(54) Title: METHOD AND DEVICE FOR GENERATING VOICE/TEXT/IMAGE COMMERCIAL INFORMATION RINGBACK TONE DURING COMMUNICATION WAIT

(57) Abrégé/Abstract:
A method and a device for providing voice/text/image commercial information to a call originator are disclosed. The method and the device according to the present invention can provide commercial information such as advertisements, music, news, or stock information during a communication wait to a call originator instead of an ordinary ring-back tone so that the subscriber can relax a boring state, save a communication charge, and hear the commercial information in forms of sound, text, and/or image.
ABSTRACT OF THE INVENTION

A method and a device for providing voice/text/image commercial information to a call originator are disclosed. The method and the device according to the present invention can provide commercial information such as advertisements, music, news, or stock information during a communication wait to a call originator instead of an ordinary ring-back tone so that the subscriber can relax a boring state, save a communication charge, and hear the commercial information in forms of sound, text, and/or image.
Method and device for providing commercial information during communication wait

BACKGROUND OF THE INVENTION

The present invention relates to a method and a device for providing commercial information such as advertisements, music, or news during a communication wait, and more particularly to a method and a device for providing sound/text/image commercial information when the communication is on wait. In the present invention, when a telephone caller calls upon a telephone receiver or upon any type of automatic response application system (ARS, VMS, VISS, PPS) by using any one of ordinary telephones, mobile telephones (CDMA, PCS, TDMA, GSM, AMPS, IMT-2000), video telephones, satellite telephones, or internet phones, the caller can hear and see various commercial information such as advertisements, music, or news in forms of voice, text, or image instead of an ordinary waiting signal sound (ringback tone) by providing such information into the caller’s telephone or any of the automatic response application system.

In general, when a telephone caller calls a particular company or a subscriber service center by using an ordinary telephone or a mobile telephone, he or she can hear the commercial advertisements. These advertisements have been very effective since they naturally flow out during a communication wait. In a conventional art, when a communication is on wait, messages such as "hold on for a while", and "other communication is still going on" are repetitively generated to the caller’s phone.

Recently, A particular service system for some mobile telephones provides voice type advertisements to the caller’s phone. When the user is be provided with the advertisements instead of a waiting signal sound or a
prerecorded voice for a particular service, he or she can relax a tiresome state and also can get a telephone charge discount. Some pharmacies and restaurants provide free call services for their clients. In this free call service, the clients can use the telephone for free upon hearing the advertisements for 10 to 15 seconds. However, in order to receive this free call service, the user must call to the advertisement company first, hear the advertisements, and then input the number the user wishes to call. So, this can be quite time consuming and inconvenient for many users.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a method for providing commercial information through which a telephone originator can hear and see advertisements, music, and news in the form of sound, text, and/or image with the background music. The other object of the invention is to provide an information generating device during a communication wait to achieve the above described method.

According to an aspect of the present invention, a method for generating commercial information through a communication system including a call process function carrying out a transfer of commercial information to an originating telephone instead of a typical ring-back tone during a communication wait is provided. The method comprises the steps of checking whether a telephone call is requested, connecting the originating telephone to the commercial information generating device/system if the telephone call is requested by the originating telephone, beginning to transmit the commercial information from the commercial information generating system to the originating telephone, requesting a connection to a receiving telephone after a first predetermined time (A-timeout) lapses, continuously transmitting the commercial information,
checking whether the receiving telephone accepts the connection request, stopping to transmit the commercial information if the receiving telephone accepts the connection request, connecting a communication line between the originating telephone and the receiving telephone, and checking whether the communication is finished, and disconnecting the communication line if the communication is finished.

According to another aspect of the present invention, an information generating device comprises a commercial information server for providing the commercial information including advertisements, music, composite information, and subscriber information, a commercial information generating device located inside of the switch system for providing the commercial information from the commercial information server to the originating telephone which is on wait through the subscriber communication line, a commercial information generating system located outside of the switch system for providing commercial information from the commercial information server to the originating telephone which is on wait through the relay communication line and the subscriber communication line, and a subscriber's private information server for providing subscriber's private information individually in terms of region, gender, ages, and time bands. The commercial information is provided depending on the contents of the subscriber's private information.

According to another aspect of the invention, there is provided a method of providing commercial information to an originating telephone during a
communication wait in a communication system having a
commercial information generating system, comprising the
steps of: connecting said originating telephone to said
commercial information generating system when a telephone
call is requested by said originating telephone; beginning
to transmit said commercial information from said commercial
information generating system to said originating telephone;
requesting a connection with a connection request, to a
receiving telephone after a first predetermined time; and
stopping transmission of said commercial information; and
connecting a communication line between said originating
telephone and said receiving telephone if said receiving
telephone accepts said connection request, or connecting a
relay line between an originating switch system and a
receiving switch system if a second predetermined time
lapses during the connection request.

According to another aspect of the invention,
there is provided a method of providing commercial
information to an originating telephone during a
communication wait in a communication system having a
commercial information generating system, comprising the
steps of: making a call to an originating switch system from
said originating telephone; requesting a connection to said
commercial information generating system from said
originating switch system; beginning to transmit said
commercial information to said originating telephone from
said commercial information generating system; requesting a
connection with a connection request for a receiving
telephone to a receiving switch system from said commercial
information generating system after a first predetermined
time lapses; and stopping transmission of said commercial
information; and connecting a communication line between
said originating telephone and said receiving telephone if
said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said telephone from said receiving switch system.

According to another aspect of the invention, there is provided a method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of: making a call to an originating switch system from said originating telephone; requesting a connection to said commercial information generating system from said originating switch system; beginning to transmit said commercial information to said originating telephone from said commercial information generating system; requesting a connection with a connection request for a receiving telephone to a receiving switch system from said originating switch system after a first predetermined time lapses; and stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

According to another aspect of the invention, there is provided a method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating device located inside of
an originating switch system, comprising the steps of: making a call to said originating switch system from said originating telephone; requesting a connection to said commercial information generating device from said originating switch system; beginning to transmit said commercial information to said originating telephone from said commercial information generating device; requesting a connection with a connection request for a receiving telephone to a receiving switch system from said originating switch system after a first predetermined time lapses; and stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

According to another aspect of the invention, there is provided a method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of: making a call to an originating switch system from said originating telephone; requesting a connection to a receiving switch system from said originating switch system and a connection to said commercial information generating system from said receiving switch system; transmitting said commercial information to said originating telephone from said commercial information generating system; requesting a connection with a connection request for a receiving telephone to said receiving switch system from said commercial information generating system after a first
predetermined time lapses; and stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

According to another aspect of the invention, there is provided a method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of: making a call to an originating switch system from said originating telephone; requesting a connection to a receiving switch system from said originating switch system and a connection to said commercial information generating system from said receiving switch system; transmitting said commercial information to said originating telephone from said commercial information generating system; requesting a connection with a connection request to a receiving telephone from said receiving switch system after a first predetermined time lapses; and stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.
According to another aspect of the invention, there is provided a method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating device located inside of a receiving switch system, comprising the steps of: making a call to an originating switch system from said originating telephone; requesting a connection to said receiving switch system from said originating switch system and a connection to said commercial information generating device from said receiving switch system; transmitting said commercial information to said originating telephone from said commercial information generating device; requesting a connection with a connection request to a receiving telephone from said receiving switch system after a first predetermined time lapses; and stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

According to another aspect of the invention, there is provided a method of providing commercial information announcement to an originating telephone during a communication wait in a communication system having a commercial information announcement generating system, comprising the steps of: making a call to an originating switch system from said originating telephone; requesting a connection to said commercial information announcement generating system from said originating switch system;
transmitting said commercial information announcement to said originating telephone from said commercial information announcement generating system; requesting a connection with a connection request for a receiving telephone to any one of a receiving switch system and an automatic response application system from said commercial information announcement generating system after a first predetermined time lapses; and stopping transmission of said commercial information announcement; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses.

