorded calls (and free up their associated access numbers and storage space) after a predetermined period of time, such as seven days.

The system can also, e.g., refuse to record more video calls if, e.g., its video call storage capacity is full, or the storage allocated to an individual recipient is exceeded.

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It is also preferably possible for the system, e.g., controller, to be able to identify and keep track of which users have video call capable phones, so that, e.g., the system can then allow those users to pickup
5 recorded calls as video calls, rather than, e.g., prompting them for an email address to send the call to. Thus, in a preferred embodiment, the system can maintain a database of users who have video-call capable terminals (phones), and configure alerts and the processing and
10 delivery of (recorded) video calls for those users accordingly.

It would also be and preferably is possible for a user to configure or set up the system such that it operates in different ways in different circumstances,
15 for example depending upon the time of day and/or other criteria selected by the user. Thus, for example, a user can preferably selectively set up the system to, e.g., connect video calls to their terminal or another number at certain times (e.g. during office hours), but to have
20 the calls recorded and delivered by email at other times.

It is also preferred to be able to selectively activate or deactivate features of the system in dependence on the particular user. For example, the user's identity could be used to determine the class of
25 service permitted to that user.

It would also be and preferably is possible to allow a recipient to access their recorded video calls using plural different terminals (numbers), as this would then allow, e.g., the recipient to use, e.g., their desk or
30 mobile phone to pick up a video message, as desired. This could be achieved, e.g., by associating a recipient's message with the plural terminal identities (numbers) that they may wish to use to access a recorded call.

35 In a particularly preferred embodiment, the video call recording means can operate in a similar manner with

respect to voice calls and/or text messages, i.e. can operate to record at least the calling side of a voice call or text message directed to the video call recording means (e.g. dialled to a virtual mobile number associated with the video call recording means), and, e.g., to provide the recorded call, etc., to an intended recipient, e.g., via email. This would allow a user to use a single number (e.g. virtual mobile number) to leave video, voice or text messages to an intended recipient.

As will be appreciated from the above, the present invention in its preferred embodiments at least provides an arrangement whereby a caller can direct an e.g., video (or other) message to a third party without the need for any action by or co-operation from the intended recipient third party. In other words the delivery of the video message, etc., can be and is entirely under the control of, and at the behest of, the calling user. Similarly, the arrangement permits such messages to be sent to intended recipients who do not in themselves have or wish to use a video phone.

The Applicants consider these features of the present invention to be particularly advantageous and believe that such arrangements are new and advantageous in their own right.

Thus, according to a further aspect of the present invention, there is provided a communications system comprising means for allowing a user of a video phone to send a video message to an intended recipient without the intended recipient needing themselves to have a video phone.

According to another aspect of the present invention, there is provided a method of operating a communications system comprising a user of a video phone sending a video message to an intended recipient without the intended recipient needing themselves to have a video phone.

According to a yet further aspect of the present invention, there is provided a communications system comprising means for allowing a user of a video phone to send a video message to an intended recipient
5 independently of any action or co-operation by the intended recipient.

According to a yet further aspect of the present invention, there is provided a method of operating a communications system comprising a user of a video phone
10 sending a video message to an intended recipient independently of any action or co-operation by the intended recipient.

As will be appreciated by those skilled in the art, these aspects of the invention can and preferably do
15 include any one or more or all of the preferred and optional features of the invention described herein, as appropriate.

Thus, for example, in one preferred embodiment, the arrangement is such that a user can associate a number
20 that can be dialled with the identity of an intended recipient for the video message. Similarly, the arrangement can preferably also or instead be used for other forms of communications, such as voice calls or short (e.g. text) messages.

25 The Applicants have recognised that it would also be possible for similar effects to be achieved by means of, for example, a system of or accessible via the system infrastructure dialling "out" to (calling) a user (the user's communications terminal) who is to leave a message
30 and inviting the user to leave a message, with the message then being recorded and delivered to the intended recipient, e.g., in the manner or manners discussed above. In this case, rather than the calling user dialling a number that, e.g., connects to the message
35 recording means, the user may, e.g., ask the system to call him or her (his or her communications terminal) for

the purpose of recording a message (e.g. by sending a text message requesting such a "call").. In this case, the process and, e.g., the identity of the intended recipient could, e.g., be set up via a text message exchange, or the Internet, etc..

Thus, according to a yet further aspect of the present invention, there is provided a method of operating a communications system which comprises a message recording system, device or means in or accessible via the system infrastructure, the method comprising:

placing a call to a user to connect the user to the message recording system, device or means; and

the message recording system, device or means recording at least a part of the call for provision to an intended recipient.

According to a yet further aspect of the present invention, there is provided a communications system, comprising:

a message recording system, device or means in or accessible via the system infrastructure;

means for placing a call to a user to connect the user to the message recording system, device or means; and

means for controlling the message recording system, device or means to record at least a part of the call for provision to an intended recipient.

As will be appreciated by those skilled in the art, these aspects and embodiments of the invention can and preferably do include any one or more or all of the preferred and optional features of the invention described herein, as appropriate.

Thus, for example, the user leaving the message can preferably indicate to the system a desired intended recipient and/or delivery address for the recorded message, e.g., and preferably, by sending or exchanging a

text message or messages with the system. Similarly, the recorded message can preferably be delivered by email to the intended recipient and/or delivery address, and the message may, e.g., be (part of a) a recorded voice or
5 video call, or a text message, etc..

In these arrangements, the user can preferably request that the system calls him or her for the purpose of leaving a message, e.g., and preferably, by sending a text message to, e.g., a suitable controller of the
10 system. (This could also be done, e.g., by the user first calling an operator and/or via a web-based arrangement, etc.).

