



- (51) International Patent Classification: Not classified
- (21) International Application Number: PCT/IB2013/003012
- (22) International Filing Date: 23 December 2013 (23.12.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 201210574638.7 26 December 2012 (26.12.2012) CN
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- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: METHOD AND APPARATUS FOR INTEGRATING INTERNET SERVICE IN A CALL

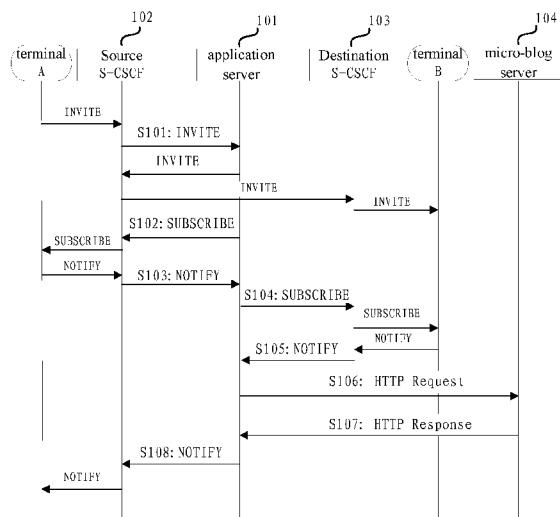


FIG. 1

(57) Abstract: The present invention provides a method for integrating Internet service in a call. A new application server is introduced, in which a telecommunications network account-social networking account correspondence table is stored. After receiving a call establishment request of a calling user, the request comprising telecommunications network numbers of the calling user and the called user, the application server sends a information request message to a social networking server, comprising a social networking information item subscribed by the calling user and a social networking account of the called user, then sends social networking information from the called user of the social server to the calling user, and displays it on the screen of the calling user. The invention can implement learning information of a social network of the called user while initiating a call to the called user in a case where the calling user only knows the telecommunications network account of the called user.

METHOD AND APPARATUS FOR INTEGRATING INTERNET SERVICE IN A CALL

Technical Field

The present invention relates to the field of communication technologies, and more particularly to a method and apparatus for processing a call.

Description of the Related Art

The rapid development of the Internet has led to birth and popularity of more and more new services, and at the same time, traditional telecommunications services are subject to increasingly severe challenges. How to integrate emerging Internet services in traditional telecommunications services is a common concern for traditional telecoms operators and Internet service providers (ISP).

Social Networking Service is an Internet service that has emerged in recent years and has been rapidly popular over the world, for example, China's micro-blog, U.S.'s facebook and twitter, and so on. A social network provides a convenient and fast way to publish and share information. A user in a social network may publish his or her latest information very conveniently, and other users in the social network may learn the relevant information about the user in time, but users outside of the social network, such as users in a traditional telecommunications network cannot get the information.

In the prior art, there is not a service that can embed social networking service in traditional telecommunications services.

Summary of the Invention

The object of the present invention is to provide a method and an apparatus for integrating Internet service in a call.

According to a first aspect of the present invention, there is provided a method for integrating Internet service in a call in a telecommunications network server, the method comprising the following steps of: a. receiving a call establishment request from a calling user, comprising a telecommunications network number of the calling user and a telecommunications network number of a called subscriber; b. sending an information request message to a social networking server, comprising a social networking account of the called user and social networking information item subscribed by the calling user; c. receiving an information response message from the social networking server, comprising social

networking information of the called user; d. sending an information indication message to the calling user, comprising social networking information of the called user.

Preferably, there is further comprised prior to step b the following steps of: sending a first subscription request to the calling user; receiving a first notification message from the calling subscriber, comprising the social networking information item subscribed by the calling user.

Preferably, if the server doesn't have the social networking account of the called user locally, there is further comprised prior to step b the following steps of: sending a second subscription message to the called user; receiving a second notification message from the called user to extract the social networking account of the called user therein.

Preferably, there is further comprised prior to step b the following steps of: receiving a called ringing indication message; wherein the information indication message in step d is further used for indicating that the called user has rung.

Preferably, there is further comprised prior to step d the following steps of: receiving a called ringing indication message; determining whether the information response message from the social networking server has been received; when the determination result is yes, executing step d; wherein the information indication message in step d is further used for indicating that the called user has rung.

According to a second aspect of the present invention, there is provided a method for integrating Internet service in a call in a terminal, the terminal being a terminal corresponding to a calling user, the method comprising the following steps of: sending a call establishment request to a server, comprising a telecommunications network number of the calling user and a telecommunications network number of a called user; receiving an information indication message from the server, comprising social networking information of the called user, and displaying the social networking information on a display output device.

Preferably, the method further comprises the steps of: receiving a first subscription request from the server, comprising information of the called user; sending a first notification message to the server, comprising social networking information item subscribed by the terminal.

According to a third aspect of the present invention, there is provided a method for integrating Internet service in a call in a terminal, the terminal being a terminal corresponding to a called user, the method comprising the following steps of: receiving a second subscription request from a server, comprising a telecommunications network account of the

called user; sending a second notification message to the server, comprising a social networking account of the called user.

According to a fourth aspect of the present invention, there is provided an apparatus for integrating Internet service in a call in a telecommunications network server, the apparatus comprising: a first reception means for receiving a call establishment request from a calling user, comprising a telecommunications network number of the calling user and a telecommunications network number of a called subscriber; a first sending means for sending an information request message to a social networking server, comprising a social networking account of the called user and social networking information item subscribed by the calling user; a second reception means for receiving an information response message from the social networking server, comprising social networking information of the called user; a second sending means for sending an information indication message to the calling user, comprising social networking information of the called user.

Preferably, the apparatus further comprises a third sending means for sending a first subscription request to the calling user; a third reception means for receiving a first notification message from the calling subscriber, comprising the social networking information item subscribed by the calling user.

Preferably, if the server doesn't have the social networking account of the called user locally, the apparatus further comprises a fourth sending means for sending a second subscription message to the called user; a fourth reception means for receiving a second notification message from the called user to extract the social networking account of the called user therein.

Preferably, the apparatus further comprises a fifth reception means for receiving a called ringing indication message; wherein the information indication message sent by the second sending means is further used for indicating that the called user has rung.

Preferably, the apparatus further comprises a sixth reception means for receiving a called ringing indication message; a determination means for determining whether the information response message from the social networking server has been received; when the determination result of the determination means is yes, the second sending means sending the information indication message to the calling user, wherein the information indication message is further used for indicating that the called user has rung.