According to another aspect of the invention, there is provided a method of providing commercial information announcement to an originating telephone during a communication wait in a communication system having a commercial information announcement generating device located inside of an automatic response application system, comprising the steps of: making a call to an originating switch system from said originating telephone; requesting a connection to said automatic response application system from said originating switch system and a connection to said commercial information announcement generating device from said automatic response application system; transmitting said commercial information announcement to said originating telephone from said commercial information announcement generating device; requesting a connection with a connection request to an automatic response applied device located inside of said automatic response application system from said automatic response application system after a first predetermined time lapses; and stopping transmission of said
commercial information announcement; and connecting a communication line between said originating telephone and said automatic response applied device if a second predetermined time lapses or said automatic response applied device accepts said connection request.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of a system providing commercial information service.

FIG. 2 is a flow chart for illustrating a method for providing commercial information according to the present invention.
FIG. 3 is a flow chart for illustrating a method for providing an original ring-back tone when a ring-back tone hearing mode is set.

FIG. 4 is a diagram for connections between systems according to first and second embodiments of the invention.

FIG. 5a shows a commercial information providing procedure where the commercial information generating system is used as a toll station according to a first embodiment of the invention.

FIG. 5b shows a commercial information providing procedure where the commercial information generating system is used as an end station according to a second embodiment of the invention.

FIG. 6 is a diagram for connections between systems according to a third embodiment of the invention.

FIG. 7 shows a commercial information providing procedure according to a third embodiment of the invention.

FIG. 8 is a diagram for connections between systems according to forth and fifth embodiments of the invention.

FIG. 9a shows a commercial information providing procedure where the commercial information generating system is used as a toll station according to a forth embodiment of the invention.

FIG. 9b shows a commercial information providing procedure where the commercial information generating system is used as an end station according to a fifth embodiment of the invention.

FIG. 10 is a diagram for connections between systems according to a sixth embodiment of the invention.

FIG. 11 shows a commercial information providing procedure according to a sixth embodiment of the invention.

FIG. 12 is a diagram for connections between systems according to a seventh embodiment of the invention.

FIG. 13 shows a commercial information announcement providing procedure according to the seventh embodiment of the invention.
FIG. 14 is a diagram for connections between systems according to an eighth embodiment of the invention.

FIG. 15 shows a commercial information providing procedure according to an eighth embodiment of the invention.

FIG. 16 is a diagram for connections between systems according to a ninth embodiment of the invention.

FIG. 17 shows a commercial information providing procedure according to a ninth embodiment of the invention.

FIG. 18 is a diagram for connections between systems according to a tenth embodiment of the invention.

FIG. 19 shows a commercial information providing procedure according to a tenth embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Hereinafter, preferred embodiments of the present invention will be described with references to the accompanying figures.

FIG. 1 refers to a system construction diagram for providing sound/text/image commercial information such as advertisements, music, news, stocks, weather, and etc. using a telephone ring-back tone. This system includes an originating telephone (1), a receiving telephone (4), a subscriber communication line (2), and a sound/text/image commercial information generating device (3) in a switch system, a relay communication line (5), a sound/text/image commercial information generating system (6), and a commercial information server (7), a subscriber's private information server (8) and a switch system (9) in a telephone office. The originating and receiving telephones include ordinary wire telephones for public service telecommunication network, mobile telephones for the public service telecommunication network including CDMA, PCS, TDMA, GSM, AMPS, and IMT-200 type telephones, video telephones, satellite telephones, and internet telephones.
When a caller makes a call by using the originating telephone (1), the commercial information is provided to the originating telephone (1) from the commercial information server (7) during a communication wait. The commercial information server (7) provides the commercial information including advertisements, music, composite information (news, weather, sports, stock, humor, entertainment, etc.), and subscriber's private information (bio-rhythm, fortune, location, entertainment, stock, fee, etc.) through the commercial information generating system (6) installed outside of the switch system or the commercial information generating device (3) installed inside of the switch system. The advertisement information particularly includes information on new/used products, services, discount stores, and sales period.

The commercial information generating device (3) in the switch system or the commercial information generating system (6) stores the commercial information in forms of sound, music, and/or image by a request of a commercial information provider such as an advertisement company, a broadcast station, or a stock company. When there is a call from the originating telephone (1), the commercial information is provided to the originating telephone (1) during the communication wait from the commercial information generating device (3) or the commercial information generating system (6) through the subscriber communication line (2).

Fig. 2 is a flow chart for illustrating a method for providing the commercial information during the communication wait according to the present invention. The method includes the steps of checking whether a telephone call is requested by the originating telephone (S1), connecting the originating telephone to the commercial information generating device/system if the telephone call in the step of S1 is requested (S2), beginning to transmit commercial information in forms of at least one of sound,
text, and/or image instead of an original ring-back tone to the originating telephone from the commercial information generating system/device during the communication wait (S3), requesting a connection to a receiving telephone from the commercial information generating system/device after a first predetermined time (A-timeout) lapses (S4), continuously transmitting the commercial information to the originating telephone (S5), checking whether the receiving telephone accepts the connection request (S6), stopping to transmit the commercial information if the connection request in the step S6 is accepted (S7), connecting a communication line between the originating telephone and the receiving telephone (S8), checking whether the communication is finished (S9), and disconnecting the communication line if the communication is finished (S10).

The method further includes the steps of checking whether a second predetermined time (B-timeout) lapses since the commercial information is transmitted if the connection request in the step S6 is not accepted (S11), stopping to transmit the commercial information if the second predetermined time (B-timeout) is lapsed since the connection request begins in the step S11 (S12), and connecting a relay line between an originating switch system and a receiving switch system (S13).

The method further includes the steps of checking whether a telephone connection fails if it is within the second predetermined time (S14), continuously providing the commercial information to the originating telephone if the telephone connection does not fail (S5), stopping to transmit the commercial information if the connection request fails (S15), releasing the relay line between the originating switch system and the receiving switch system (S16), checking whether a new telephone connection is requested (S17), and beginning to transmit the commercial information to the originating telephone from the commercial information generating system/device (S3).
Referring to FIG.3, when a ring-back tone hearing mode is set, the method further comprises the steps of requesting a connection to the receiving telephone after the first predetermined time (A-timeout) lapses in the step S4, stopping to transmit the commercial information and transmitting an original ring-back tone to the originating telephone (S18), checking whether the receiving telephone accepts the request (S19), stopping to transmit the ring-back tone if the receiving telephone accepts the request (S20), connecting the communication line between the originating telephone and the receiving telephone (21), checking whether a communication is finished (S22), and disconnecting the communication line between the originating telephone and the receiving telephone (S23).

FIG.4 is a connection diagram between systems having a commercial information generating system located outside of the switch systems. An originating switch system in this diagram includes a switch, PABX, and others.

FIG.5a illustrates a commercial information generating procedure in case where the commercial information generating system located outside of the switch systems is used as a toll station according to a first embodiment of the invention.

The first embodiment of the present invention includes the steps of requesting a connection to the commercial information generating system by sending an initial address message (IAM) from the originating switch system (P2) when the originating telephone makes a call to the originating switch system (P1), confirming the connection from the commercial information generating system by sending an address complete message (ACM) to the originating switch system (P3), replying a receiver connection by sending an answering message (ANM) from the commercial information generating system to the originating switch system in case of a charged ring-back tone type (P3-1), transmitting the commercial information from the
commercial information generating system to the originating telephone, stopping to transmit the commercial information when the communication connection fails after the second predetermined time (B-timeout) lapses (P4).