It will be appreciated that in the above arrangements where the system "calls" out to (dials) the
15 user for the user then to leave a message for an intended recipient, then it may not, strictly speaking, be the calling side of the call that is recorded, but will be at least the "called" or receiver's side of the call that is recorded.

20 Thus, according to another aspect of the present invention, there is provided a telecommunications system comprising:

one or more communications terminals that are capable of making video calls; and

25 a communications network infrastructure comprising means for, when a video call is made, recording at least one side of the call for provision to an intended recipient.

According to another aspect of the present
30 invention, there is provided a communications network infrastructure, in which video calls can be made, the network infrastructure comprising:

means for, when a video call is made, recording at least one side of the call for provision to an intended
35 recipient.

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According to another aspect of the present invention, there is provided a method of operating a communications system in which video calls can be made, the method comprising:

- 5 when a video call is made, recording at least one side of the call in the communications network, whereby it may be provided to an intended recipient.

According to another aspect of the present invention, there is provided a telecommunications system
10 comprising:

one or more communications terminals that are capable of making video calls; and

- a communications network infrastructure comprising means for, when a video call is made, providing at least
15 one side of the call in an alternative format for provision to an intended recipient.

According to another aspect of the present invention, there is provided a communications network infrastructure, comprising:

- 20 means for, when a video call is made, providing at least one side of the call in an alternative format for provision to an intended recipient.

According to another aspect of the present invention, there is provided a method of operating a
25 communications system in which video calls can be made, the method comprising:

when a video call is made, providing at least one side of the call in an alternative format to an intended recipient.

- 30 Again, as will be appreciated by those skilled in the art, these aspects and embodiments of the invention can and preferably do include any one or more or all of the preferred and optional features of the invention described herein. Thus, for example, in one preferred
35 embodiment it is the calling side of the call that is recorded, although as discussed above, in another

preferred embodiment, it may be the "called" or receiver's side of the call that is recorded.

The calling user or terminal (the user making the video, etc., call) in the present invention may be any
5 suitable such user. Thus they may be any desired and suitable party. In a preferred embodiment they are a subscriber of the communications system, but this is not essential and they need not be a subscriber.

Similarly, the intended recipient(s) for the
10 recorded video calls (etc.) may be and in a preferred embodiment are subscribers of or to the communications system, but again they do not have to be subscribers of the communications system and they could, e.g., be recipients that are outside and/or not directly part of
15 the communications system or network to which the calling user belongs. Equally, the intended recipient may be a party to which the call is directed in the first place, or as discussed above, the arrangement may be that the call is not initially directed to the intended recipient
20 but the call is instead, in effect, and for example, directed to a message recording arrangement and the message then provided to the intended recipient(s).

Furthermore, although in a preferred embodiment the intended recipient or recipients is a third party, it
25 would also be possible for a calling user to direct a message in the manner of the present invention to themselves (i.e. to designate themselves (e.g. their email address) as a or the intended recipient for the recorded video call (etc.)). Thus, in a preferred
30 embodiment, a calling user can and preferably does indicate themselves or associate themselves as a or the intended recipient for a recorded (e.g. video) call recorded in the manner of the present invention.

The present invention can be applied in any suitable
35 telecommunications system and network. It is particularly, but not exclusively, suited to mobile

communications networks, such as GSM and 3G networks, and thus in a preferred embodiment, the communications system includes a mobile communications system. The invention can also be applied to and used in fixed networks, for example by using fixed network virtual numbers. In a preferred embodiment the communications system comprises a mobile communications system.

It should also be noted here that the various components of the system may be distributed across a network or networks, and there may be duplicate sets of components if desired. Equally, the system may be operable across a plurality of different networks (networks of different service providers and/or countries, etc.) and preferably can support and be used by communications terminals that have roamed to foreign networks (as discussed above, the use of virtual mobile numbers facilitates operation with roaming mobile terminals).

As will be appreciated by those skilled in the art, all of the aspects and embodiments of the invention described herein may and preferably do include any one or more or all of the preferred and optional features of the invention described herein, as appropriate.

The methods in accordance with the present invention may be implemented at least partially using software e.g. computer programs. It will thus be seen that when viewed from further aspects the present invention provides computer software specifically adapted to carry out the methods herein described when installed on data processing means, a computer program element comprising computer software code portions for performing the methods herein described when the program element is run on data processing means, and a computer program comprising code means adapted to perform all the steps of a method or of the methods herein described when the program is run on a data-processing system. The

invention also extends to a computer software carrier comprising such software which when used to operate a communications system and/or terminal comprising data processing means causes in conjunction with said data
5 processing means said system or terminal to carry out the steps of the method of the present invention. Such a computer software carrier could be a physical storage medium such as a ROM chip, CD ROM or disk, or could be a signal such as an electronic signal over wires, an
10 optical signal or a radio signal such as to a satellite or the like.

It will further be appreciated that not all steps of the method of the invention need be carried out by computer software and thus from a further broad aspect
15 the present invention provides computer software and such software installed on a computer software carrier for carrying out at least one of the steps of the methods set out herein.

The present invention may accordingly suitably be
20 embodied as a computer program product for use with a computer system. Such an implementation may comprise a series of computer readable instructions either fixed on a tangible medium, such as a computer readable medium, for example, diskette, CD-ROM, ROM, or hard disk, or
25 transmittable to a computer system, via a modem or other interface device, over either a tangible medium, including but not limited to optical or analogue communications lines, or intangibly using wireless techniques, including but not limited to microwave,
30 infrared or other transmission techniques. The series of computer readable instructions embodies all or part of the functionality previously described herein.