According to a fifth aspect of the present invention, there is provided an apparatus for integrating Internet service in a call in a terminal, the terminal being a terminal corresponding

to a calling user, the apparatus comprising: a seventh sending means for sending a call establishment request to a server, comprising a telecommunications network number of the calling user and a telecommunications network number of a called user; a seventh reception means for receiving an information indication message from the server, comprising social
5 networking information of the called user, and for displaying the social networking information on a display output device.

Preferably, the apparatus further comprises: an eighth reception means for receiving a first subscription request from the server; an eighth sending means for sending a first notification message to the server, comprising social networking information item subscribed
10 by the terminal.

According to a sixth aspect of the present invention, there is provided an apparatus for integrating Internet service in a call in a terminal, the terminal being a terminal corresponding to a called user, the apparatus comprising: a ninth reception means for receiving a second subscription request from a server, comprising a telecommunications network account of the
15 called user; a ninth sending means for sending a second notification message to the server, comprising a social networking account of the called user.

The invention can implement learning information of a social network of a called user while initiating a call to the called user in a case where a calling user only knows a telecommunications network account of the called user. For the calling user, the service can
20 provide more versatile, user customized Internet information of the called user for the call, and provide a good way to use Internet service. For Internet operators, they can obtain telecommunications network accounts of users thereby to get more users. For telecommunications operators, they can offer new competitive services. For Internet operators and telecommunications operators, this will be a win-win service.

Brief Description of the Drawings

Other features, objects and advantages of the present invention will become more obvious by referring the detailed description of non-limiting embodiments with reference to the drawings:

Figure 1 is a flow chart of a method for integrating Internet service in a call in an IMS system of one preferred embodiment of the present invention;

Figure 2 is a flow chart of a method for integrating Internet service in a call in an IMS system of another preferred embodiment of the present invention;

Figure 3 is a flow chart of a method for integrating Internet service in a call in a server of another preferred embodiment of the present invention;

Figure 4 is a schematic structural diagram of an apparatus for integrating Internet service in a call in a terminal of one preferred embodiment of the present invention;

5 Figure 5 is a schematic structural diagram of an apparatus for integrating Internet service in a call in an IMS system of one preferred embodiment of the present invention;

Figure 6 is a schematic structural diagram of an apparatus for integrating Internet service in a call in an IMS system of another preferred embodiment of the present invention.

The same or similar reference signs in the drawings represent the same or similar parts.

10

Detailed Description of the Preferred Embodiment

The present invention is further described in detail below with reference to the drawings.

Figure 1 is a flow chart of a method for integrating Internet service in a call in an IMS system according to one preferred embodiment of the present invention.

15 Network entities involved in this embodiment are described first. Terminal A is a terminal corresponding to calling user A, terminal B is a terminal corresponding to called user B. Source S-CSCF (Serving-Call Session Control Function) 102 is a call control server at the terminal A side, destination S-CSCF103 is a call control server at the terminal B side. micro-blog server 104 is a social networking server in the Internet, in which related
20 information of a user opening micro-blog service in the Internet is stored, such as the user's latest micro-blog, hot topics concerned, users with attention to him, users he is paying attention to, micro-groups he joins, latest comments received or sent and the like, historical records, micro-blogs of interest, etc. Wherein, an application server 101 is a server newly introduced in the present invention, which may exist as a separate physical entity, and may
25 also be extended from an existing server.

It should be noted that Figure 1 only lists network entities directly related to the present invention and those skilled in the art should appreciate that in order to implement the present invention, other necessary network entities and network connections are also included.

The method begins when the terminal A initiates a call to the terminal B. As shown in
30 Figure 1, the terminal A initiates a call establishment request, such as INVITE message, and the message arrives at the application server 101 via the source S-CSCF102. As shown in step S101, the application server 101 receives a call establishment request from the terminal A, such as INVITE message, and the message comprises a telecommunications network account

of the terminal A and a telecommunications network account of the terminal B. the telecommunications network account described here refers to a phone number the user usually uses to call other people, such as, but not limited to, a mobile phone number, a fixed telephone number, etc.. The use of the telecommunications network account is mainly for
5 distinction from an account in a social network in the following text.

After receiving the call establishment request, namely, when knowing that the calling subscriber A wishes to initiate a call to the called user B, the application server 101 obtains relevant information in the micro-blog of the called user B. The application server 101 will extract the telecommunications network account of the terminal A and the
10 telecommunications network account of the terminal B in the message, and meanwhile it will reply INVITE message to the source S-CSCF102. After receiving the replied INVITE message, the Source S-CSCF102 continues the call establishment process between the terminal A and the terminal B. The call establishment process between the terminal A and the terminal B is the same as the prior art, and is not affected by the present invention.

15 Then, the application server 101 will query locally whether there is stored a micro-blog information item subscribed by the calling user A, and if not, proceed to step S102.

In step S102, the application server 101 sends a first subscription request to the terminal A, such as SUBSCRIBE message, for acquiring the micro-blog information item subscribed by the calling user A, i.e., the micro-blog information item of interest to the calling user A,
20 such as latest micro-blog published by the called user B, or a hot topic the user B pays attention to, or users with attention to the user B, or users the user B pays attention to, or micro-group the user B joins, or latest comments received or sent by the user B, and so on.

The SUBSCRIBE message arrives the terminal A via the source S-CSCF102, while after receiving the message, the terminal A will reply a first notification message, such as NOTIFY
25 message, in which NOTIFY message a micro-blog information item of interest to the terminal A is specified.

Preferably, after receiving the SUBSCRIBE message, the terminal A will determine whether the user B is in its list of interest. If yes, then it will reply the above-described first notification message, and if not, do not process it.

30 The first notification message arrives at the application server 101 via the source S-CSCF102, as shown in step S103. The application server 101 extracts a micro-blog information item subscribed by the calling user A therein, and meanwhile may also store the micro-blog information item subscribed by the calling user A locally for subsequent use.

If the application server 101 stores the micro-blog information item subscribed by the calling user A locally, then it doesn't have to execute steps S102 to S103, but directly extracts the micro-blog information item subscribed by the calling user A locally. Therefore, steps S102 to S103 are not necessary, but optional.

5 After obtaining the micro-blog information item subscribed by the calling user A, the application server 101 will query locally whether there is stored a micro-blog account of the called user B according to the telecommunications network account of the called user B. If not, then it proceeds to step S104.

10 In step S104, the application server 101 sends a second subscription message to the terminal B, such as SUBSCRIBE message, to obtain the micro-blog account of the called user B.