The method further includes the steps of requesting a connection for a receiving telephone to a receiving switch system from the commercial information generating system by sending the initial address message (IAM) after the first predetermined time (A-timeout) lapses (P5), confirming the connection from the receiving switch system by sending the address complete message (ACM) to the commercial information generating system (P6), ringing the receiving telephone from the receiving switch system (P7), sending a call process message (CPG) from the receiving switch system to the commercial information generating system (P8), answering (P10) a receiving telephone connection to the commercial information generating system from the receiving switch system by sending an answer message (ANM) when a receiver receives a call using the receiving telephone (P9), answering the receiving telephone connection to the originating switch system from the commercial information generating system by stopping to transmit the commercial information and sending an answering message (ANM) in case of free ring-back tone type (P11), and stopping to transmit the commercial information to the originating switch system from the commercial information generating system in case of the charged ring-back tone type (P11-1).

The method further includes the steps of connecting the communication line between the originating telephone and the receiving telephone (P12), requesting (P14) a release to the commercial information generating system from the originating switch system by sending a release message (REL) when the originator is disconnected (P13), confirming the release to the originating switch system from the commercial information generating system by sending a release complete message (RLC) (P15), requesting
a release to the receiving switch system from the commercial information generating system by sending a release message (REL) (P16), confirming the release to the commercial information generating system by sending a release complete message (RLC) (P17), and a finishing the communication by disconnecting the receiving telephone from the receiving switch system (P18).

FIG.5b shows the procedure for providing the commercial information in a case where the commercial information generating system located outside of the switch systems is used as an end station according to a second embodiment of the invention. The second embodiment includes the steps of requesting (P2-1) a connection to the commercial information generating system by sending an initial address message (IAM) from the originating switch system when the originating telephone makes a call to the originating switch system (P1-1), confirming the connection from the commercial information generating system by sending an address complete message (ACM) to the originating switch system (P3-1), replying (P3-2) a receiver connection from the commercial information generating system to the originating switch system by sending an answering message (ANM) in case of the charged ring-back tone type, transmitting the commercial information from the commercial information generating system to the originating telephone, and stopping (P4-1) to transmit the commercial information when the connection fails after the second predetermined time (B-timeout) lapses.

The method further includes the steps of requesting a connection for a receiving telephone to a receiving switch system from the originating switch system by sending an initial address message (IAM) to the receiving switch system after the first predetermined time (A-timeout) lapses (P5-1), confirming the connection from the receiving switch system by sending an address complete message (ACM)
to the originating switch system (P6-1), ringing the receiving telephone from the receiving switch system (P7-1), sending a call process message from the receiving switch system to the originating switch system (P8-1). When a receiver receives a call using the receiving telephone (P9-1), a receiver connection is done by replying (P10-1) a receiving telephone connection to the originating switch system from the receiving switch system by sending an answering message (ANM), and requesting to stop transmitting the commercial information from the originating switch system by sending a release message to the commercial information generating system (P11-2).

The method further includes the steps of confirming the release to the originating switch system from the commercial information generating system by sending a release complete message (RLC) (P11-3), connecting the communication line between the originating telephone and the receiving telephone (P12-1) through the originating and receiving switch systems.

When the originator disconnects the communication (P13-1), the method further includes the steps of requesting a release to the receiving switch system from the originating switch system by sending a release message (REL) (P14-1), confirming the release to the originating switch system from the receiving switch system by sending a release complete message (RLC) (P15-1), and finishing the communication by disconnecting the receiving telephone from the receiving switch system (P16-1).

FIG.6 is a diagram for illustrating a connection between the systems using the commercial information generating device located inside of the originating switch system.

FIG.7 shows a procedure for providing the commercial information in case where commercial information generating device located inside of the originating switch system is used according to a third embodiment of the invention.
The third embodiment includes the steps of making a call from the originating telephone to the originating switch system (P21), requesting a connection to the commercial information generating device from the originating switch system (P22), replying the connection from the commercial information generating device to the originating switch system (P23), transmitting the commercial information to the originating telephone from the commercial information generating device, and stopping to transmit the commercial information when the connection fails after the second predetermined time (B-timeout) lapses.

The method further includes the steps of requesting a connection to the receiving telephone by sending an initial address message (IAM) from the originating switch system (P25) after a first predetermined time (A-timeout) lapses since the commercial information is generated, confirming the connection to the originating switch system by sending an address complete message (ACM) from the receiving switch system (P26), ringing the receiving telephone from the receiving switch system (P27), sending a call process message from the receiving switch system to the originating switch system (P28), replying a receiver connection (P30) to the originating switch system by sending an answering message (ANM) from the receiving switch system when a receiver receives a call with the receiving telephone (P29), and requesting a release of the commercial information to the commercial information generating device from the originating switch system (P31).

The method further includes the steps of connecting a communication line between the originating telephone and the receiving telephone (P32), requesting (P34) a release to the receiving switch system from the originating switch system by sending a release message (REL) when the originating telephone is disconnected from the originating switch system (P33), confirming the release to the
originating switch system from the receiving switch system by sending a release complete message (RLC) (P35), and finishing the communication by disconnecting the receiving telephone from the receiving switch system (P36).

FIG. 8 is a diagram for illustrating a connecting between systems using the commercial information generating device located outside of the switch systems. The receiving telephone includes a switch, a PABX and others.

FIG. 9a shows a procedure for providing the commercial information is case where the commercial information generating system located outside of the switch systems is used as a toll station according to a forth embodiment of the present invention.

The forth embodiment includes the steps of making a call from the originating telephone to the originating switch system (P41), requesting a connection to the receiving switch system by sending an initial address message (IAM) from the originating switch system (P42), requesting a connection to the commercial information generating system by sending an initial address message (IAM) from the receiving switch system (P43), confirming the connection from the commercial information generating system to the receiving switch system by sending an address complete message (ACM) (P44), confirming the connection to the originating switch system by sending an address complete message (ACM) from the receiving switch system (P45), replying a connecting to the receiving switch system from the commercial information generating system by sending an answering message (ANM) (P45-1), replying a connection to the originating switch system from the receiving switch system by sending an answering message (ANM) (P45-2), transmitting the commercial information to the originating telephone from the commercial information generating system, and stopping to transmit the commercial information when the connection fails after the second predetermined time (B-timeout) lapses (P46).
The method further includes the steps of requesting a connection to the receiving switch system by sending an initial address message (IAM) from the commercial information generating system after the first predetermined time (A-timeout) lapses since the commercial information is generated (P47), confirming the connection to the commercial information generating system by sending an address complete message (ACM) from the receiving switch system (P48), ringing the receiving telephone from the receiving switch system (P49), sending a call process message from the receiving switch system to the commercial information generating system (P50), replying a receiver connection (P52) to the commercial information generating system by sending an answering message (ANM) from the receiving switch system when a receiver receives a call with receiving telephone (P52). The method further includes the steps of stopping to transmit the commercial information to the originating switch system from the commercial information generating system and replying a connection by sending an answering message (ANM) (P53) in case of free ring-back tone type, and stopping the commercial information to originating switch system from commercial information generating system in case of charged ring-back tone type (P53-1).

The method further includes the steps of connecting a communication line between the originating telephone and the receiving telephone (P54), requesting a release (P56) of the commercial information to the commercial information generating system from the originating switch system by sending a release message (REL) when the receiving telephone is disconnected from the originating switch system (P55), confirming the release to the originating switch system from the commercial information generating system by sending a release complete message (RLC) (P57), requesting a release to the receiving switch system by sending a release message (REL) (P58), confirming the
release to the commercial information generating system from the receiving switch system by sending a release complete message (RLC) (P59), and finishing the communication by disconnecting the receiving telephone from the receiving switch system (P60).

FIG. 9b shows a procedure for generating the commercial information in case where the commercial information generating system located outside of the switch systems is used as an end station according to the fifth embodiment of the present invention.