Those skilled in the art will appreciate that such computer readable instructions can be written in a number
35 of programming languages for use with many computer architectures or operating systems. Further, such

instructions may be stored using any memory technology, present or future, including but not limited to, semiconductor, magnetic, or optical, or transmitted using any communications technology, present or future,
5 including but not limited to optical, infrared, or microwave. It is contemplated that such a computer program product may be distributed as a removable medium with accompanying printed or electronic documentation, for example, shrink-wrapped software; pre-loaded with a
10 computer system, for example, on a system ROM or fixed disk, or distributed from a server or electronic bulletin board over a network, for example, the Internet or World Wide Web.

A number of preferred embodiments of the present
15 invention will now be described by way of example only and with reference to the accompanying drawing, Figure 1, which shows schematically an embodiment of a mobile communications system that may be operated in accordance with the present invention.

20 In the mobile communications system shown in Figure 1, there is a first communications network 1 which for the purpose of the present embodiment can be considered to be a roaming network, and a second communications network 2, which, as will be explained further below,
25 includes a video call recording means that can operate in the manner of the present invention. The second network can be considered to be a home network for the purpose of the present embodiment.

As will be appreciated by those skilled in the art,
30 the networks 1 and 2 may in practice be the same network, or they could be different networks.

The "roaming" network 1 includes, as is known in the art, a base station subsystem (BSS) 3 which is connected to a mobile switching centre (MSC) 4 which is then
35 connected to a gateway mobile switching centre (GMSC) 5. Calls from a calling mobile station (the sender) 6 are

routed via these components to the dialled destination number, as is known in the art.

The "home" network 2 similarly includes a gateway mobile switching centre 7 for routing calls to and from
5 that network.

The "home" network 2 will also include suitable base station subsystems, mobile switching centres, etc., as is known in the art. (These components are not shown so as to simplify the figure. Indeed, as will be appreciated
10 by those skilled in the art, the "roaming" and "home" networks 1 and 2 may and will include other components and functions that are standard or common to such networks, such as home location registers, short message switching centres, SMS routers, etc. These components
15 are not shown in order to simplify the Figure.)

As shown in Figure 1, the "home" network 2 also includes means for recording the calling side of a video call in the form of video services equipment 8. This video services equipment 8 comprises, for example, a
20 video services switch or an interactive video response unit (which has a packet switching interface, if required).

The video services equipment 8 is configured to be able to receive a video call (e.g. to receive an IP
25 connection and a packet data call) and to record it. It records the calling side of the video call in a compressed format.

As shown in Figure 1, the "home" network 2 also includes an SMS MO to MT entity 13 that can be used,
30 *inter alia*, to deliver alert SMS messages, and a controller 12 for controlling and coordinating the video call recording function.

The controller 12 operates to control the system. As will be explained further below, it, *inter alia*, keeps
35 track of video calls that have been recorded, and initiates sending SMS alerts to recipients of recorded

video messages via the SMS MO to MT entity 13. To facilitate this the controller 12 has associated with it one or more short codes and/or virtual mobile numbers that may be used to direct communications, such as text
5 messages, to the controller 12. The controller 12 is also configured to process received text messages (i.e. their content) according to a set of predefined (e.g. syntax) rules. If the controller 12 is unable to process a text message, it is configured to send suitable help
10 messages and/or error messages to the caller.

The video services equipment 8 has associated with it a pool of plural (e.g. 50) virtual mobile numbers that a caller may dial in order to connect to the video services equipment 8 for the purpose of recording a video
15 call.

These virtual mobile numbers are handled and used to connect calls to the video services equipment 8 in the usual way. Thus, the network 2 includes virtual mobile equipment 9 that maintains the list of virtual mobile
20 numbers that are associated with the video services equipment 8, and that operate to direct a call directed to one of the virtual mobile numbers associated with the video services equipment 8 to the video services equipment 8.

25 To facilitate this, virtual mobile equipment 9 maintains, as shown in Figure 1, its own home location register (HLR) 10. This is possible since the video services equipment 8 is fixed and will not move. However, alternative arrangements, such as the location
30 update home location register technique or any other suitable method for implementing virtual mobile numbers could be used instead, if desired.

A call made to a virtual mobile number associated with the video services equipment 8 is connected thereto
35 using conventional virtual mobile number techniques.

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Thus, for example, if the caller 6 dials a virtual mobile number associated with the video services equipment 8, the video call is routed by the base station subsystem 3, mobile switching centre 4 and gateway mobile switching centre 5 of the caller's network 1 to the gateway mobile switching centre 7 of the network 2 that includes the video services equipment 8. The gateway mobile switching centre 7 of the network 2 will then send a send routing information (SRI) query to the virtual mobile equipment 9. The home location register 10 of the virtual mobile equipment 9 will then return the routing information for the video services equipment 8 to the gateway mobile switching centre 7. The gateway mobile switching centre 7 will then proceed using the provided routing information to connect the video call to the video services equipment 8.

When the video call is connected to the video services equipment 8, the caller receives a video announcement inviting them to start leaving their message. The video services equipment 8 then records the calling side of the call. The back channel to the sender's handset 2 is used to send an appropriate return signal to keep the sender's handset connected and "happy". This return signal could be used, e.g., for advertising or for conveying information to the caller about the progress of the call (e.g. how long he or she has recorded). Once the call is recorded, the caller is offered the opportunity to review, re-record or abandon the recorded call (message).