The SUBSCRIBE message arrives at the terminal B via the S-CSCF103, and after receiving the message, the terminal B will reply a second notification message, such as NOTIFY message, comprising the micro-blog account of the called user B.

15 Preferably, after receiving the SUBSCRIBE message, the terminal B will determine whether the user A in its allowed list. If yes, then it will reply the above-described second notification message, and if not, do not process it.

20 The second notification message arrives at the application server 101 via the destination S-CSCF103, as shown in step S105. The application server 101 extracts the micro-blog account of the called user B therein, and meanwhile, may also store the correspondence between the telecommunications network account of the called user B and the micro-blog account of the called user B for subsequent use.

25 If the application server 101 stores the micro-blog account of the called user B locally, it doesn't have to execute steps S104 to S105, but directly extracts the micro-blog account of the called user B locally. Therefore, step S104 to S105 are not necessary, but optional.

30 After obtaining the micro-blog account of the called user B, the application server 101 will send an information request message a micro-blog server 104, comprising the micro-blog information item subscribed by the calling user A and the micro-blog account of the called user B, for obtaining micro-blog information of the called user B, the micro-blog information being information corresponding to the micro-blog information item subscribed by the user A, such as latest micro-blog information, etc. The information response message may be HTTP reply message.

After receiving the information request message, the micro-blog server 104 will reply the

information response message to the application server 101, as shown in step S107, comprising the micro-blog information of the called user B, the micro-blog information being information corresponding to the micro-blog information item subscribed by the user A, such as latest micro-blog information, etc.. The information response message may be HTTP reply message.

In step S107, the application server 101 receives the information response message from the micro-blog server 104. It will extract the micro-blog information of the called user B contained therein, and then send an information indication message to the terminal A, comprising the micro-blog information of the called user B. As shown in step S108, the information indication message may be NOTIFY message.

After receiving the information indication message, the terminal A will extract the micro-blog information of the called user B contained therein, and display the micro-blog information on a display output device (such as a mobile phone screen, etc.). Thus, while initiating a call to the user B, the user A can obtain the micro-blog information of the user B of his interest, without knowing the micro-blog account of the user B. Thus, the user A doesn't need to know in advance or manually query the micro-blog account of the user B, eliminating the trouble for the user to manually refresh the micro-blog, and it can obtain timely micro-blog information about the called user only by dialing the phone number traditionally, know latest status, views and comments and topics of concern of the user B more clearly, increase their mutual topics, draw each other closer, and expand their own circle of acquaintances by obtaining groups or users of the user B's concern.

Figure 2 is a flow chart of a method for integrating Internet service in a call in an IMS system according to another preferred embodiment of the present invention.

Network entities involved in Figure 2 are the same as those involved in Figure 1, and the relevant description is also the same as that in Figure 1 and will not be repeated again.

In the present embodiment, the terminal A initiates a call to the terminal B. As shown in Figure 2, the terminal A initiates a call establishment request, such as INVITE message, and the message arrives at the application server 101 via the source S-CSCF102. As shown in step S201, the application server 101 receives the call establishment request from the terminal A, such as INVITE message, comprising the telecommunications network account of the terminal A and the telecommunications network account of the terminal B. The telecommunications network account described here refers to a phone number the user usually uses to call other people, such as, but not limited to, a mobile phone number, a fixed

telephone number, etc. The use of the telecommunications network account is mainly for distinction from an account in a social network in the following text.

After receiving the call establishment request, namely, when knowing that the calling subscriber A wishes to initiate a call to the called user B, the application server 101 obtains
5 relevant information in the micro-blog of the called user B. The application server 101 will extract the telecommunications network account of the terminal A and the telecommunications network account of the terminal B in the message, and meanwhile it will reply INVITE message to the source S-CSCF102. After receiving the replied INVITE message, the Source S-CSCF102 continues the call establishment process between the
10 terminal A and the terminal B.

In step S202, the application server 101 receives a called ringing indication message, such as 180Ringing message. The called ringing indication message represents that the INVITE message has arrived at the terminal B, and the terminal B starts ringing.

In step S203, in response to the called ringing indication message, the application server
15 101 will send a information request message to the micro-blog server 104, such as HTTP request message, comprising a micro-blog information item subscribed by the calling user A and the micro-blog account of the called user B.

In this embodiment, the application server 101 locally stores the micro-blog information item subscribed by the calling user A and the micro-blog account of the called user B, and
20 hence can directly extract it locally. If there aren't the micro-blog information item subscribed by the calling user A and the micro-blog account of the called user B locally, the application services 101 needs to send a subscription message to the terminal A and the terminal B, respectively, to obtain the two pieces of information. In the embodiment shown in Figure 1, steps S102 to S103 show the process of the application server 101 obtaining the micro-blog
25 information item subscribed by the calling user A, steps S104 to S105 show the process of the application server 101 obtaining the micro-blog account of the called user B, and they are not described again here.

After receiving the information request message, the micro-blog server 104 will reply the information response message to the application server 101, as shown in step S204,
30 comprising the micro-blog information of the called user B, the micro-blog information being information corresponding to the micro-blog information item subscribed by the user A, such as latest micro-blog information, etc.. The information response message may be HTTP reply message.

In step S204, the application server 101 receives the information response message from the micro-blog server 104, and it will extract the micro-blog information of the called user B contained therein.

5 In step S205, the application server 101 sends an information indication message to the terminal A, such as 180Ringing message, comprising the micro-blog information of the called user B. This information is also used for indicating to the terminal A that the terminal B has rung.

10 After receiving the information indication message, the terminal A will extract the micro-blog information of the called user B contained therein, and display the micro-blog information on a display output device (such as a mobile phone screen, etc.).

Thereafter, the terminal A receives a 200 OK message, which indicates that the call between the terminal A and the terminal B is successfully established. In this way, the user A may obtain the micro-blog information of the user B of his interest, without knowing the micro-blog account of the user B, and the acquisition behavior is completed during the
15 successful establishment of the call. In this way, the user A may browse latest micro-blog information of the user B to learn the recent status thereof when waiting for the user B hooking. By the present invention, the user A doesn't need to know in advance or manually query the micro-blog account of the user B, eliminating the trouble for the user to manually refresh the micro-blog, and it can obtain timely micro-blog information about the called user
20 only by dialing the phone number traditionally, know latest status, views and comments and topics of concern of the user B more clearly, increase their mutual topics, draw each other closer, and expand their own circle of acquaintances by obtaining groups or users of the user B's concern.

