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(54) **METHOD FOR ASSOCIATION BETWEEN TELEPHONY AND TELEVISION NETWORK EQUIPMENT**

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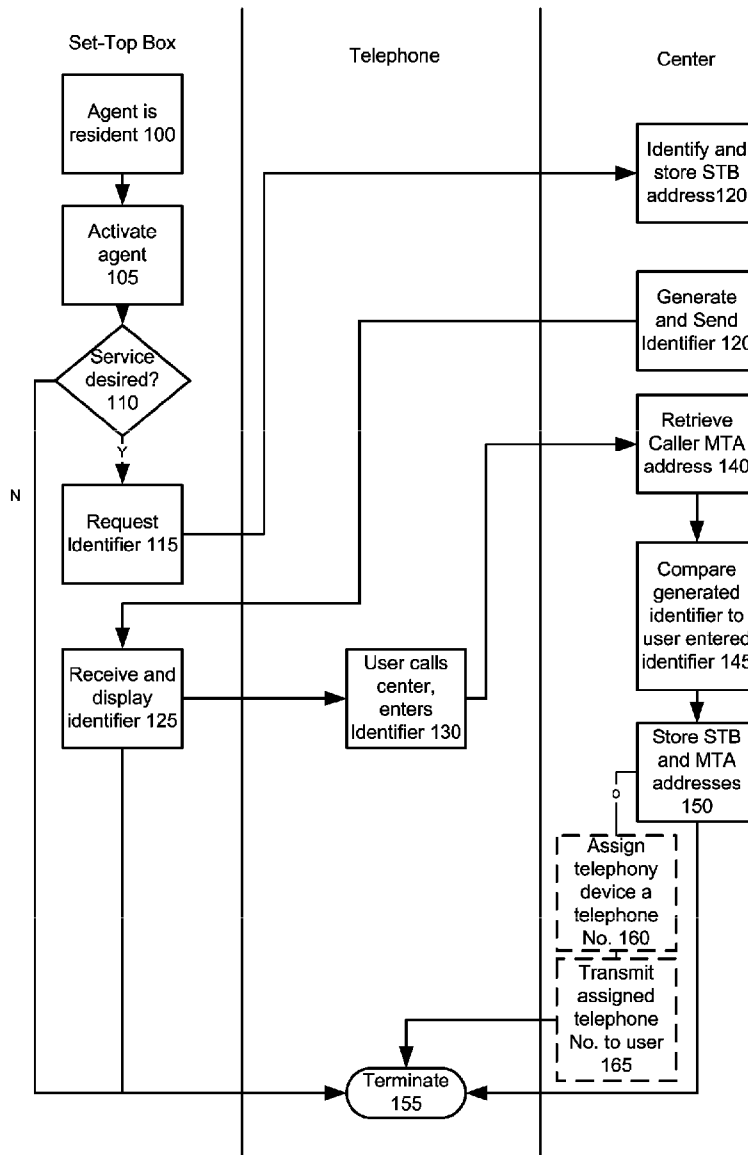
(57) **ABSTRACT**

A method for user assisted association between a television and a telephony device is provided. A set-top box requests an identification code from a server. The server identifies the set-top box, generates the code and transmits it to the set-top box. The set-top box displays the code and a user transmits the code back to the server via a telephony device. The server identifies the telephony device, and using the code, associates between the set-top box and the telephony device.

Center

User premises

Agent 60

STB 50

Televison 70

Server 20

10

Database 40

Telephone 90

MTA 80

Fig. 1

Set-Top Box

Telephone

Center

Agent is
resident 100

Activate
agent
105

Service
desired?
110

N

Y

Request
Identifier 115

Identify and
store STB
address120

Generate
and Send
Identifier 120

Retrieve
Caller MTA
address 140

Compare
generated
identifier to
user entered
identifier 145

Receive and
display
identifier 125

User calls
center,
enters
Identifier 130

Store STB
and MTA
addresses
150

Assign
telephony
device a
telephone
No. 160

Transmit
assigned
telephone
No. to user
165

Terminate
155

Fig. 2

To sign up for TV telephony
services click the 'Select'
button on your remote control.