The fifth embodiment comprises the steps of making a telephone call to the originating switch system by using the originating telephone (P41-1), requesting a connection to the receiving switch system by sending an initial address message (IAM) message from the originating switch system (P42-1), requesting a connection to the commercial information generating system by sending an initial address message (IAM) from the receiving switch system (P43-1), confirming a connection from the commercial information generating system to the receiving switch system by sending an address complete message (ACM) (P44-1), confirming a connection from the receiving switch system to the originating switch system by sending an address complete message (ACM) (P45-3), replying a receiver connection to the receiving switch system from the commercial information generating system by sending an answering message (ANM) (P45-4) in case of charged ring-back tone type, and replying a receiver connection to the originating switch system from the receiving switch system by sending an answering message (ANM) (P45-5).

The method further includes the steps of transmitting the commercial information to the originating telephone from the commercial information generating system, and stopping the commercial information when the connection fails after the second predetermined time (B-timeout) lapses. The method further includes the steps of requesting
a release and requesting a stop of the commercial information to the commercial information generating system from the receiving switch system (P49-1) by sending a release message (REL) when the receiving telephone rings (P47-1), and a receiver receives a call with the receiving telephone (P48-1) after the first predetermined time (A-timeout) lapses since the commercial information is sent to the ITT.

The method further includes the steps of confirming a release to the receiving switch system by sending a release complete message (RLC) from the commercial information generating system (P50-1), replying a receiver connection to the originating switch system by sending an answering message (ANM) from the receiving switch system in case of free ring-back tone type (P51-1), connecting the communication line between the originating telephone and the receiving telephone (P52-1), requesting a release (P54-1) to the receiving switch system from the originating switch system by sending a release message (REL) when the originating telephone is disconnected from the originating switch system (P53-2), confirming the release to the originating switch system from the receiving switch system by sending a release complete message (RLC) (P55-1), and finishing the communication by disconnecting the receiving telephone from the receiving switch system (P56-1).

Fig.10 is a diagram for illustrating a connection between systems using the commercial information generating device located inside of the receiving switch system.

FIG.11 shows a procedure for providing the commercial information in case where the commercial information generating device located inside of the receiving switch system is adapted according to a sixth embodiment of the present invention.

The sixth embodiment includes the steps of making a telephone call to the originating switch system by using the originating telephone (P61), requesting a connection to
the receiving switch system by sending an initial address message (IAM) from the originating switch system (P62), confirming the connection to the originating switch system by sending an address complete message (ACM) from the receiving switch system (P63), requesting a connection to the commercial information generating device from the receiving switch system (P64), replying the connection to the receiving switch system from the commercial information generating device (P65), answering a connection to the originating switch system from the receiving switch system by sending an answering message (ANM) (P65-1) in case of charged ring-back tone type, transmitting the commercial information to the originating telephone from the commercial information generating device in the receiving switch system (P66).

The method further includes the steps of sending a call process message (P68) to the originating switch system from the receiving switch system when the receiving telephone rings (P67) after the first predetermined time (A-timeout) lapses since the commercial information is sent to the receiving telephone from the commercial information generating device, requesting a stop transmitting the commercial information to the commercial information generating device from the receiving switch system (P70) when a receiver receives a call with the receiving telephone (P69). The method further includes the steps of replying a receiver connection to the originating switch system from the receiving switch system by sending an answering message (ANM) in case of free ring-back tone type (P70-1).

The method further includes the steps of connecting the communication line between the originating telephone and the receiving telephone (P71), requesting a release (P73) to the receiving switch system from the originating switch system by sending a release message (REL) when the originating telephone is disconnected from the originating
switch system (P72), confirming the release to the
originating switch system from the receiving switch system
by sending a release complete message (RLC) (P74), and
finishing the communication by disconnecting the receiving
telephone from the receiving switch system (P75).

FIG.12 is a diagram for illustrating a connection
between systems using the commercial information
announcement generating system.

FIG.13 shows a procedure for providing the commercial
information announcement generating system according to a
seventh embodiment of the present invention.

The seventh embodiment includes the steps of
requesting a connection (P82) to the commercial information
announcement generating system from the originating switch
system by sending an initial address message (IAM) when the
originating telephone makes a call to the originating
switch system (P81), confirming the connection to the
originating switch system by sending an address complete
message (ACM) from the commercial information announcement
generating system (P83), and replying a receiver connection
to the originating switch system by sending an answering
message (ANM) from the commercial information announcement
generating system in case of charged announcement type
(P83-1).

The method further includes the steps of transmitting
the commercial information announcement from the commercial
information announcement generating system to the
originating telephone and stopping the commercial
information announcement when the communication connection
fails after the B-time lapses (P84).

The method further includes the steps of requesting a
connection (P85) to the receiving switch system or an
automatic response application system (ARS, VMS, etc.) from
the commercial information announcement generating system
by sending an initial address message (IAM) after the first
predetermined time (A-timeout) lapses since the commercial
information announcement is sent to the originating telephone, confirming the connection to the commercial information announcement generating system by sending an address complete message (ACM) from the receiving switch system (P86), sending a call process message to the commercial information announcement generating system from the receiving switch system or the automatic response application system (P88) after the receiving telephone rings (P87), and when a receiver receives a call with the receiving telephone (P89), replying a receiver connection to the commercial information announcement generating system from the receiving switch system or the automatic response application system (P90).

The method further includes the steps of replying a receiver connection to the originating switch system from the commercial information announcement generating system by stopping the commercial information announcement and sending an answering message (ANM) in case of free of charge announcement type (P91), stopping the commercial information announcement in case of charged announcement type (P91-1).

The method further includes the steps of connecting the communication line between the originating telephone and the receiving telephone (P92).

The method further includes the steps of requesting a release (P94) to the commercial information announcement generating system from the originating switch system by sending a release message (REL) when the originating telephone is disconnected from the originating switch system (P93), confirming the release to the originating switch system from the commercial information announcement generating system by sending a release complete message (RLC) (P95).

The method further includes the steps of requesting a release to the receiving switch system or the automatic response application system by sending a release message.
(REL) from the commercial information announcement generating system (P96), confirming the release to the commercial information announcement generating system from the receiving switch system by sending a release complete message (RLC) (P97), and a finishing the communication by disconnecting the receiving telephone from the receiving switch system or the automatic response application system (P98).

FIG.14 is a diagram for illustrating a connection between systems using the commercial information announcement generating device located in an automatic response application system. The automatic response application system includes an ARS (Automatic Response System), a VISS (Voice Information Service System), and PPS (Prepaid System). The commercial information announcement includes advertisements, music, news, stock, weather, and etc.

FIG.15 shows a procedure for providing the commercial information announcement using the commercial information announcement generating device of the automatic response application system according to a sixth embodiment of the invention.

Referring to FIG.15, the commercial information announcement is provided by using the commercial information announcement generating device located inside of the automatic response application system which also includes an automatic response applied device according to an eighth embodiment of the present invention. The automatic response applied device includes an Automatic Response System (ARS) and Voice Mailing System (VMS).

The eighth embodiment includes the steps of requesting a connection (P102) to the automatic response application system from the originating switch system by sending an initial address message (IAM) when the originating telephone makes a call to the originating switch system (P101), confirming the connection to the
originating switch system by sending an address complete message (ACM) from the automatic response application system (P103), requesting a connection to the commercial information announcement generating device from the automatic response application system (P104), replying a connection to the automatic response application system from the commercial information announcement generating device (P105), and replying a receiver connection to the originating switch system by sending an answering message (ANM) from the automatic response application system in case of charged announcement type (P105-1).