25 Figure 3 is a flow chart of a method for integrating Internet service in a call in an IMS system according to another preferred embodiment of the present invention.

Network entities involved in Figure 3 are the same as those involved in Figure 1, and the relevant description is also the same as that in Figure 1 and will not be repeated again.

In the present embodiment, the terminal A initiates a call to the terminal B. As shown in Figure 3, the terminal A initiates a call establishment request, such as INVITE message, and
30 the message arrives at the application server 101 via the source S-CSCF102. As shown in step S301, the application server 101 receives the call establishment request from the terminal A, such as INVITE message, comprising the telecommunications network account of the terminal A and the telecommunications network account of the terminal B. The

telecommunications network account described here refers to a phone number the user usually uses to call other people, such as, but not limited to, a mobile phone number, a fixed telephone number, etc. The use of the telecommunications network account is mainly for distinction from an account in a social network in the following text.

5 After receiving the call establishment request, namely, when knowing that the calling subscriber A wishes to initiate a call to the called user B, the application server 101 obtains relevant information in the micro-blog of the called user B. The application server 101 will extract the telecommunications network account of the terminal A and the telecommunications network account of the terminal B in the message, and meanwhile it will
10 reply INVITE message to the source S-CSCF102. After receiving the replied INVITE message, the Source S-CSCF102 continues the call establishment process between the terminal A and the terminal B.

In step S302, the application server 101 will send an information request message to the micro-blog server 104, such as HTTP request message, comprising micro-blog information
15 item subscribed by the calling user A and the micro-blog account of the user B.

In this embodiment, the application server 101 locally stores the micro-blog information item subscribed by the calling user A and the micro-blog account of the called user B, and hence can directly extract it locally. If there aren't the micro-blog information item subscribed by the calling user A and the micro-blog account of the called user B locally, the application
20 services 101 needs to send a subscription message to the terminal A and the terminal B, respectively, to obtain the two pieces of information. In the embodiment shown in Figure 1, steps S102 to S103 show the process of the application server 101 obtaining the micro-blog information item subscribed by the calling user A, steps S104 to S105 show the process of the application server 101 obtaining the micro-blog account of the called user B, and they are not
25 described again here.

After receiving the information request message, the micro-blog server 104 will reply the information response message to the application server 101, as shown in step S303, comprising the micro-blog information of the called user B, the micro-blog information being information corresponding to the micro-blog information item subscribed by the user A, such
30 as latest micro-blog information, etc.. The information response message may be HTTP reply message.

In step S303, the application server 101 receives the information response message from the micro-blog server 104, and it will extract the micro-blog information of the called user B

contained therein.

In step S304, the application server 101 receives a called ringing indication message, such as 180Ringing message. The called ringing indication message represents that the INVITE message has arrived at the terminal B, and the terminal B starts ringing.

5 In step S305, the application server 101 will determine whether the information response message from the micro-blog server 104 has been received.

If the determination result is No, the application server 101 will start a timer to wait for the information response message, and if the message is still not received after the timer expires, it will continue the call establishment process between the terminal A and the
10 terminal B. If the determination result is Yes, then it executes step S306.

In step S306, the application server 101 sends an information indication message to the terminal A, such as 180Ringing message, comprising the micro-blog information of the called user B. This information is also used for indicating to the terminal A that the terminal B has rung.

15 After receiving the information indication message, the terminal A will extract the micro-blog information of the called user B contained therein, and display the micro-blog information on a display output device (such as a mobile phone screen, etc.).

Thereafter, the terminal A receives a 200 OK message, which indicates that the call between the terminal A and the terminal B is successfully established. In this way, the user A
20 may obtain the micro-blog information of the user B of his interest, without knowing the micro-blog account of the user B, and the acquisition behavior is completed during the successful establishment of the call. In this way, the user A may browse latest micro-blog information of the user B to learn the recent status thereof when waiting for the user B hooking. By the present invention, the user A doesn't need to know in advance or manually
25 query the micro-blog account of the user B, eliminating the trouble for the user to manually refresh the micro-blog, and it can obtain timely micro-blog information about the called user only by dialing the phone number traditionally, know latest status, views and comments and topics of concern of the user B more clearly, increase their mutual topics, draw each other closer, and expand their own circle of acquaintances by obtaining groups or users of the user
30 B's concern.

Figure 4 is a schematic structural diagram of an apparatus for integrating Internet service in a call in the application server 101 according to one preferred embodiment of the present invention. The apparatus 400 comprises: a first reception means 401, a first sending means

402, a second reception means 403 and a second sending means 404.

The work process thereof is described below in detail in conjunction with Figures 1 to 3.

First, the terminal A initiates a call establishment request, such as INVITE message, and the message arrives at the application server 101 via the source S-CSCF102. The first
5 reception means 401 receives a call establishment request from the terminal A, such as INVITE message, comprising a telecommunications network account of the terminal A and a telecommunications network account of the terminal B. the telecommunications network account described here refers to a phone number the user usually uses to call other people, such as, but not limited to, a mobile phone number, a fixed telephone number, etc.. The use of
10 the telecommunications network account is mainly for distinction from an account in a social network in the following text.

Then, the first sending means 402 sends an information request message to the micro-blog server 104, such as HTTP request message, comprising the micro-blog information item subscribed by the calling user A and the micro-blog account of the user B
15 for obtaining the micro-blog information of the user B.

After receiving the information request message, the micro-blog server 104 will reply the information response message to the application server 101, such as HTTP reply message, comprising the micro-blog information of the called user B, the micro-blog information being information corresponding to the micro-blog information item subscribed by the user A, such
20 as latest micro-blog information, etc.

The second reception means 403 receives the information response message from the micro-blog server 104, comprising the micro-blog information of the called user B. The application server 101 will extract the micro-blog information of the called user B contained therein.

25 Then, the second sending means 404 sends an information indication message to the terminal A via the source S-CSCF102, such as NOTIFY message, comprising the micro-blog information of the called user B.

In one embodiment, the application server 101 does not have the micro-blog account of the called user B locally, and the apparatus 400 further comprises a third sending means (not
30 shown) and a third reception means (not shown).

The third sending means sends a first subscription request to the terminal B via the source S-CSCF102, such as SUBSCRIBE message, for acquiring the micro-blog information item subscribed by the calling user A, i.e., the micro-blog information item of interest to the

calling user A, such as latest micro-blog published by the called user B, or a hot topic the user B pays attention to, or users with attention to the user B, or users the user B pays attention to, or micro-group the user B joins, or latest comments received or sent by the user B, and so on.