In the present embodiment, a virtual mobile number or numbers from the pool of plural virtual mobile numbers for use to connect to the video services equipment 8 can be allocated to users on request, e.g., for those users then to use to dial into the video services equipment 8 and thereby record a video message. A user can further set up an association between a virtual mobile number

that they have been allocated, and the identity of the intended recipient for a call made to that virtual mobile number. Once this is done, a user can then, e.g., store in their phonebook on their handset a virtual mobile
5 number which they can then dial to record a video call to the intended recipient.

In this embodiment, the request for and allocation of a virtual mobile number to a user, and the association of that virtual mobile number with an intended recipient
10 is performed by means of an SMS message exchange with the system controller 12.

To initiate the service, the user who wishes to be allocated a virtual mobile number for connecting to the video services equipment 8 first sends a text message to
15 a pre-allocated short code or virtual mobile number for connecting to the controller 12, which text message contains the identity of the intended recipient for the recorded call in the form of their mobile number. In response to this, the controller 12 allocates a virtual
20 mobile number from the pool of virtual mobile numbers associated with the video services equipment 8 to the caller and sends the caller 2 a text message which includes the virtual mobile number that has been allocated to the caller. The caller may then, e.g.,
25 store the allocated virtual mobile number in his or her handset as the number to use to send video messages to the indicated recipient.

For example, the requesting user could first send a text message to the controller 12 (to a short code or
30 virtual mobile number associated with the controller 12) containing the mobile number, e.g., 07700 900123, of the recipient that they wish to set up a video call recording service for. The controller 12 would then return to the caller a text message which includes the virtual mobile
35 number to use to send video messages to number 07700 900123. This message could, for example, read

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"save +44 7797835926 in your phonebook, and call it to send a video message to 07700 900123". The initial caller can then save the allocated number from the text message in their phonebook together with an indication
5 that it is for sending video messages to the number 07700 900123.

As shown in Figure 1, the various text messages are routed via an SMS message "MO to MT entity" 13. As is known in the art, this entity acts to route SMS messages
10 and to perform any necessary conversions of the SMS messages from mobile-originated (MO) format to mobile-terminated (MT) format, and vice-versa.

The controller 12 also stores the intended recipient's number received from the user along with the
15 allocated virtual mobile number and the original caller's identity (number), so that the system then has stored an association between the original caller, the allocated virtual mobile number, and the intended recipient's number. This enables, for example, the intended
20 recipient's number to be retrieved and used when the caller records a video message via the video services equipment 8 using the allocated virtual mobile number.

As the association between a virtual mobile number for connecting to the video services equipment 8 and the
25 intended recipient number is also associated with the caller's identity (the caller's number), the association between the virtual mobile number for connecting to the video services equipment 8 and intended recipient is personal to that particular caller (i.e. only applies to
30 calls made by that caller as identified by his, e.g., calling line identification (CLI)). This means that the same virtual mobile numbers may be reused by other users for connecting to the video services equipment 8. (In
35 order to facilitate this, if a user withholds their CLI on a call, the system will not operate for that call, and

the call will be cleared after an error message has been transmitted.)

An association set up by a user is maintained indefinitely, until the particular user chooses to delete it.

It is also possible for a caller to query the controller 12, for example in order to ascertain the number of remaining free virtual mobile numbers, to check the recipient number allocated to a particular virtual mobile number, or to delete (free-up) a particular virtual mobile number. Again, these queries and message exchanges are preferably carried out by means of appropriate SMS message exchanges with the controller 12.

Other arrangements for allocating virtual mobile numbers to users and associating them with an intended recipient can be used, if desired. For example, a user could call a network operator to do this.

Once a virtual mobile number for connecting to the video call recording video services equipment 8 has been allocated to a user and associated with the identity of an intended recipient, the caller can then place a video call to the allocated virtual mobile number to record a video message for the indicated recipient.

As discussed above, when the caller dials the virtual mobile number, the virtual mobile equipment 9 will cause the call to be connected to the video services equipment 8. The caller then receives a prompt (such as "please leave your message after the tone") to record a video message, and the video services equipment 8 then records the message (the calling side of the video call).

Once the call is ended, the recorded call (message) is stored in a file dynamically allocated by the controller 12, in association with the identity of the intended recipient (e.g. the intended recipient's phone number). The controller 12 uses the virtual mobile number dialled by the caller, together with the caller's

identity (which is derived from their CLI (calling line identity)) to retrieve the identity (number) of the intended recipient which has previously been associated with the caller and virtual mobile number in question.

5 The recorded video call (message) is retained by the system for a set period of time, such as 7 days. The controller 12 periodically checks the database for stored messages and deletes entries older than a predetermined age such as 7 days along with the corresponding stored
10 files. The controller 12 can also identify conditions such as disk full, or no available storage space for a particular recipient, and generate suitable error (e.g. audio) messages and clear calls accordingly.

 Once a video call has been recorded and stored, the
15 controller 12 prepares and sends a text (e.g. SMS) message to the indicated intended recipient, via the SMS MO to MT entity 13, to alert the intended recipient that a video message has been recorded for them.

 An arrangement for allowing an intended recipient to
20 retrieve a recorded video message will now be described.

 In this arrangement, the message recipient is provided with a virtual mobile number that is associated with the video services equipment 8 and that the message recipient can dial to connect to the video services
25 equipment 8, e.g., with their video phone, to retrieve the recorded message. The controller 12 maintains a pool of virtual mobile numbers that may be used to retrieve (access) recorded video messages in this way, and allocates these numbers dynamically to messages as they
30 are recorded. The allocated access numbers are stored in association with the recorded messages and the identities (e.g. numbers) of the message recipients, to allow the correct message to be retrieved when a message recipient dials in with their provided access number.

