METHOD AND SYSTEM FOR AUTO-LOGIN BY CALLING LINE IDENTIFICATION

Inventors: Eric Reiher, Longuenuil (CA); Henri Bouvier, Montreal (CA)

Correspondence Address:
OGILVY RENAUT LLP
1981 MCGILL COLLEGE AVENUE
SUITE 1600
MONTREAL, QC H3A2Y3 (CA)

Appl. No.: 11/826,105
Filed: Jul. 12, 2007

Related U.S. Application Data
Provisional application No. 60/807,277, filed on Jul. 13, 2006. Provisional application No. 60/807,287, filed on Jul. 13, 2006.

Publication Classification
Int. Cl. H04L 9/32 (2006.01)
U.S. Cl. ............................................................... 726/2

ABSTRACT
There is described a method and system for automatically logging in a user to an Internet-enabled computing device. The computing device runs a validation application and has access to information specific to the user, namely user-specific information. The method comprises initiating a call from a first telephone means to a second telephone means. The call has associated thereto calling line identification (CLID) information. The second telephone means provides access to the Internet-enabled computing device. The validation application, on the Internet-enabled computing device, compares the CLID information to the user-specific information. The method further comprises validating the CLID information using the comparison, and upon positive validation, logging in the user to the Internet-enabled computing device.
Fig. 1
1. Initiating a call

2. Providing access to Internet-enabled computing device

3. Comparing CLID information to user-specific information

4. Validating CLID information

5. Logging in the user to the Internet-enabled computing device

Fig. 2
METHOD AND SYSTEM FOR AUTO-LOGIN BY CALLING LINE IDENTIFICATION

CROSS-REFERENCE TO RELATED APPLICATIONS


TECHNICAL FIELD

[0002] The description relates generally to telephony services. More specifically, the context is Internet telephony.

BACKGROUND OF THE ART

[0003] Certain information on a user’s computer that is connected to the Internet or from a user’s Internet application or web-based account may be useful to access in cases where the user is either (a) not near his computer, (b) does not have the ability to access his computer over the Internet (e.g., such as by using peer-to-peer software installed on another computer or smart phone) or (c) his computer is closed.

[0004] Accordingly, there is a need for improved Internet telephony services.

SUMMARY

[0005] The present invention allows the user to access information on his computer or from a web-based account stored somewhere on the internet via any telephone.

[0006] In one aspect, the present description provides a method for automatically logging in a user to an Internet-enabled computing device. The computing device runs a validation application and has access to information specific to the user, namely user-specific information. The method comprises initiating a call from a first telephone means to a second telephone means. The call has associated thereto calling line identification (CLID) information. The second telephone means provides access to the Internet-enabled computing device. The validation application, on the Internet-enabled computing device, compares the CLID information to the user-specific information. The method further comprises validating the CLID information using the comparison, and upon positive validation, logging in the user to the Internet-enabled computing device.

[0007] In a second aspect, the present description provides a system for automatically logging in a user to an Internet-enabled computing device upon initiation of a call from a first telephone means to a second telephone means. The call has associated thereto calling line identification (CLID) information and the second telephone means is for providing access to the Internet-enabled computing device. The system comprises an input for receiving the CLID information; a database comprising information specific to the user, namely user-specific information; and the Internet-enabled computing device on which is installed a validation application for comparing the CLID information to user-specific information and for validating the CLID information using the comparison. Upon positive validation, the Internet-enabled computing device is for logging in the user to the Internet-enabled computing device.

[0008] Further details of these and other aspects will be apparent from the detailed description and figures included below.

DESCRIPTION OF THE DRAWINGS

[0009] Reference is now made to the accompanying Figures depicting aspects of the present description, in which:

[0010] FIG. 1 is a block diagram providing an overview of the environment in which embodiments of an auto-login system and method are implemented; and

[0011] FIG. 2 is a flow chart illustrating an exemplary embodiment of a method for automatically logging in a user.

DETAILED DESCRIPTION

[0012] Turning to FIG. 1, there is shown first telephone means 100 that may be linked to second telephone means 102 through a network 104. Alternatively, first telephone means 100 may be linked to second telephone means 102 through IP-based network 114. The links between first telephone means 100 and second telephone means 102 can be wire-based or wireless. Network 104 can be any type of network adapted to communicate with first telephone means 100 and second telephone means 102 such as a Public Switched Telephone Network (PSTN), an Internet Protocol (IP) network or any combination of the two.