The third reception means receives a first notification message from the terminal A via the source S-CSCF102, such as NOTIFY message, in which the micro-blog information item of interest to the calling user A is comprised. The application server 101 extracts the micro-blog information item subscribed by the calling user A therein, and meanwhile may also store the micro-blog information item subscribed by the calling user A locally for subsequent use.

In another embodiment, the application server 101 does not have the micro-blog account of the called user B locally, and the apparatus 400 further comprises a fourth sending means (not shown) and a fourth reception means (not shown).

The fourth sending means sends a second subscription message to the terminal B via the destination S-CSCF103, such as SUBSCRIBE message, for acquiring the micro-blog account of the called user B.

The fourth reception means receives a second notification message from the terminal B via the destination S-CSCF103, such as NOTIFY message, in which the micro-blog account of the called user B is comprised. The application server 101 extracts the micro-blog account of the called user B therein, and meanwhile may also store correspondence between telecommunications network account of the called user B and the micro-blog account of the called user B locally for subsequent use.

In another embodiment, the apparatus 400 further comprises a fifth reception means (not shown).

Before the first sending means 402 sends the information request message to the micro-blog server 104, the fifth reception means receives a called ringing indication message, such as 180Ringing message. The called ringing indication message represents that the INVITE message has arrived at the terminal B, and the terminal B starts ringing.

In response to the called ringing indication message, the first sending means 402 will send the information request message to the micro-blog server 104.

Wherein, the information indication message to the terminal A sent by the second sending means 404 via the source S-CSCF 102, such as 180Ringing message, comprising the micro-blog information of the called user B, is also used for indicating to the terminal A that the terminal B has rung.

In yet another embodiment, the apparatus 400 further comprises a sixth reception means (not shown) and a determination means (not shown).

Before the second sending means 404 sends the information indication message to the terminal A via the source S-CSCF 102, the sixth reception means receives the called ringing indication message, such as 180Ringing message. The called ringing indication message represents that the INVITE message has arrived at the terminal B, and the terminal B starts ringing.

Then, the determination means determines whether the information response message from the micro-blog server 104 has arrived.

When the determination result of the determination means is yes, the second sending means 404 sends the information indication message to the terminal A, such as 180Ringing message, comprising the micro-blog information of the called user B, and the information is further used for indicating to the terminal A that the terminal B has rung.

Figure 5 is a schematic structural diagram of an apparatus for integrating Internet service in a call in the terminal A according to one preferred embodiment of the present invention. The apparatus 500 includes a seventh sending means 501 and a seventh reception means 502.

The work process thereof is described below in detail in conjunction with Figures 1 to 3.

First, the seventh sending means 501 sends a call establishment request to the application server 101 via the source S-CSCF102, such as INVITE message, comprising a telecommunications network account of the terminal A and a telecommunications network account of the terminal B. the telecommunications network account described here refers to a phone number the user usually uses to call other people, such as, but not limited to, a mobile phone number, a fixed telephone number, etc.. The use of the telecommunications network account is mainly for distinction from an account in a social network in the following text.

Then, the seventh reception means 502 receives an information indication message from the application server 101, comprising the micro-blog information of the called user B, and displays the micro-blog information on the display output device (such as a mobile phone screen, etc.). The information indication message may be NOTIFY message or 180Ringing message.

In one embodiment, the apparatus 500 further includes an eighth reception means (not shown) and an eighth sending means (not shown).

The eighth receiving means receives a first subscription request from the application server 101, such as SUBSCRIBE message.

The eighth sending means sends the first notification message to the application server 101, such as NOTIFY message, comprising the micro-blog information item subscribed by user A.

Figure 6 is a schematic structural diagram of an apparatus for integrating Internet service in a call in the terminal A according to one preferred embodiment of the present invention. The apparatus 500 includes a ninth reception means 601 and a ninth sending means 602.

The work process thereof is described below in detail in conjunction with Figure 1.

The ninth reception means 601 receives a second subscription request from the application server 101 via the destination S-CSCF103, such as SUBSCRIBE message, comprising the telecommunications network account of the user B.

The ninth sending means 602 sends a second notification message to the application server 101 via the destination S-CSCF103, such as NOTIFY message, comprising the micro-blog account of the user B.

It should be noted that, although the present invention has been described only by example of the IMS network herein, those skilled in the art should appreciate that the invention is equally applicable to other telecommunications networks, including but not limited to PSTN network, CDMA network, LTE network, etc. Although the present invention shows only such a social networking service as micro-blog, those skilled in the art should appreciate that the invention is equally applicable to other social networks.

To those skilled in the art, the present invention is obviously not limited to the details of the exemplary embodiments, and can be implemented in other specific forms without departing from the spirit or essential features of the present invention. Therefore, no matter from what point of view, the embodiments should be considered as exemplary and not limiting, and the scope of the invention is defined by the appended claims rather than by the foregoing description, whereby all changes falling within the meaning and scope of equivalents of the claims intend to be encompassed within the present invention. any reference signs in the claims should not be deemed to restrict the claims involved. Moreover, apparently "comprising" does not exclude other elements or steps, the singular does not exclude plural. A plurality of elements or means recited in the claims may also be implemented by one element or means through software or hardware. The terms first, second, etc, are used to represent names rather than any particular order

CLAIMS

1. A method for integrating Internet service in a call in a telecommunications network server, the method comprising the following steps of:

a. receiving a call establishment request from a calling user, comprising a telecommunications network number of the calling user and a telecommunications network number of a called subscriber;

b. sending an information request message to a social networking server, comprising a social networking account of the called user and social networking information item subscribed by the calling user;

c. receiving an information response message from the social networking server, comprising social networking information of the called user;

d. sending an information indication message to the calling user, comprising social networking information of the called user.

2. The method according to claim 1, characterized by further comprising, prior to step b, the following steps of:

- sending a first subscription request to the calling user;

- receiving a first notification message from the calling subscriber, comprising the social networking information item subscribed by the calling user.

3. The method according to claim 1 or 2, characterized by, if the server doesn't have the social networking account of the called user locally, further comprising, prior to step b, the following steps of:

- sending a second subscription message to the called user;

- receiving a second notification message from the called user to extract the social networking account of the called user therein.

4. The method according to claim 1 or 2, characterized by further comprising, prior to step b, the following step of:

- receiving a called ringing indication message;

wherein the information indication message in step d is further used for indicating that the called user has rung.