35 The virtual mobile "access" numbers associated with the video services equipment are selected from a

different number range (pool) to the virtual mobile numbers to be used by callers for connecting to the video services equipment 8 for the purposes of recording video messages. Each access number remains valid for a
5 predefined period, such as 7 days, after which its association with the recorded message and the recipient is deleted (together with deletion of the recorded message). The recipient can listen to the message as many times as he or she likes during this period.

10 For additional security, the recipient's identity (telephone number) is also stored with the stored recorded video message and is checked against the recipient's calling line identity when he or she dials in using the allocated access number. This helps to ensure
15 that a recording is never played to any recipient other than the one intended.

The virtual mobile "access" number allocated to a recorded message is provided to the message recipient in the text message that is sent to the message recipient to
20 alert them to the existence of the recorded video message. This text message could read, for example, "I have just left you a short video message on +44 7797835462".

Once the video message recipient has received the
25 alert text message containing their message access (retrieval) number, they can dial the access number using their videophone in order to retrieve the message.

When the call recipient dials the access number for retrieving the message the virtual mobile equipment 9
30 operates to connect the call to the video services equipment 8, which then queries the controller 12 by sending a message containing the caller's identity and the virtual mobile access number to determine whether or not there is a matching recorded video message. If no
35 matching recorded video message is found, then a suitable negative response is returned and the call is cleared

with an appropriate error message. If a matching recorded video call association is found, then the controller 12 returns a response containing the data necessary to allow the recorded video message to be identified. The message is then played back to the message recipient over the connection which has been established. Thus, the intended message recipient can call the virtual mobile number provided to them as an access number, and retrieve the message left by the original caller.

When the message recipient connects to and retrieves the recorded message, they are presented with options, such as to play, fast forward, rewind, pause, delete or retain the message, etc.. The caller can also enquire as to the remaining time for which the message will be stored and the date and time it was left, along with the identity of the sender.

In the present embodiment, as well as a user being able to associate a virtual mobile number for connecting to the video services equipment 8 with an intended recipient's identity in the form of their phone number, it is also or instead possible for the virtual mobile numbers associated with the video services equipment 8 to be associated with a destination email address for an intended recipient of a recorded video message.

This is set up in a similar manner to the way that virtual mobile numbers are associated with an intended recipient's identity as discussed above, but instead of providing, for example, a phone number as the intended recipient's identity, the caller will instead provide the appropriate email address. In this case, the controller 12 then associates the allocated virtual mobile number with the indicated recipient email address (and the caller's identity), in a similar manner to that discussed above.

In this way, a user can have in their phone book a virtual mobile number with which to send a video message to an intended recipient's email address.

In these arrangements, the controller 12 will
5 determine whether the virtual mobile number that is used to connect to the video services equipment 8 for the purposes of recording a video message is associated with an email address or not. If the virtual mobile number is associated with an email address, then the controller 12
10 will operate to format the recorded video message (once it has been recorded) as an email (e.g. by attaching it as a video attachment to an email) addressed to the indicated email address, and then cause the system to send the email to the indicated email address.

15 The controller 12 can also send a text message alert to the intended recipient indicating that an email of a video message has been provided, if desired. (In this case the controller 12 will also need to have the intended recipient's phone number associated with the
20 virtual mobile number, so that they can direct the text message alert appropriately. This again could be achieved in the set-up process, by the user providing both the indicated recipient's phone number and email address to the system during the virtual mobile number
25 allocation process.)

It would also be possible, for example, in these arrangements for the caller to, rather than automatically associating the email address with the virtual mobile number during the set-up process, to instead provide the
30 email address as part of the video message recording process. For example, the video services equipment 8 could be configured to provide a prompt to the caller to ask them whether they wish to associate the recorded message with a selected email address, in response to
35 which the caller could provide the desired email address if they so wish.

It is also possible in the present embodiment for the intended recipient to elect to have the recorded video message delivered via email. In this case, the text message alert sent by the controller 12 to the message recipient will, as well as informing the recipient that a video message has been sent, also invite them to provide an email address to receive it by email. For example, the alert message could read "You have received a video message from 07802 684458. Reply with your email address to receive it by email. You may use * instead of @ if you wish."

In response to this, the recipient can reply with their email address so as to receive the waiting message via email to that address. The controller 12 preferably responds to the recipient's reply to inform them that the video message has been sent and also to offer the recipient the capability to have their email address remembered for the next message. For example, the controller 12 could send a text message of the form "A video message has been sent to <email address>. Reply with KEEP if you would like this address to be used next time. Go to www.02.co.uk to change your delivery address."

In these arrangements where the central controller 12 is sending alert messages to a video message recipient with the possibility of receiving a reply (to provide the recipient's email address), then the alert message from the controller 12 is sent such that it carries the network address of the controller 12 (e.g. its short code) as its calling line identity (CLI), so that any reply directed to the alert message is returned to the controller 12, rather than to the original caller. The alert message itself preferably contains the original caller's identity (e.g. CLI) as part of its content, so that the recipient can still identify the original caller. (Where a reply to an alert message sent by the

controller 12 is not required (e.g. because the intended recipient's email address is already set up), then the alert could still have associated with it the calling line identity of the sender, so that the recipient's handset can translate it and present the sender's name, as is known in the art.)