Click 'Escape' to return to the
previous screen

Fig. 3

To activate your services, please dial
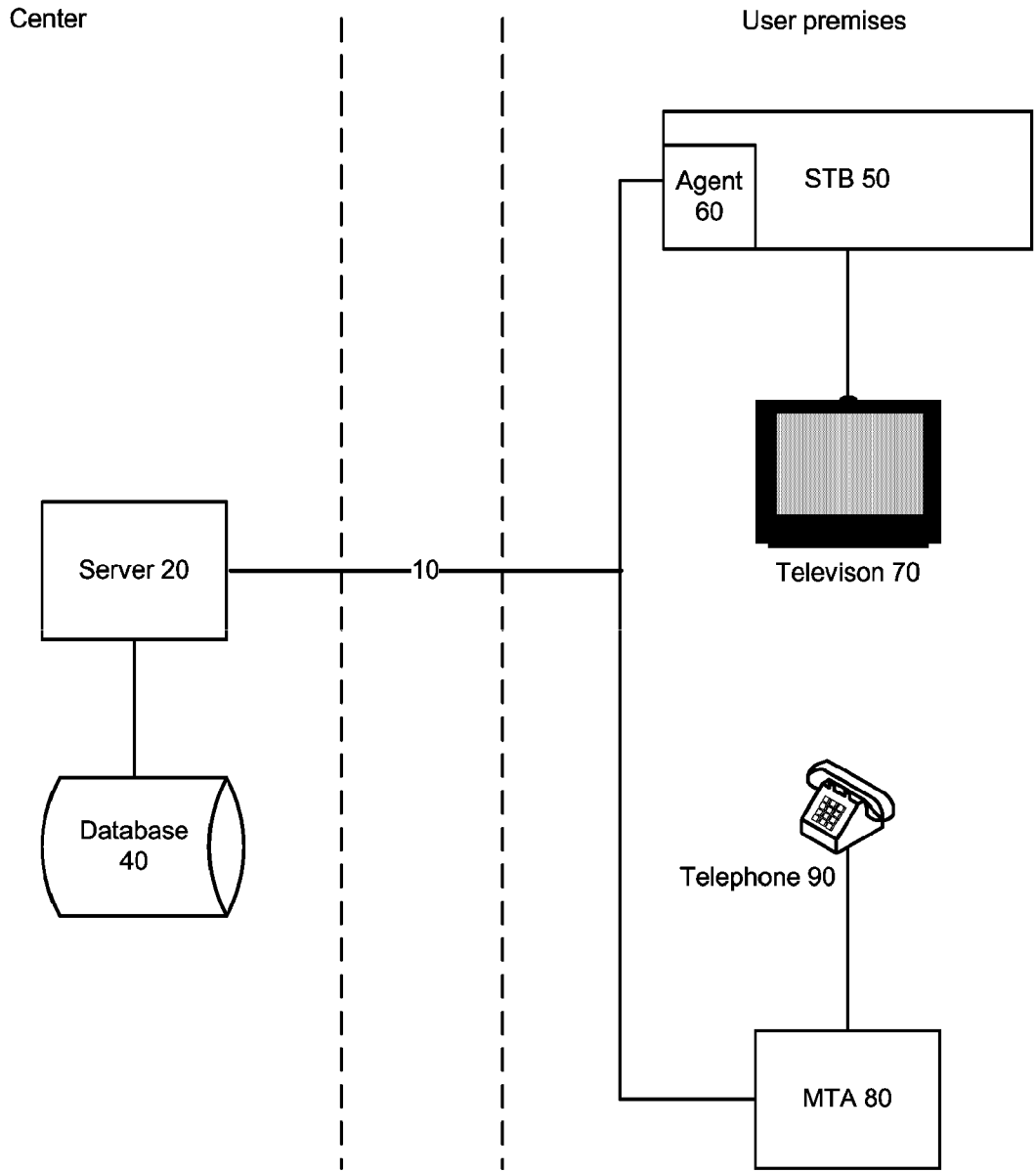