5. The method according to claim 1 or 2, characterized by further comprising, prior to step d, the following steps of:

- receiving a called ringing indication message;
- determining whether the information response message from the social networking server has been received;

- when the determination result is yes, executing step d; wherein the information indication message in step d is further used for indicating that the called user has rung.

6. A method for integrating Internet service in a call in a terminal, the terminal being a terminal corresponding to a calling user, the method comprising the following steps of:

sending a call establishment request to a server, comprising a telecommunications network number of the calling user and a telecommunications network number of a called user;

receiving an information indication message from the server, comprising social networking information of the called user, and displaying the social networking information on a display output device.

7. The method according to claim 6, characterized in that the method further comprises the following steps of:

- receiving a first subscription request from the server, comprising information of the called user;
- sending a first notification message to the server, comprising social networking information item subscribed by the terminal.

8. A method for integrating Internet service in a call in a terminal, the terminal being a terminal corresponding to a called user, the method comprising the following steps of:

- receiving a second subscription request from a server, comprising a telecommunications network account of the called user;
- sending a second notification message to the server, comprising a social networking account of the called user.

9. An apparatus for integrating Internet service in a call in a telecommunications network server, the apparatus comprising:

a first reception means for receiving a call establishment request from a calling user,

comprising a telecommunications network number of the calling user and a telecommunications network number of a called subscriber;

a first sending means for sending an information request message to a social networking server, comprising a social networking account of the called user and social networking
5 information item subscribed by the calling user;

a second reception means for receiving an information response message from the social networking server, comprising social networking information of the called user;

a second sending means for sending an information indication message to the calling user, comprising social networking information of the called user.

10 10. The apparatus according to claim 9, characterized in that the apparatus further comprises:

a third sending means for sending a first subscription request to the calling user;

a third reception means for receiving a first notification message from the calling subscriber, comprising the social networking information item subscribed by the calling user.

15 11. The apparatus according to claim 9 or 10, characterized in that, if the server doesn't have the social networking account of the called user locally, the apparatus further comprises:

a fourth sending means for sending a second subscription message to the called user;

a fourth reception means for receiving a second notification message from the called user
20 to extract the social networking account of the called user therein.

12. The apparatus according to claim 9 or 10, characterized in that the apparatus further comprises:

a fifth reception means for receiving a called ringing indication message; wherein the
25 information indication message sent by the second sending means is further used for indicating that the called user has rung.

13. The apparatus according to claim 9 or 10, characterized in that the apparatus further comprises:

30 a sixth reception means for receiving a called ringing indication message;

a determination means for determining whether the information response message from the social networking server has been received;

when the determination result of the determination means is yes, the second sending

means sending the information indication message to the calling user, wherein the information indication message is further used for indicating that the called user has rung.

14. An apparatus for integrating Internet service in a call in a terminal, the terminal being
5 a terminal corresponding to a calling user, the apparatus comprising:

a seventh sending means for sending a call establishment request to a server, comprising a telecommunications network number of the calling user and a telecommunications network number of a called user;

10 a seventh reception means for receiving an information indication message from the server, comprising social networking information of the called user, and for displaying the social networking information on a display output device.

15 15. The apparatus according to claim 14, characterized in that the apparatus further comprises:

an eighth reception means for receiving a first subscription request from the server;

an eighth sending means for sending a first notification message to the server, comprising social networking information item subscribed by the terminal.

16. An apparatus for integrating Internet service in a call in a terminal, the terminal being
20 a terminal corresponding to a called user, the apparatus comprising:

a ninth reception means for receiving a second subscription request from a server, comprising a telecommunications network account of the called user;

a ninth sending means for sending a second notification message to the server, comprising a social networking account of the called user.