As well as the above-described techniques for allowing users to connect to and record video messages via the video services equipment 8, a number of other arrangements could be used. For example, the video services equipment 8 could have a common short code that all users dial to connect to it, with users, for example, subsequently entering the intended recipient's number to the system, or, e.g., providing the recipient's number as a suffix to the short code used to connect to the video services equipment 8. It would also similarly be possible to provide a common virtual mobile number that all users can use to connect to the video services equipment 8, with users then entering the intended recipient's identity post-dialling of the common virtual mobile number. It would also be possible for rather than the virtual mobile numbers being reusable for each caller, for there simply to be a single set of common virtual mobile numbers that can be shared between all users and indicating different recipients.

As will be appreciated by those skilled in the art, the above embodiments of the present invention can be modified and/or varied if and as desired.

For example, the video services equipment 8 could be configured to accept, e.g. via an email gateway (and, e.g., subject to normal security procedures) an audio or video file that is to be used as an audio or video prompt to replay to voice callers to the service. In this way, an organisation or individual may update its audio or video prompt by sending an email containing the appropriate audio or video attachment.

It would also be possible, for example, for the system to be configured to enable a user to define groups of intended recipients. For example, rather than a caller associating a given virtual mobile number for
5 connecting to the video service equipment 8 with a single intended recipient, the caller could indicate a plurality of intended recipients via an appropriate messaging arrangement. Then when a message is recorded using that virtual mobile number, the controller 12 will be able to
10 identify that a group of intended recipients has been indicated, and then, e.g., provide each of the intended recipients with the appropriate virtual mobile access number to allow each of the intended recipients to pick up the message.

15 Also, as well as a recorded video call being retrievable by the intended recipient using their videophone, or delivered as an email attachment, other delivery options and formats could be provided as well. For example, a message recipient could elect to receive
20 (and/or be offered the option to receive) only the recorded audio of the call (either the audio of the calling side or of both sides of the call), or could, for example, be provided automatically with the audio signal only of the call if they use a voice call when
25 dialling-in to retrieve the recorded call. Equally, the audio of the call could, e.g., be converted to a text file for delivery by email or as a text message, for example. Thus the video call recording means (the video services equipment 8) can preferably provide the recorded
30 video call in a number of different formats.

Similarly, the video services equipment 8 is preferably also configured to operate in a similar manner for voice calls and/or text messages that are directed to it (e.g. sent using a virtual mobile number associated
35 with the video services equipment 8), for example to record them and provide them as emails, etc., to the

identified intended call recipient. This would then allow, for example, a user to use a single number to leave video, voice or text messages for an intended recipient.

5 Where the video services equipment 8 is configured to deliver a recorded video call by email, the organisation or individual whose email address to whom the intended message is to be delivered is preferably able to self-provision the email address, i.e. to have
10 control of the set up of the association between the email address and, e.g., the virtual mobile number, without recourse to the network operator. This may be achieved by, for example, sending a text message to the virtual mobile number from a specific calling line
15 identity (CLI), with the content of the text message conforming to a predetermined syntax that specifies the email address. Alternatively, a voice or video call can be used, with DTMF detection used to transmit a predefined character coding to specify the email address.
20 Other methods would, of course, be possible. Furthermore, the network operator may provide default email addresses for users in advance of those users specifying their own chosen email addresses.

 The system may also, for example, maintain a
25 database of which users have video-capable terminals, and configure the alerts that it sends to those users accordingly.

 It would also be possible for the user to have video calls delivered directly to their terminal at certain
30 times, for example during office hours, but to direct calls to the video recording means, e.g. for delivery to an email address, at other times. These redirection operations are preferably configurable by the end user.

 Although the above embodiments have been described
35 with reference to the routing of the video calls via existing GSM routing techniques, as will be appreciated

by those skilled in the art, a similar arrangement can be used for future 3G networks where, for example, video calls and data may be carried over IP and the Internet packets routed via media gateways. In this case the call
5 could be set up and follow, for example, the appropriate specification for voice-over IP (VoIP) and session initiation protocol (SIP) signalling produced by the IETF (Internet Engineering Task Force).

Similarly, although the present invention has been
10 described with particular reference to the use of virtual mobile numbers, it would also be possible by addition of a suitable infrastructure to a fixed network to implement the techniques of the present invention for fixed network virtual numbers.

15 It can be seen from the above that the present invention, in its preferred embodiments at least, provides a particularly convenient and efficient mechanism for sending a video message to a recipient who, for example, doesn't have a video phone, or may have a
20 video phone but doesn't want to be disturbed, or may have a video phone but would prefer to use email reception of the video message (e.g. for cost or archiving reasons), or may be out of coverage of a video mobile signal but can still receive text messages (e.g. on a 2G network).

25 The present invention also allows the choice of sending a video message rather than making a video call to be the choice of the sender, or of the recipient, or as a result of network conditions or terminal capability, etc.. For example, and in particular, it enables a
30 caller to send a video message to a recipient without having to make a direct call to the recipient.

Similarly, preferred embodiments of the present invention allow an email address to be associated with a virtual mobile number, and for a video message that has
35 been directed to the virtual mobile number to be

delivered by email to the associated email address, e.g. as a video message attachment.

It will also be appreciated from the above that service embodying the present invention is
5 straightforward for a user to set up and use. It can be implemented on existing handsets without modification and can therefore very easily be provided to a large number of users.