The method further includes the steps of transmitting the commercial information announcement from the commercial information announcement generating device to the originating telephone (P106) and requesting a stop of the commercial information announcement after the first predetermined time (A-timeout) lapses (P107).

The method further includes the steps of requesting a connection to an automatic response applied device from the automatic response application system (P108), replying a connection to the automatic response applied system from the automatic response applied device (P109), and replying a receiver connection to the originating switch system by sending an answering message (ANM) from the automatic response application system in case of free announcement type (P109-1).

The method further includes the steps of connecting a communication line between the originating telephone and the automatic response applied device (P110), requesting a release (P112) to the automatic response application system from the originating switch system by sending a release message (REL) when the originating telephone is disconnected from the originating switch system (P111), confirming the release to the originating switch system from the automatic response application system by sending a release complete message (RLC) (P113), and disconnecting
the automatic response applied device from the automatic response application system (P114).

FIG.16 is a diagram for illustrating a connection between systems using the commercial information generating system on an intelligent network.

FIG.17 shows a procedure for providing the commercial information the commercial information generating system on the intelligent network according to a ninth embodiment of the present invention.

The ninth embodiment includes the steps of making a call from the originating telephone to the originating switch system (P120), requesting a connection to a service switching point by sending an initial address message (IAM) from the originating switch system (P121), requesting analyzed information to a service control point (SCP) from the service switching point (SSP) (P122), requesting a seize resource to the commercial information generating system from the service control point (SCP) (P123), returning the seize resource to the service control point (SCP) from the commercial information generating system (P124), requesting a connect resource to the service switching point (SSP) from the service control point (SCP) (P125), and requesting a connection to the commercial information generating system by sending an initial address message (IAM) from the service switching point (SSP) (P126).

The method further includes the steps of confirming the connection to the originating switch system from the commercial information generating system through the service switching point (SSP) by sending an address complete message (ACM) (P127), answering a receiver connection to the originating switch system by sending an answering message (ANM) from the service switching point (SSP) in case of charged ring-back tone type (P127-1), and transmitting commercial information to the originating telephone from the commercial information generating system (P128).
The method further includes the steps of requesting an analyzed information return to the service switching point (SSP) from the service control point (SCP) after the first predetermined time (A-timeout) lapses since the commercial information is generated (P129), requesting a connection to the receiving switch system by sending an initial address message (IAM) from the service switching point (SSP) (P130), confirming the connection to the service switching point (SSP) by sending an address complete message (ACM) from the receiving switch system (P131), ringing the receiving telephone by the receiving switch system (P132), sending a call process message to the service switching point (SSP) from the receiving switch system (P133). When a receiver receives a call with the receiving telephone (P134), the method goes through the steps of replying a receiver connection (P135) to the service switching point (SSP) by sending an answering message (ANM) from the receiving switch system and stopping the commercial information by sending a release message (REL) to the commercial information generating system from the service switching point (SSP) (P136).

The method further goes through the steps of replying a receiver connection to the originating switch system by sending an answering message (ANM) from the service switching point (SSP) in case of free ring-back tone type (P137), connecting a communication line between the originating telephone and the receiving telephone (P138), requesting a release (P140) to the service switching point (SSP) from the originating switch system by sending a release message (REL) when the originating telephone is disconnected from the originating switch system (P139), and confirming the release to the originating switch system from the service switching point (SSP) by sending a release complete message (RLC) (P141).

The method further goes through the steps of requesting a release to the receiving switch system from
the service switching point (SSP) by sending a release message (REL) (P142), confirming the release to the service switching point (SSP) from the receiving switch system by sending a release complete message (RLC) (P143), and finishing the communication by disconnecting the receiving telephone from the receiving switch system (P144).

When the service switching point (SSP) is used as an end switch, it works together with a voice communication switch device through interstation signal protocol (No.7, ISUP, R2MFC, and etc.), and when the service switching point (SSP) is used as a local switch, it works together with a voice communication switch device through IPC (Inter-Process Communication).

FIG.18 is a diagram for illustrating a connection between systems using the commercial information generating device in an IP (Intelligent Peripheral) on the intelligent network.

FIG.19 shows a procedure for providing the commercial information using the commercial information generating device in the IP on the intelligent network according to a tenth embodiment of the invention.

The tenth embodiment includes the steps of connecting the originating telephone to the originating switch system (P160), requesting a connection to a service switching point (SSP) by sending a initial address message (IAM) from the originating switch system (P161), requesting analyzed information to the service control point (SCP) from the service switching point (SSP) (P162), requesting a seize resource to the intelligent peripheral from the service control point (SCP) (P163), returning the seize resource to the service control point (SCP) from the intelligent peripheral (P164), requesting a connect resource to the service switching point (SSP) from the service control point (SCP) (P165), and requesting a connection to the intelligent peripheral by sending an initial address message (IAM) from the service switching point (SSP) (P166).
The method further goes through the steps of confirming the connection to the originating switch system from the intelligent peripheral through the service switching point (SSP) by sending an address complete message (ACM) (P167), and answering a receiver connection to the originating switch system by sending an answering message (ANM) from the service switching point (SSP) in case of charged ring-back tone type (P167-1).

The method further goes through the steps of transmitting commercial information to the originating telephone from the commercial information generating system (P168), requesting an analyzed information return to the receiving telephone after the first predetermined time (A-timeout) lapses since the service control point (SCP) sends the commercial information to the service switching point (SSP) (P169), requesting a connection to the receiving switch system by sending an initial address message (IAM) from the service switching point (SSP) (P170), confirming the connection to the service switching point (SSP) by sending an address complete message (ACM) from the receiving switch system (P171), ringing the receiving telephone by the receiving switch system (P172), sending a call process message to the service switching point (SSP) from the receiving switch system (P173). When a receiver operates the receiving telephone (P174), the method goes on the steps of answering a receiver connection to the service switching point (SSP) from the receiving switch system by sending an answering message (ANM) (P175) and stopping the commercial information by sending a release message (REL) to the intelligent peripheral from the service switching point (SSP) (P176).

The method further includes the steps of answering a receiver connection to the originating switch system by sending an answering message (ANM) from the service switching point (SSP) in case of free charge ring-back tone type (P177), connecting a communication line between the
originating telephone and the receiving telephone (P178), requesting a release to the service switching point (SSP) from the originating switch system by sending a release message (REL) (P180) when the originating telephone is disconnected from the originating switch system (P179), and confirming the release to the originating switch system from the service switching point (SSP) by sending a release complete message (RLC) (P181).

The method further goes through the steps of requesting a release to the receiving switch system from the service switching point (SSP) by sending a release message (REL) (P182), confirming the release to the service switching point (SSP) from the receiving switch system by sending a release complete message (RLC) (P183), and finishing the communication by disconnecting the receiving telephone from the receiving switch system (P184).

Although the present invention is explained by using the No. 7 ISUP (ISDN User Part) among the inter-station signal protocols, various signal protocols such as R2MFC, X. 25, TCP/IP, IPC, and many others can also be used for the present invention.

This invention lets a subscriber hear the commercial information instead of the typical ring-back tone, and it provides some type of discount for the charge. Thus, the subscriber can hear the music, advertisements, news, stock information instead of the typical ring-back tone during a communication wait.

In general, a caller can communicate with a receiver through a communication network using any one of the ordinary telephones or mobile telephones. At this time, the commercial information is provided until the calling signal arrives to the receiver.

Recently, wire phones services, wireless phone services, auxiliary services such as ARS, VMS, VISS, and PPS, and the telephone number help service charge their
subscribers for their services. However, when this invention is adapted, a communication charge discount or free of charge can be provided to the subscribers. On the other hand, a communication company can receive a fee from the advertisement provider and provide the charged commercial information such as news, stock evaluations, music, and many others so that an auxiliary benefit can be obtained. This process can give a benefit to all of users, a communication company, and an advertisement provider by decreasing a communication fee.