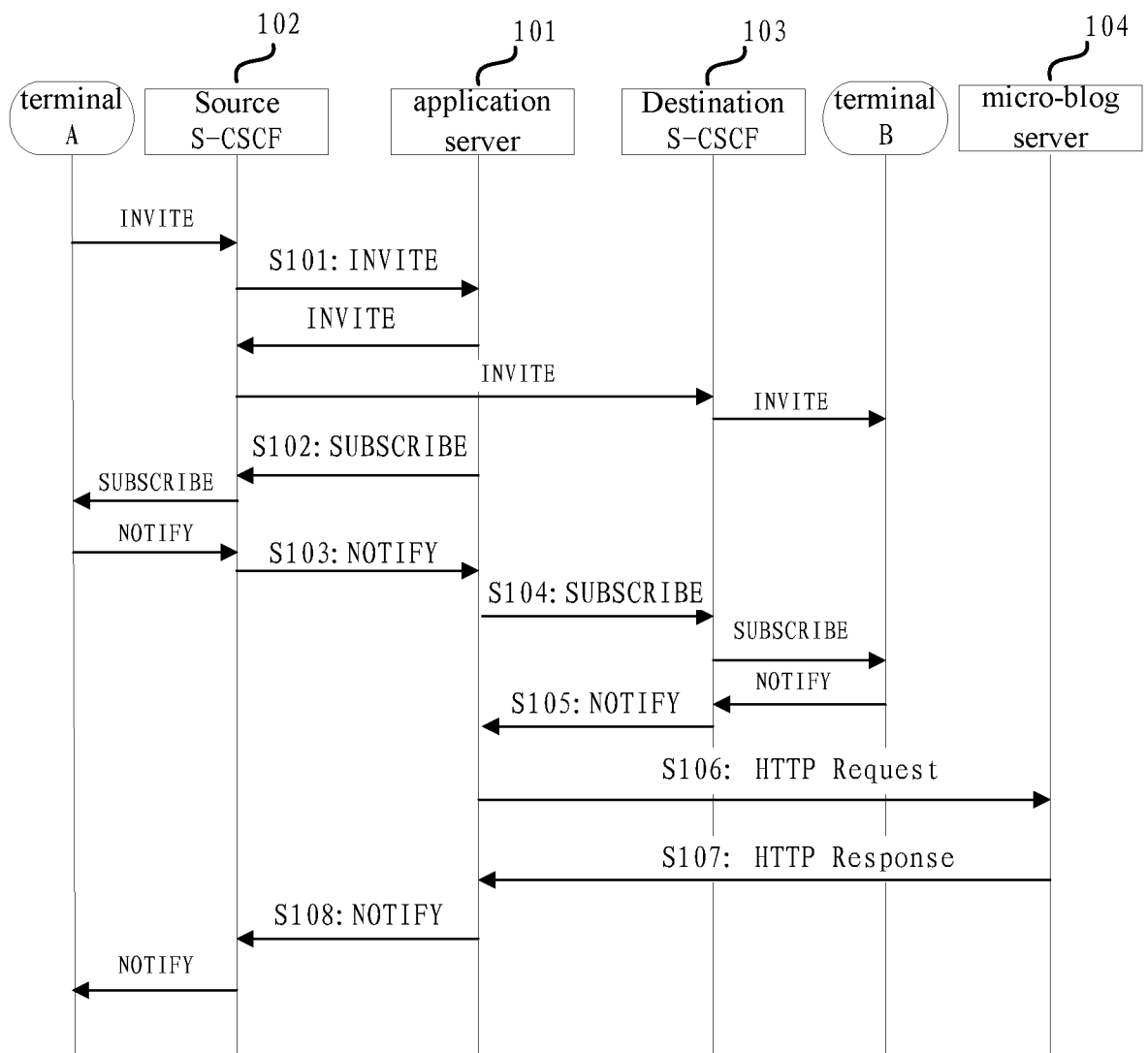
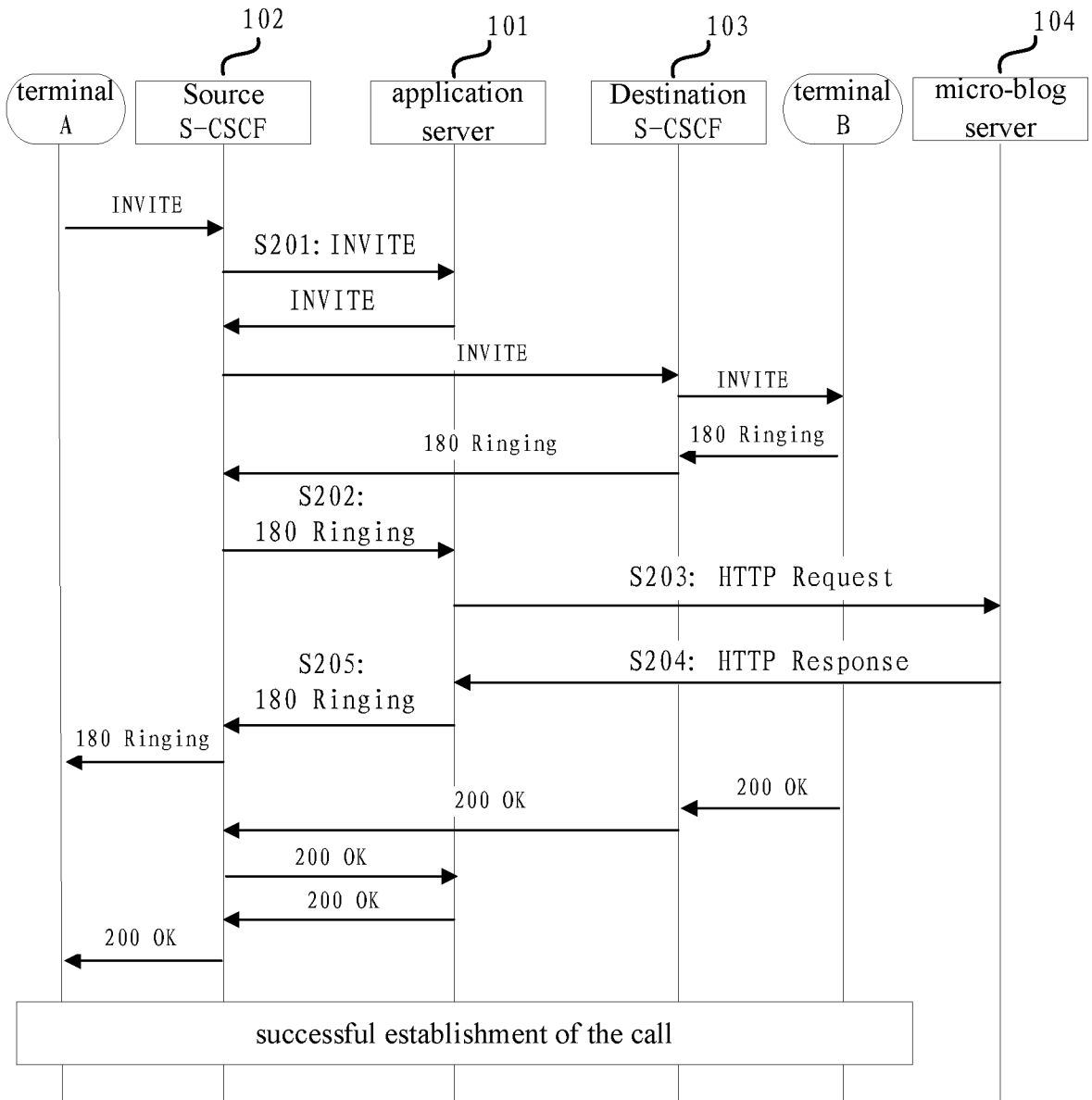
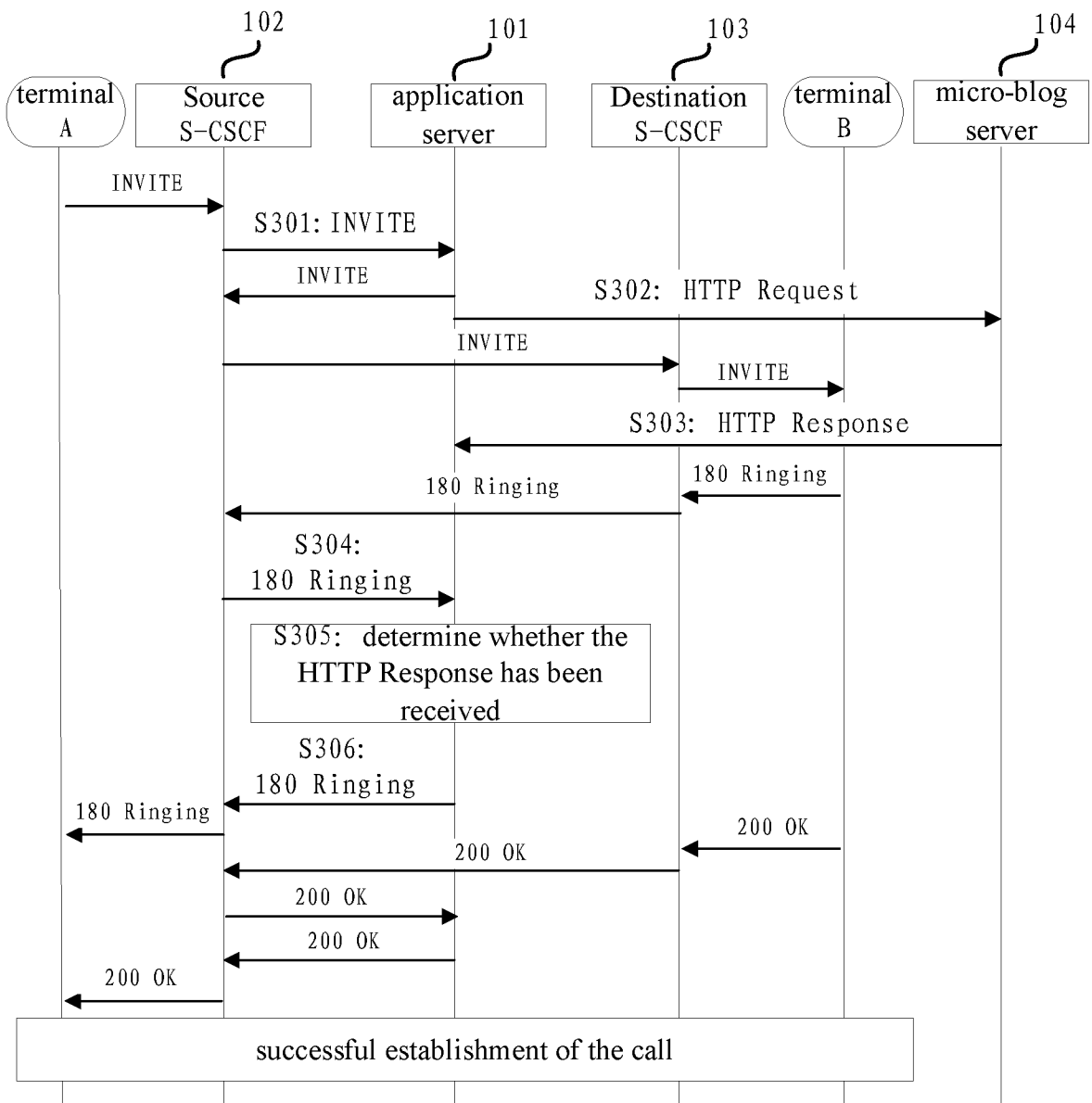
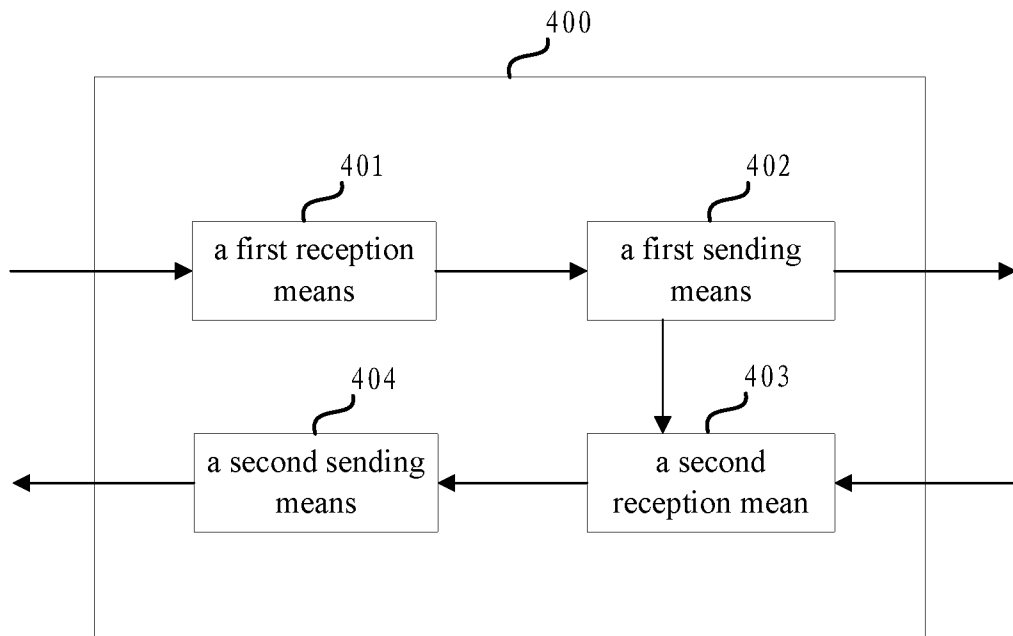