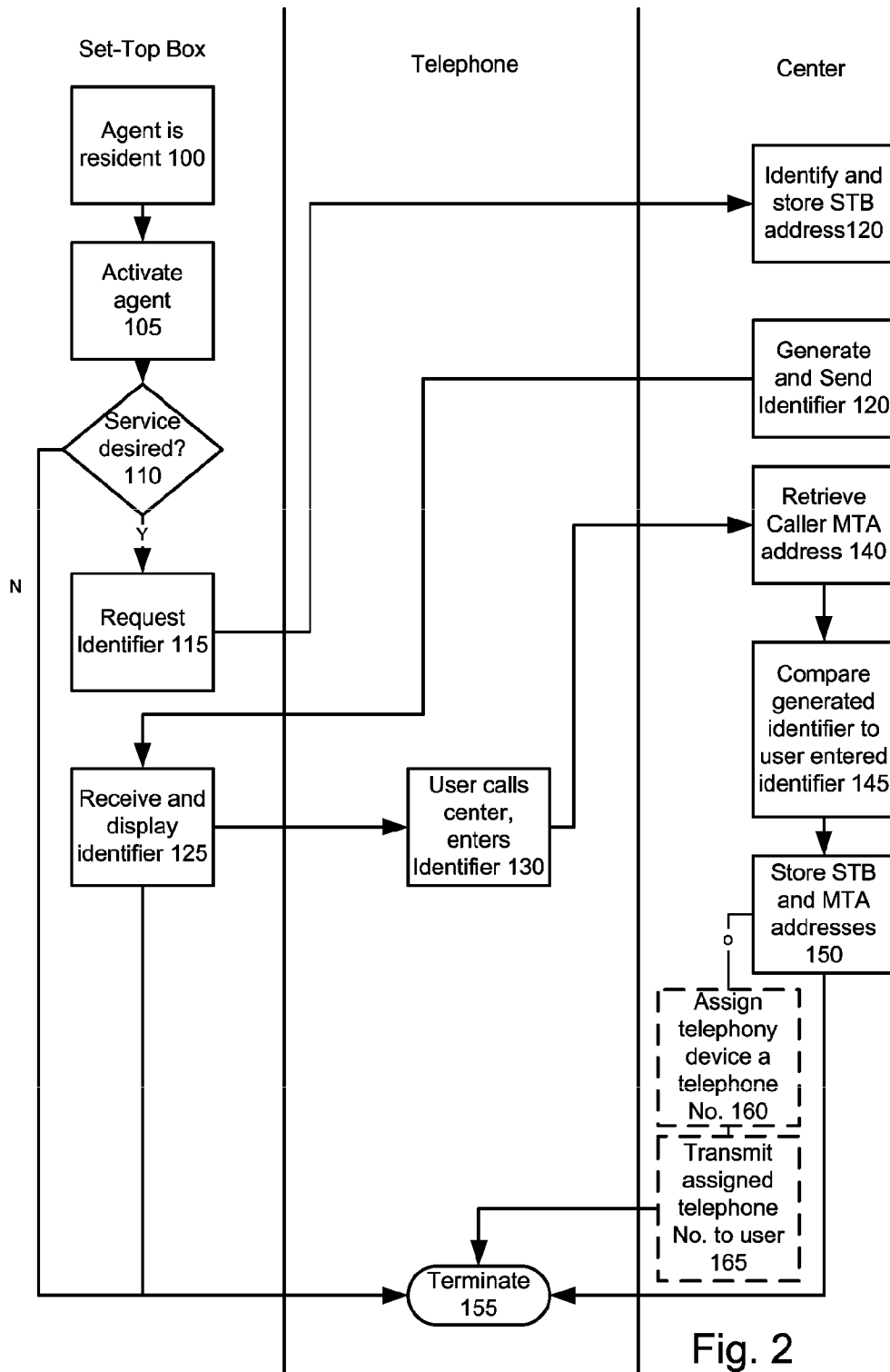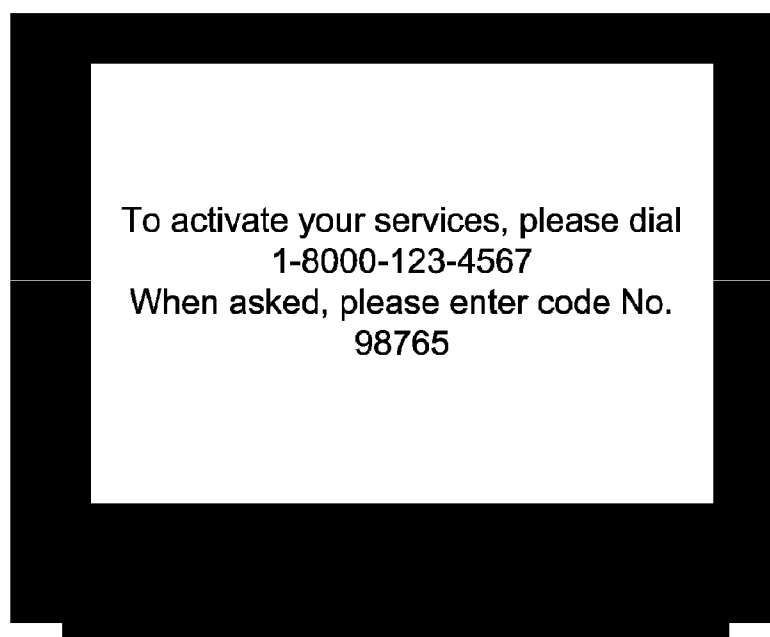1-8000-123-4567
When asked, please enter code No.
98765

