

PASSIVE CALL BLOCKING METHOD AND APPARATUS

BACKGROUND

1. Field of the Invention

Aspects of the present invention relate in general to telephony, and an apparatus and method to reject a call in a manner that the caller does not recognize as a block.

2. Description of the Related Art

In a conventional telephone network, users are able to subscribe to a Class 5 Call Blocking feature that allows them to maintain a list of callers that are unable to place a call through to the subscriber. Upon attempting to call the subscriber, a blocked caller is notified by a recording that their call has been rejected. The subscriber's telephone does not ring. The caller is thus aware that the subscriber is blocking them.

Similarly, in a mode of Internet telephony implementing the Session Initiation Protocol (SIP), users are able to subscribe to a comparable call blocking feature. In this case, call attempts made by blocked callers are met with a SIP 603 Decline response, which ends the call session. As with the Class 5 Call Blocking feature, blocked callers are thus aware that the subscriber is blocking them.

Outgoing calls are also subject to being blocked. Subscribers may choose to control outgoing calls by blocking certain telephone numbers, sets of numbers, or all numbers. Callers that attempt to make outgoing blocked calls on the subscriber's telephone are generally met with a request for authorization to complete the call or an error message. Once again, these callers become aware that they are being blocked.

Also known in the art is a "do not disturb" feature for telephones. When active this feature generally diverts all incoming calls immediately to voicemail, a recording, or an error message. A caller subjected to this feature may still easily recognize that their call has been rejected.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagram of a system embodiment that facilitates passive call blocking, a call block that is performed in a manner that the caller does not recognize as a call block.

FIG. 2 depicts an apparatus embodiment that facilitates passive call blocking.

FIG. 3 is a block diagram of an apparatus embodiment that facilitates passive call blocking.

FIG. 4 is an illustration of a user interface embodiment that facilitates passive call blocking.

FIGS. 5-8 are flowcharts of various method embodiments that facilitate passive call blocking.

FIG. 9 depicts a method embodiment that facilitates passive call blocking in the SIP protocol.

DETAILED DESCRIPTION

What is needed is an apparatus and method capable of blocking calls in a passive manner that prevents the caller from recognizing a call block.

There are many circumstances when this type of known rejection is undesirable, i.e., when the subscriber does not want the caller to know that they are being blocked. A subscriber may be uncomfortable with a caller feeling rejected because they have been placed on a blocked caller list. A subscriber may also prefer to keep the fact that they

are screening or monitoring calls private. Current features of telephony do not adequately address this problem.

Aspects of the present invention include a system, apparatus, user-interface, and methods for facilitating passive call blocking. As will be described below, passive call blocking may be performed over any communications network as is known in the art. In some embodiments, passive call blocking may be performed on a conventional telephone network, an integrated access device (IAD) in conjunction with an Intelligent Network (IN), or Next Generation Network (NGN).

The term "passive call blocking," as used herein, may refer to any attempt to block any form of communication conducted over any network, in a manner that prevents the initiator of the communication from recognizing the block. The term "call" refers to any attempt to communicate over a network, the term "caller" refers to the initiator of the call, and the term "callee" refers to the intended recipient of the call. In some embodiments, a call may be a telephone call, Internet telephony call, instant message or other peer-to-peer communication, wireless call, or page. Other means of making a call are well known to those of skill in the art.

The term "subscriber," as used herein, may refer to any user of passive call blocking or user of a device that facilitates passive call blocking. For example, a subscriber may be the callee of an incoming call. For outgoing calls, a subscriber may be a phone system administrator.

When passive call blocking is utilized, blocked callers receive a passive response, such as a continuous telephone ring, instead of an error message or rejection notification. The caller is thus unaware or uncertain that they have been blocked. Those of skill in the art will understand that the following embodiment methods, systems, and apparatus may be equally applied to analog, digital, audio, video, or multimedia communications, or any combination thereof.

Passive call blocking may be facilitated through a number of differing embodiments that associate caller identification information with a caller database. Examples of caller identification information include, but are not limited to, data such as caller ID information, telephone numbers, IP addresses, email addresses, user names, or any other form of caller or callee identifying information existing on a communications network. Caller identification information may also refer to information that is input by a caller when making a call. A caller database may be any database of caller identification information. Such a database may be a list of callers that a user desires to block. Hence, in one embodiment, caller identification information may be compared to a caller database of blocked callers in determining whether to passively block or alert the callee of the incoming call. In another embodiment, caller identification information may be compared to a caller database of acceptable callers in determining whether to passively block or accept an incoming call. In other embodiments, caller identification information may be compared to a caller database in passively blocking outgoing calls.

FIG. 1 is a simplified functional diagram depicting system 100, constructed and operative in accordance with an embodiment of the present invention. System 100 is configured to facilitate passive call blocking among various communication devices.

In system 100, passive call block devices 135 are connected via a communications network 110. A passive call block device 135 is any device that may facilitate passive call blocking, such as a telephone 135F or computer 135E.

Users may communicate to other users via integrated access devices 135C; computers 135E; telephones 135F;