CLAIMS

1. A telecommunications system comprising:
one or more communications terminals that are
5 capable of making video calls; and
a communications network infrastructure comprising
means for, when a video call is made, recording at least
one side of the call for provision to an intended
recipient.
10
2. A communications network infrastructure, in which a
video call from a communications terminal using the
network can be made, the network infrastructure
comprising:
15 means for, when a video call is made, recording at
least one side of the call for provision to an intended
recipient.
3. The system or infrastructure of claim 1 or 2,
20 wherein a user can indicate and set whether video calls
that are directed to them should be attempted to be
connected to their communications terminal or should be
attempted to be connected to the recording means on the
network, or should be connected to both the user's
25 terminal and the recording means on the network.
4. The system or infrastructure of claim 1, 2 or 3,
wherein a calling party making a video call can
selectively indicate to the system whether the call
30 should be attempted to be connected to the recording
means.
5. A telecommunications system comprising:
one or more communications terminals that are
35 capable of making video calls;

a communications network infrastructure comprising means for recording the calling side of a video call; and means for allowing a caller making a video call to make the video call to the video call recording means of the network infrastructure.

6. A communications network infrastructure, in which a video call can be made by a communications terminal using the network, the network infrastructure comprising:
10 means for recording the calling side of a video call; and

means for allowing a caller making a video call to make the video call to the video call recording means of the network infrastructure.

15 7. The system or infrastructure of any one of the preceding claims, wherein the video call recording means is associated with one or more numbers which a calling party can then use to connect to the recording means.

20 8. The system or infrastructure of any one of the preceding claims, wherein a user can request allocation to himself or herself of a number to be used to direct video calls for that user to the video call recording means.

25 9. A communications system, comprising:
a message recording system in or accessible via the system infrastructure;

30 means for placing a call to a user to connect the user to the message recording system; and

means for controlling the message recording system to record at least a part of the call for provision to an intended recipient.

35 10. A communications network infrastructure, comprising:

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a message recording system;
means for placing a call to a user to connect the
user to the message recording system; and
means for controlling the call recording system to
5 record at least a part of the call for provision to an
intended recipient.

11. The system or infrastructure of any one of the
preceding claims, comprising means for sending an alert
10 to an intended recipient of the call, when a call has
been recorded.

12. The system or infrastructure of any one of the
preceding claims, wherein an intended recipient can
15 retrieve and/or have delivered the stored call in a
number of different ways.

13. The system or infrastructure of any one of the
preceding claims, comprising means for providing the
20 recorded video call in an alternative format.

14. A telecommunications system comprising:
one or more communications terminals that are
capable of making video calls; and
25 a communications network infrastructure comprising
means for, when a video call is made, providing at least
one side of the call in an alternative format for
provision to an intended recipient.

30 15. A communications network infrastructure, comprising:
means for, when a video call is made, providing at
least one side of the call in an alternative format for
provision to an intended recipient.

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16. The system or infrastructure of any one of the preceding claims, comprising means for delivering a recorded video call via email.

5 17. The system or infrastructure of any one of the preceding claims, wherein the calling side of the call is recorded and/or provided in an alternative format.

10 18. The system or infrastructure of any one of the preceding claims, wherein the call recording means can operate in a similar manner with respect to voice calls and/or text messages.

15 19. A communications system comprising means for allowing a user of a video phone to send a video message to an intended recipient without the intended recipient needing themselves to have a video phone.

20 20. A communications system comprising means for allowing a user of a video phone to send a video message to an intended recipient independently of any action or co-operation by the intended recipient.

25 21. The system of claim 19 or 20, wherein the system can operate in a similar manner with respect to voice calls and/or text messages.

30 22. A method of operating a communications system in which users can make video calls, the method comprising:
when a video call is made, recording at least one side of the call in the communications network, whereby it may be provided to an intended recipient.

35 23. The method of claim 22, wherein a user can indicate and set whether video calls that are directed to them should be attempted to be connected to their

communications terminal or should be attempted to be connected to the recording means on the network, or should be connected to both the user's terminal and the recording means on the network.

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24. The method of claim 22 or 23, wherein a calling party making a video call can selectively indicate to the system whether the call should be attempted to be connected to the recording means.

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25. A method of operating a communications system in which users can make video calls, the method comprising:

a user making a video call indicating to the communications system that the call should be attempted to be connected to a video call recording means in the communications network; and

15

the communications system in response to such an indication, attempting to connect the video call to the video call recording means of the network.

20

26. The method of any one of claims 22 to 25, wherein the video call recording means is associated with one or more numbers which a calling party can then use to connect to the recording means.

25

27. The method of any one of claims 22 to 26, wherein a user can request allocation to himself or herself of a number to be used to direct video calls for that user to the video call recording means.

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28. A method of operating a communications system which comprises a message recording system in or accessible via the system infrastructure, the method comprising:

placing a call to a user to connect the user to the message recording system; and

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the message recording system recording at least a part of the call for provision to an intended recipient.

29. The method of any one of claims 22 to 28, comprising
5 sending an alert to an intended recipient of the call, when a call has been recorded.

30. The method of any one of claims 22 to 29, comprising
10 providing the recorded video call in an alternative format.

31. A method of operating a communications system in which users can make video calls, the method comprising:
when a video call is made, providing at least one
15 side of the call in an alternative format to an intended recipient.

32. The method of any one of claims 22 to 31, comprising
20 delivering a recorded video call via email.

33. The method of any one of claims 22 to 32, wherein the calling side of the call is recorded and/or provided in an alternative format.

25 34. The method of any one of claims 22 to 33, wherein the call recording means can operate in a similar manner with respect to voice calls and/or text messages.

35. A method of operating a communications system
30 comprising a user of a video phone sending a video message to an intended recipient without the intended recipient needing themselves to have a video phone.