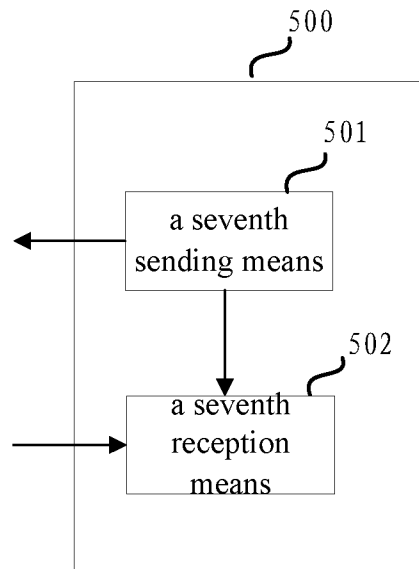
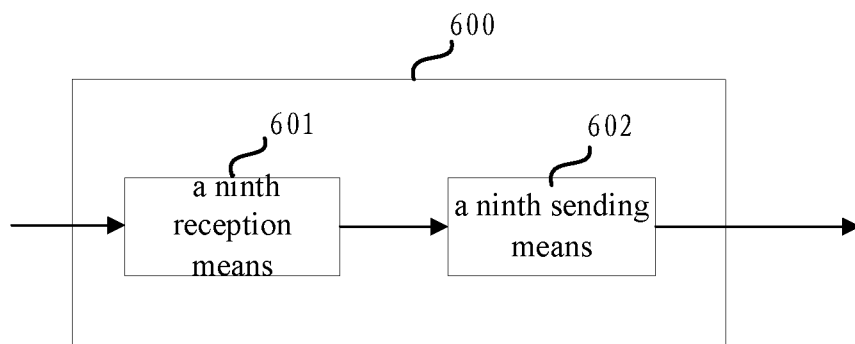


FIG. 1

**FIG. 2**

**FIG. 3**

**FIG. 4**

**FIG. 5****FIG. 6**