Fig. 4

METHOD FOR ASSOCIATION BETWEEN TELEPHONY AND TELEVISION NETWORK EQUIPMENT

FIELD OF THE INVENTION

[0001] This invention relates generally to television/telephony networks, and more particularly to a method for automatic matching between telephony equipment and television network equipment such as set-top boxes.

BACKGROUND OF THE INVENTION

[0002] Television distribution networks are offering more and more services such as data, messaging and telephony. Similarly, telephony networks offer television services. It is desirable to provide integration between the services of both telephony and television. Examples of services that are enabled by having such integration are caller identification (Caller ID, or CID) on television, utilizing a television for call management of telephone calls, voicemail, and the like. These services benefit from the large display format offered by a television screen. Delivery of multiple services on a single network is commonly accomplished by utilizing different interface equipment between the distribution network and the different types of service. For example, in a television distribution network television services require a converter or receiver commonly referred to as a Set-Top Box (STB). Telephony service in such network are most often accomplished by a Media Terminal Adapter (MTA) which is commonly embedded within a cable modem, however other equipment may also be used such as computers or other telephony to cable interface equipment. Similarly, a telephony network that supplies television services accomplishes this task by utilizing telephones and separate interface devices for video and/or data. Some distribution networks may provide a variety of services over a converged, often IP-based, network where separation of services occurs at a central home gateway device.

[0003] Yet another example of the convergence between different services is the case of separate networks that are cross linked. Thus for example a cellular network provider may link services with a television provider for example in order to display voice message arrival or in some cases caller ID services using a television screen.

[0004] For clarity, the present invention will be described in terms of a television distribution network, but those skilled in the art will recognize the applicability of the present invention to telephony networks, as both are used as a television distribution networks with the main distinction being their 'traditional' role prior to integrating other services. Therefore the invention should be construed as extending to any distribution network that is adapted to carry television and telephony signals, as well as to a plurality of networks, where associations of television and different communication devices and/or interfaces is desired.

[0005] As this application will utilize a cable television network example for clarity, the term set-top box (STB for short) will be used hereinafter to denote any addressable interface between a television or video capable network and a television or a video display device. Thus for example the set-top box may be a cellular device, wireless device,

term MTA will be used hereinafter to denote any addressable interface between a network that is adapted to carry telephony signals and a telephony device. An MTA may be embedded in other devices such as a cable modem, and in some cases even within the telephony device, for example within an IP enabled telephone, cellular telephones, or PBX (Private Branch exchange). The telephony network, the data network, and the television network may be the same network, or different networks each combining one or more of the services. Those networks extend to the like of cable, wireless, telephony network, cellular network, and the like. Telephony devices may be individual telephones, cellular telephones, cable modems, satellite phones, IP telephones, PBX systems, and the like.

[0006] Each set-top box and an MTA is individually addressable. Each user may have one or more set-top boxes that need to be associated with a corresponding user MTA. Network operators oftentimes meet difficulties in associating the different interfaces associated with individual users. Such association is done either manually or by programming that oftentimes needs to interface two separate software systems, at significant programming effort. If one of the systems changes, the programming needs to change as well, with additional expenses and with the risk of interrupted service. Even for networks utilizing a central home gateway devices, it is desired to identify the addresses of various end-user interfaces and to be able to associate between different devices, as these devices may be replaced due to failure or may be purchased individually by the end user. This information is not always readily available to the service providers. The present invention is directed to overcoming those difficulties.

SUMMARY OF THE INVENTION

[0007] In its broadest form, the present invention therefore provides a method of association between a television and telephony device, and/or other communication devices in a user premises. Therefore, there is provided a method for user assisted association between a television and a telephony device. The method comprising the steps of sending a code request from an addressable set-top box located at a user premises. In a server, identifying the set-top box address; generating a code; associating the code with the set-top address; and transmitting the code back to the set-top box. The set-top box displays the code either directly or preferably on a television screen if available. Using a telephony device having an address associated therewith, the code is transmitted by a user, to the server. The server identifies the telephony device address (either automatically or manually), and using the code, associates the telephony device with the set-top box.

[0008] The telephony device may be a private branch exchange, a central home gateway device, or an Internet Protocol telephone device. However, preferably, the telephony device is a telephone, or a cellular telephone. In some cases the telephony device may be an MTA, optionally embedded within a cable modem. The telephony device and the set-top box may be coupled to a single distribution network, or to a plurality of distribution networks. Examples of the distribution networks include a telephone network, an

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