36. A method of operating a communications system
35 comprising a user of a video phone sending a video

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message to an intended recipient independently of any action or co-operation by the intended recipient.

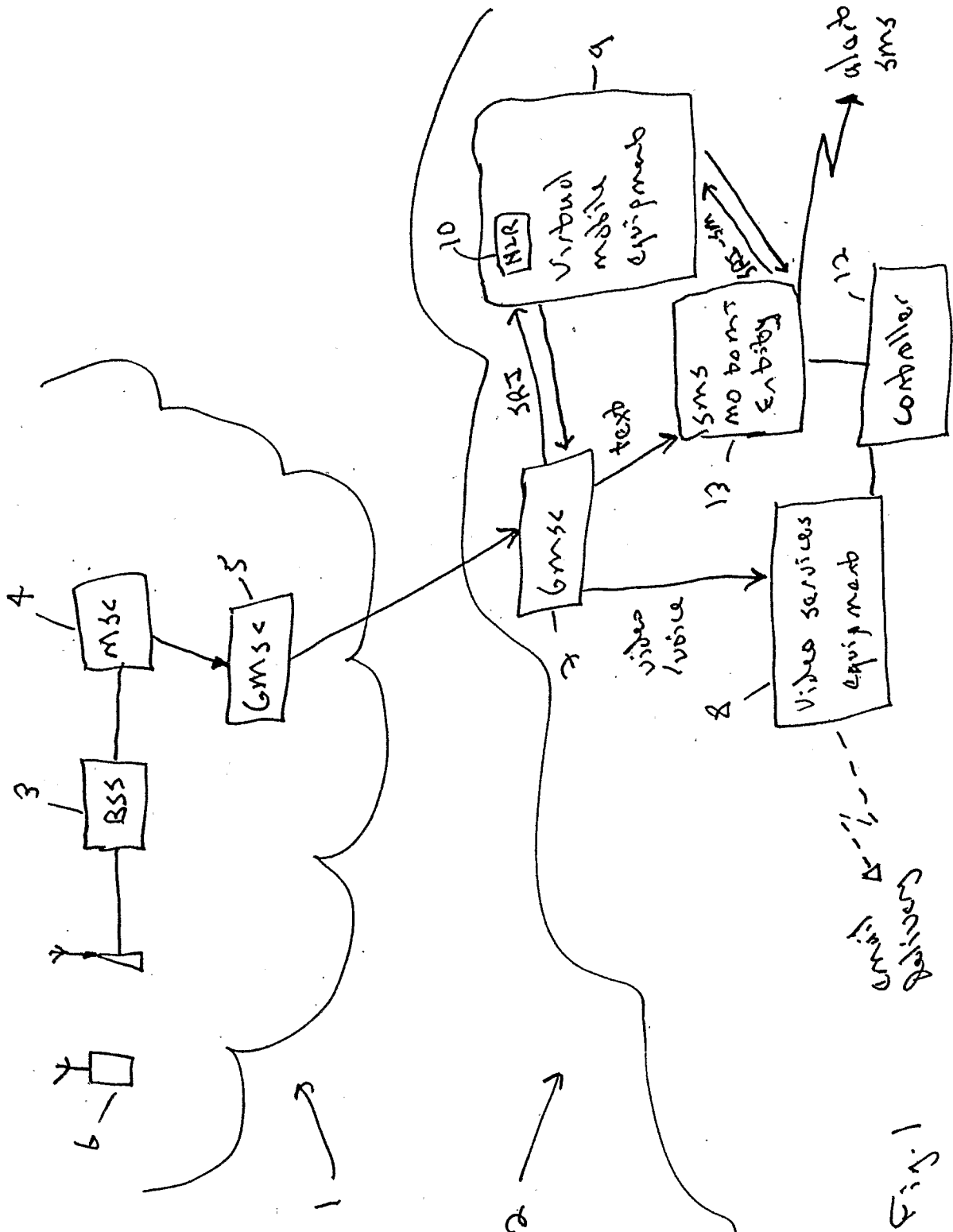
37. The method of claim 35 or 36, wherein the system can
5 operate in a similar manner with respect to voice calls and/or text messages.

38. A computer program element comprising computer
software code portions for performing the method of any
10 one of claims 22 to 37 when the program element is run on data processing means.

39. A telecommunications system substantially as herein
described with reference to the accompanying drawing.
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40. A communications network infrastructure
substantially as herein described with reference to the
accompanying drawing.

20 41. A method of operating a communications system
substantially as herein described with reference to the
accompanying drawing.



INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2006/004903

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04M3/42

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)

H04M

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

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

EPO-Internal, WPI Data, INSPEC, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/071529 A1 (NELKENBAUM YOSSIE [IL]) 13 June 2002 (2002-06-13)	1-8, 14-19, 22-27, 31-41
Y	abstract paragraphs [0045], [0059] - [0065], [0081], [0088] - [0100]	9-13, 20, 21, 28-30
Y	US 6 249 809 B1 (BRO WILLIAM L [US]) 19 June 2001 (2001-06-19) abstract column 3, line 28 - column 10, line 55	9-13, 20, 21, 28-30
A	US 2002/123883 A1 (JACKSON JAY M [US] ET AL) 5 September 2002 (2002-09-05) The whole document	1-41

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

13 March 2007

Date of mailing of the international search report

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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Willems, Branko

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2006/004903

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002071529	A1	13-06-2002	NONE
US 6249809	B1	19-06-2001	NONE
US 2002123883	A1	05-09-2002	NONE