The commercial information providing method according to the present invention can be adapted to communications between ordinary telephones, guide telephones, video telephones, mobile telephones, internet telephones, satellite telephones, or the auxiliary services such as VMS, VISS, or PPS (Prepaid Service). Especially, in the case of the help service, the caller can wait while hearing the commercial information before he or she is connected to the counselor. In the case of the VMS (Voice Mailing System), the subscriber can get through the voice mail box without any charge.

Communication connection methods for connecting a subscriber to the communication system include making a call to an ordinary phone number of a regular subscriber, the ordinary phone number of a pre-registered subscriber, and a special phone number, and system constructions for providing the commercial information includes a device built-in-switch, a system built-out-switch, and an intelligent network type, and protocols for connecting the commercial information generating device, commercial information generating system, and the switch systems includes No.7 ISUP, R2MFC, IPC, X.25, TCP/IP, and subscriber's information are classified into gender, age, region, time band, and earning.
CLAIMS:

1. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of:

   connecting said originating telephone to said commercial information generating system when a telephone call is requested by said originating telephone;

   beginning to transmit said commercial information from said commercial information generating system to said originating telephone;

   requesting a connection with a connection request, to a receiving telephone after a first predetermined time; and

   stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between an originating switch system and a receiving switch system if a second predetermined time lapses during the connection request.

2. The method as claimed in claim 1, further comprising the steps of:

   checking whether a ring-back tone hearing mode is set;

   stopping transmission of said commercial information and transmitting an original ring-back tone to
said originating telephone if said ring-back tone hearing mode is set;

checking whether said receiving telephone accepts said connection request;

5 stopping transmission of said original ring-back tone if said connection request is accepted;

connecting said communication line between said originating telephone and said receiving telephone;

checking whether a communication is finished; and

10 disconnecting said communication line when said communication is finished.

3. The method as claimed in claim 2, further comprising the steps of:

checking whether a telephone connection fails if said second predetermined time is not lapsed;

continuously transmitting said commercial information to said originating telephone if said telephone connection does not fail;

stopping transmission of said commercial information when said connection request fails;

disconnecting said relay line between said originating switch system and said receiving switch system;

checking whether a new telephone connection is requested; and
beginning to transmit said commercial information to said originating telephone when said new telephone connection is requested.

4. The method as claimed in claim 1, wherein said commercial information is transmitted in forms of at least one of sound, text, and image, and said originating and receiving telephones include ordinary wire telephones for public service telecommunication network, mobile telephones for said public service telecommunication network including CDMA, PCS, TDMA, GSM, AMPS, and IMT-2000 type telephones, video telephones, satellite telephones, and internet telephones.

5. The method as claimed in claim 1, wherein a method for connecting a subscriber to said communication system includes making a call to any one of an ordinary phone number of a regular subscriber, said ordinary phone number of a pre-registered subscriber, and a special phone number.

6. The method as claimed in claim 1, wherein system constructions for providing said commercial information includes a built-in-switch type device, a built-out-switch type system, and an intelligent network type system.

7. The method as claimed in claim 1, wherein protocols for connecting said commercial information generating system and switch systems includes No. 7 ISUP, R2MFC, IPC, X.25, and TCP/IP.

8. The method as claimed in claim 1, wherein said commercial information includes at least one of advertisement, music, news, weather, sports, stock, humour, entertainment, bio-rhythm, fortune, location, entertainment, and fee information.
9. The method as claimed in claim 8, wherein said advertisement information includes information on new and used products, services, discount stores, and sales period.

10. The method as claimed in claim 1, wherein said communication system includes at least one of a wire communication system and a wireless communication system including a mobile communication system.

11. The method as claimed in claim 1, wherein said information generating system generates said commercial information to an automatic response system (ARS), a voice mailing system (VMS), a voice information service system (VISS), and all telephone subscribers.

12. The method as claimed in claim 1, wherein a call process function transmitting said commercial information instead of an ordinary ring-back tone is any one of a first type for transmitting said commercial information to said originating telephone during a communication wait, a second type for transmitting said commercial information after transmitting said ring-back tone with a fixed count during said communication wait, a third type for transmitting said ring-back tone after transmitting said commercial information for a third predetermined time, and a fourth type for transmitting said ring-back tone after transmitting said commercial information for said third predetermined time since said ring-back tone with said fixed count transmits during said communication wait.

13. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of:
making a call to an originating switch system from said originating telephone;

requesting a connection to said commercial information generating system from said originating switch system;

beginning to transmit said commercial information to said originating telephone from said commercial information generating system;

requesting a connection with a connection request for a receiving telephone to a receiving switch system from said commercial information generating system after a first predetermined time lapses; and

stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said telephone from said receiving switch system.

14. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of:

making a call to an originating switch system from said originating telephone;

requesting a connection to said commercial information generating system from said originating switch system;
beginning to transmit said commercial information to said originating telephone from said commercial information generating system;

requesting a connection with a connection request for a receiving telephone to a receiving switch system from said originating switch system after a first predetermined time lapses; and

stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

15. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating device located inside of an originating switch system, comprising the steps of:

making a call to said originating switch system from said originating telephone;

requesting a connection to said commercial information generating device from said originating switch system;

beginning to transmit said commercial information to said originating telephone from said commercial information generating device;
requesting a connection with a connection request for a receiving telephone to a receiving switch system from said originating switch system after a first predetermined time lapses; and

5 stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

16. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of:

making a call to an originating switch system from said originating telephone;

requesting a connection to a receiving switch system from said originating switch system and a connection to said commercial information generating system from said receiving switch system;

transmitting said commercial information to said originating telephone from said commercial information generating system;

requesting a connection with a connection request for a receiving telephone to said receiving switch system from said commercial information generating system after a first predetermined time lapses; and
stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

17. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of:

making a call to an originating switch system from said originating telephone;

requesting a connection to a receiving switch system from said originating switch system and a connection to said commercial information generating system from said receiving switch system;

transmitting said commercial information to said originating telephone from said commercial information generating system;

requesting a connection with a connection request to a receiving telephone from said receiving switch system after a first predetermined time lapses; and

stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second
predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

18. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating device located inside of a receiving switch system, comprising the steps of:

making a call to an originating switch system from said originating telephone;

requesting a connection to said receiving switch system from said originating switch system and a connection to said commercial information generating device from said receiving switch system;

transmitting said commercial information to said originating telephone from said commercial information generating device;

requesting a connection with a connection request to a receiving telephone from said receiving switch system after a first predetermined time lapses; and

stopping transmission of said commercial information; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses during the connection request to said receiving telephone from said receiving switch system.

19. A method of providing commercial information announcement to an originating telephone during a
communication wait in a communication system having a commercial information announcement generating system, comprising the steps of:

making a call to an originating switch system from said originating telephone;

requesting a connection to said commercial information announcement generating system from said originating switch system;

transmitting said commercial information announcement to said originating telephone from said commercial information announcement generating system;

requesting a connection with a connection request for a receiving telephone to any one of a receiving switch system and an automatic response application system from said commercial information announcement generating system after a first predetermined time lapses; and

stopping transmission of said commercial information announcement; and connecting a communication line between said originating telephone and said receiving telephone if said receiving telephone accepts said connection request, or connecting a relay line between said originating switch system and said receiving switch system if a second predetermined time lapses.

20. A method of providing commercial information announcement to an originating telephone during a communication wait in a communication system having a commercial information announcement generating device located inside of an automatic response application system, comprising the steps of:
making a call to an originating switch system from said originating telephone;

requesting a connection to said automatic response application system from said originating switch system and a connection to said commercial information announcement generating device from said automatic response application system;

transmitting said commercial information announcement to said originating telephone from said commercial information announcement generating device;

requesting a connection with a connection request to an automatic response applied device located inside of said automatic response application system from said automatic response application system after a first predetermined time lapses; and

stopping transmission of said commercial information announcement; and connecting a communication line between said originating telephone and said automatic response applied device if a second predetermined time lapses or said automatic response applied device accepts said connection request.

21. The method as claimed in claim 20, wherein said automatic response applied device includes Automatic Response System (ARS) and Voice Mailing System (VMS).

22. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating system, comprising the steps of:
making a call to an originating switch system from said originating telephone;

requesting a connection to a service switching point from said originating switch system, requesting an analyzed information to a service control point from said service switching point, requesting a seize resource to said commercial information generating system from said service control point, requesting a connect resource to said service switching point from said service control point, and requesting a connection to said commercial information generating system from said service switching point;

transmitting said commercial information to said originating telephone from said commercial information generating system;

requesting a connection for an analyzed information return to said service switching point from said service control point after a first predetermined time lapses and a connection to said receiving switch system from said service switch point; and

stopping transmission of said commercial information and connecting a communication line between said originating telephone and a receiving telephone.

23. A method of providing commercial information to an originating telephone during a communication wait in a communication system having a commercial information generating device located inside of an intelligent peripheral, comprising the steps of:

making a call to an originating switch system from said originating telephone;
requesting a connection to said service switching point from said originating switch system, an analyzed information to said service control point from said service switching point, a seize resource to said intelligent peripheral from said service control point, and a connection to said intelligent peripheral from said service switching point;

transmitting said commercial information to said originating telephone from said commercial information generating system;

requesting a connection for an analyzed information return to said service switching point from said service control point after a first predetermined time lapses and a connection to a receiving switch system from said service switch point; and

stopping transmission of said commercial information to said originating telephone and connecting a communication line between said originating telephone and a receiving telephone.

SMART & BIGGAR

OTTAWA, CANADA

PATENT AGENTS
FIG. 1

Commercial Information Server
- Advertisement
- Music
- Composite information: news, weather, sports, stock price, humor, entertainment etc
- Subscriber information: bio-rhythm, fortune, location, entertainer, stock, fee etc

Commercial information (voice, text, image)

Subscriber's private Information server

Voice/text/image commercial information ringback tone generating system

Voice/text/image commercial information ringback tone generating device

Relay communication line

Switch system in telephone office

Commercial Information

Subscriber communication line

Subscriber communication line

Telephone connection request

Voice/text/image commercial information during communication wait (advertisement, music, news)

Originating Telephone

Receiving Telephone
FIG. 3

(A)

Stop the sending of the commercial information ringback tone and transmit an original ringback tone to the originating telephone

connection request receiving complete?

Yes  S20

Stop the providing of an original ringback tone

No  S19

Connect the communication line between the originating telephone and the receiving telephone

Communication finish?

No  S22

Yes  S23

Disconnect the communication line between the originating telephone and the receiving telephone

END
FIG. 4

1) make a call

2) connect to commercial information ringback tone generating system

3) transmit commercial information ringback tone to the originating telephone

4) request a connection to a receiving telephone after A-timeout lapses

5) stop the sending of the commercial information ringback tone and connect communication line when the receiving telephone receives a call
FIG. 5a

1. Make a call

2. Connection request (IAM)

3. Connection confirm (ACM)

3-1. Receiver connection reply (ANM)
in case of a charged ringback tone type

4. Transmit the commercial information ringback tone to an originating telephone,
stop the commercial information ringback tone
when the communication connection fails after
B-timeout lapses

5. Connection request (IAM) for a receiving telephone after A-timeout lapses since the
beginning of transmission

6. Connection confirm (ACM)

7. Ring a phone

8. Call Progress Message (CPG)

9. Receive a call

10. Receiver connection reply (ANM)

11. Stop the sending of the commercial information ringback tone and reply a receiver connection (ANM)
in case of a free ringback tone type

11-1. Stop the sending of the commercial information ringback tone in case of the charged ringback tone type

12. Connect the communication line

13. Disconnect a call

14. Release request (REL)

15. Release confirm (RLC)

16. Release request (REL)

17. Release confirm (RLC)

18. Disconnect
FIG. 5b

1) make a call

P2-1) Connection request(IAM)
P3-1) Connection confirm(ACM)
P3-2) receiver connection reply(ANM) in case of a charged ringback tone type

P4-1) Transmit the commercial information ringback tone to an originating telephone, stop the commercial information ringback tone when the communication connection fails after B-timeout lapses

P5-1) Connection request(IAM) for a receiving telephone after A-timeout lapses since the beginning of transmission

P6-1) Connection confirm(ACM)
P7-1) ring a phone

P8-1) Call Progress Message(CPG)
P9-1) receive a call

P10-1) receiver connection reply(ANM)
P11-2) Request a stop the sending of the commercial information ringback tone (Release request: REL)
P11-3) Release confirm(RLC)
P12-1) Connect the communication line

P13-1) Disconnect a call

P14-1) Release request(REL)
P15-1) Release confirm(RLC)
P16-1) Disconnect
FIG. 6

1) make a call

2) Connect commercial information ringback tone generating device

3) Transmit the commercial information ringback tone to the originating telephone

4) Request a connection to a receiving telephone after A-timeout lapses

5) Stop the sending of the commercial information ringback tone and connect communication line when the receiving telephone receives a call
FIG. 7

P21) Make a call

P22) Connection request
P23) Connection reply

P24) Transmit the commercial information ringback tone to an originating telephone, stop the commercial information ringback tone when the communication connection fails after B-timeout lapses

P25) Connection request (IAM) for a receiving telephone after A-timeout lapses since the beginning of transmission

P26) Connection confirm (ACM)
P27) Ring a phone

P28) Call Progress Message (CPG)
P29) Receive a call

P30) Receiver connection reply (ANM)

P31) Release request a connection of the commercial information ringback tone

P32) Connect the communication line

P33) Disconnect a call

P34) Release request (REL)
P35) Release confirm (RLC)
P36) Disconnect
FIG. 8

1) Make a call

2) Connect commercial information ringback tone generating system

3) Transmit the commercial information ringback tone to the originating telephone

4) Request a connection to a receiving telephone after A-timeout lapses

5) Stop the sending of the commercial information ringback tone and connect communication line when the receiving telephone receives a call

Voice/text/image commercial information ringback tone generating system

Originating switch

Receiving switch

Originating telephone

Receiving telephone
FIG. 9a

P41) Make a call

P42) Connection request(IAM)

P43) Connection request(IAM)

P44) Confirm confirm(ACM)

P45) Connection confirm(ACM)

P45-1) Receiver connection reply(ANM) in case of a charged ringback tone type

P45-2) Receiver connection reply(ANM)

P46) Transmit the commercial information ringback tone to an originating telephone, stop the commercial information ringback tone when the communication connection fails after B-timeout lapses

P47) Connection request(IAM) for a receiving telephone after A-timeout lapses

P48) Connection confirm(ACM)

P49) Ring a phone

P50) Call Progress Message(CPG)

P51) Receive a call

P52) Receiver connection reply(ANM)

P53) Stop the commercial information ringback tone and receiver connection reply(ANM) in case of the free ringback tone type

P53-1) Stop the commercial information ringback tone in case of the charged ringback tone type

P54) Connect the communication line

P55) Disconnect a call

P56) Release request(REL)

P57) Release confirm(RLC)

P58) Release request(REL)

P59) Release confirm(RLC)

P60) Disconnect
FIG. 9b

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Originating telephone
P41-1) Make a call

Originating switch

Voice/text/image commercial information ringback tone generating system

Receiving switch

Receiving telephone

P42-1) Connection request(IAM)

P43-1) Connection request(IAM)

P44-1) Connection confirm(ACM)

P45-3) Connection confirm(ACM)

P45-4) Receiver connection reply(ANM) in case of a charged ringback tone type

P45-5) Receiver connection reply(ANM)

P46-1) Transmit the commercial information ringback tone to an originating telephone, stop the commercial information ringback tone when the communication connection fails after B-timeout lapses

P47-1) Ring the receiving telephone after A-timeout lapses

P48-1) Receive a call

P49-1) Request a stop of the commercial information ringback tone(Release request: REL)

P50-1) Release confirm(RLC)

P51-1) Receiver connection reply(ANM) in case of the free ringback tone type

P52-1) Connect the communication line

P53-2) Disconnect a call

P54-1) Release request(REL)

P55-1) Release confirm(RLC)

P56-1) Disconnect
FIG. 10

1) Make a call

2) Request a connection to the receiving telephone

3) Transmit the commercial information ringback tone to the originating telephone

4) Request a connection to a receiving telephone after A-timeout lapses

5) Stop the sending of the commercial information ringback tone and connect communication line
FIG. 12

1) Make a call

2) Connect commercial information announcement generating system

3) Transmit the commercial information announcement to the originating telephone

4) Request a connection to a receiving telephone after A-timeout lapses

5) Stop the sending of the commercial information announcement and connect a communication line when the receiving telephone receives a call

Originating switch

Voice/text/image commercial information announcement generating system

Receiving switch or automatic response application system (ARS, VMS etc)

Originating telephone

Receiving telephone
FIG. 13

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Originating telephone

P81) Make a call

P82) Connection request(IAM)

P83) Connection confirm(ACM)

P83-1) Receiver connection reply(ANM)
in case of the charged announcement type

P84) Transmit the commercial information
announcement to the original telephone, stop
the commercial information announcement
when the communication connection fails
after B-timeout lapses

P91) Stop the commercial information announcement, receiver
connection reply(ANM) in case of the free announcement type

P91-1) Stop the commercial information announcement
in case of the charged announcement type

P92) Connect the communication line

P93) Disconnect a call

P94) Release request(REL)

P95) Release confirm(RLC)

Receiving telephone

P85) Connection request(IAM) for a receiving telephone after A-timeout lapses since the
beginning of transmission

P86) Connection confirm(ACM)

P87) Ring a phone

P88) Call Progress Message(CPG)

P89) Receive a call

P90) Receiver connection reply(ANM)

P96) Release request(REL)

P97) Release confirm(RLC)

P98) Disconnect

Receiving switch or
Automatic response application system
(ARS, VMS etc)
FIG. 14

1) make a call

2) Connect the automatic response application system

3) Transmit the commercial information announcement to the originating telephone

4) Request a connection to an automatic response applied device after A-timeout lapses

5) Stop the sending of the commercial information announcement and connect a communication line when the receiving telephone receives a call

Automatic response applied device (ARS, VMS etc)

Automatic response application device (ARS, VMS etc)

Voice/text/image commercial information announcement generating device

Originating switch

Originating telephone
FIG. 15

1. Originating telephone
2. P101) Make a call
3. P102) Connection request (LAM)
4. P103) Connection confirm (ACM)
5. P104) Connection request
6. P105) Connection reply
7. P105-1) Receiver connection reply (ANM) in case of the charged announced type
8. P106) Transmit the commercial information announcement to the originating telephone (advertisement, music, news, stock, weather etc)
9. P107) Request a stop of the commercial information announcement after A-timeout lapses
10. P108) Connection request
11. P109) Connection reply
12. P109-1) Receiver connection reply (ANM) in case of the free announcement type
13. P110) Connect the communication line between the originating telephone and automatic response applied device
14. P111) Disconnect a call
15. P112) Release request (REL)
16. P113) Release confirm (RLC)
17. P114) Disconnect
FIG. 16

1) Make a call

2) Request analysis of a service information by connecting an intelligent network

3) Transmit the commercial information ringback tone to the originating telephone

4) Request a connection to a receiving telephone after A-timeout lapses

5) Stop the sending of the commercial information ringback tone and connect a communication line when the receiving telephone receives a call

Originating telephone

SCP

Voice/text/image commercial information ringback tone generating system

Receiving switch

Receiving telephone
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FIG. 17

Originating switch  ➔ SSP  ➔ Voice/text/image commercial information ringback tone generating system  ➔ SCP  ➔ Receiving switch

P120) make a call
P121) Connection request(IAM)
P122) Request an analyzed information
P123) Request a seize resource
P124) Return the seize resource
P125) Request a connect resource
P126) Connection request(IAM)
P127) Connection confirm(ACM)
P127-1) Receiver connection reply(ANM) in case of the charged ringback tone type
P128) Transmit the commercial information ringback tone to the originating telephone
P129) Connection request(AnalyzedInformation Return) for a receiving telephone after A-timeout lapses since the beginning of transmission
P130) Connection request(IAM)
P131) Connection confirm(ACM)
P132) Ring a phone
P133) Call Progress Message(CPG)
P134) Receive a call
P135) Receiver connection reply(ANM)
P136) Stop the sending of the commercial information ringback tone (Release request:REL)
P137) Receiver connection reply(ANM) in case of the free ringback tone type
P138) Connect the communication line
P139) Disconnect a call
P140) Release request(REL)
P141) Release confirm(RLC)
P142) Release request(REL)
P143) Release confirm(RLC)
P144) Disconnect
FIG. 18

1) Make a call

2) Request analysis of service information by connecting an intelligent network

3) Transmit commercial information ringback tone to the originating telephone

4) Request a connection to a receiving telephone after A-timeout lapses

5) Stop the sending of the commercial information ringback tone and connect a communication line when the receiving telephone receives a call

SCP

Originating switch

Receiving switch

Voice/text/image commercial information ringback tone generating device

Receiving telephone

Originating telephone
FIG. 19

Voice/text/image commercial information ringback tone generating device

P161) Connection request (IAM) → P162) Request an analyzed information

P163) Request a seize resource
P164) Return the seize resource

P165) Request a connect resource

P166) Connection request (IAM)

P167) Connection confirm (ACM)

P167-1) Receiver connection reply (ANM) in case of the charged ringback tone type

P168) Transmit the commercial information ringback tone to the originating telephone

P169) Connection request (AnalyzedInformation Return) for a receiving telephone after A-timeout lapses since the beginning of transmission

P170) Connection request (IAM)

P171) Connection confirm (ACM)

P172) Ring a phone

P173) Call Progress message (CPG)

P174) Receive a call

P175) Receiver connection reply (ANM)

P176) Stop the sending of the commercial information ringback tone (Release)

P177) Receiver connection reply (ANM) in case of the free ringback tone type

P178) Connect the communication line

P179) Disconnect a call

P180) Release request (REL)

P181) Release confirm (RLC)

P182) Release request (REL)

P183) Release confirm (RLC)

P184) Disconnect
START

S1 Check a phone call?

Yes

S2 Connect with a commercial information ringback tone generating system

S3 Begin to transmit a commercial information ringback tone to an originating telephone

S4 Request a connection to a receiving telephone after a first predetermined time (A-timeout) lapses

S5 Transmit continuously the commercial information to the originating telephone

S6 A connection request receiving complete?

No

S7 S11

Yes

Stop the providing of the commercial information ringback tone

S8 Connect a communication line between the originating and receiving telephones

S9 Communication finish?

No

S10 Disconnect the communication line

END

S12 B-timeout lapse?

No

S13 Stop the providing of the commercial information ringback tone

Connect a relay line between an originating switch system and a receiving switch system

S14 Telephone connection fail?

No

S15 Stop the providing of the commercial information ringback tone

Connect a relay line between an originating switch system and a receiving switch system

S16 Disconnect the relay line

S17 Next connection request again?

Yes