[0013] FIG. 1 further shows Internet-enabled computing device 106 in communication with second telephone means 102 and database 108. Internet-enabled computing device 106 is in communication with IP-based network 114 (e.g. the Internet).

[0014] The auto-login system 110 (also referred to herein as the system for automatically logging a user) comprises, in an embodiment, Internet-enabled computing device 106, second telephone means 102 and database 108. The person skilled in the art will understand that it is not essential that Internet-enabled computing device 106, second telephone means 102 and database 108 be embodied in a single machine or even in a single location. The components of system 110 can be in various machines or in various locations.

[0015] Internet-enabled computing device 106 is shown as hosting validation application 112 which will be discussed in further detail below.

[0016] In an embodiment, second telephone means 102 is an Internet telephone application 116 installed on Internet-enabled computing device 106.

[0017] Validation application 112 allows a user to access information available on the user’s computer (e.g., Internet-enabled computing device 106) or Internet 114, by dialling in from a phone (e.g., first telephone means 100) associated with a specific phone number. The present method and system use calling line identification (CLID) information associated with an incoming call to establish the identity of the user. The CLID information can pertain to a telephone (also referred to herein as first telephone means 100) likely or expected to be used by the user, which can include a
Public Switched Telephone Network (PSTN) phone or a mobile phone or a Voice over Internet Protocol (VoIP) phone.

[0018] In an example, validation application 112 runs on an Internet-enabled computing device 106 that can be the user's home computer or a device which can be hosted elsewhere. One non-limiting example of a validation application 112 can be installed together with an Internet telephony application 116 (e.g., Skype) on a user's Internet-enabled computing device 106. Also stored on the Internet-enabled computing device 106 is user-specific information, such as account credentials for a web-based account, or a "*.PST" file for use in Microsoft Outlook.

[0019] After a call is received at the user's VoIP number (e.g., "Skype-in" when the Internet telephony software is Skype) from any phone and handled by the Internet telephony application 116, the validation application 112 intervenes and recognizes that the user has himself dialed his own VoIP number (e.g., based on calling line identification—CLID). An authentication step may be provided to confirm the identity of the user and ensure that further access is permitted.

[0020] In accordance with an aspect of the method, an authorized user first registers an association between that user and a specific telephone number (or plurality of telephone numbers) that the user expects to use (i.e., the telephone number of first telephone means 102) for placing a call to the second telephone means 104. It is therefore understood that a user can setup a plurality of first telephone means 102 even though it is not shown as such on FIG. 1.

[0021] The telephone number is stored in database 108 accessible to validation application 112. Optionally, authentication credentials (e.g., password or PIN) may also be stored in database 108. When the authorized user dials his own VoIP number (i.e., that of the second telephone means 104), the user will reach the Internet telephony application 116 (e.g., a VoIP application) running on the computer. At this point, the validation application intervenes and obtains the CLID information, e.g., by requesting it from the VoIP application. The validation application compares the CLID information to the specific telephone number to determine whether the person dialing the call is the authorized user.

[0022] At this point, the authorized user is automatically "logged in". In a first non-limiting example, the authorized user is logged into a local application (e.g., Microsoft Outlook, MSN Messenger, etc. not shown) that utilizes user-specific information locally stored in database 108. In a second non-limiting example, validation application 112 triggers opening of an Internet session (e.g., Yahoo voice, Hotmail, etc.) with a target web site. The validation application accesses the account credentials associated with the authorized user and transfers them to the web site, thus allowing the authorized user to gain access (i.e., log in) to an Internet-accessible account via the web site.

[0023] In some embodiments, despite recognition of the CLID information as being associated with the authorized user, the caller may nevertheless be asked to authenticate himself by providing a password or PIN stored in database 108.

[0024] For additional security, when the password is used for an Internet application such as Skype, it is possible to avoid keeping the password in any database or on any device. The password is interactively asked to the user when needed and passed directly to the application login along with his user name. If the application logs in with no password error, it is thus verified that the user entered the correct password and is valid.

[0025] If CLID information is present but corresponds to a telephone number that is not in database 108, there is no automatic user login. Rather, the caller may be prompted to enter certain additional credentials.

[0026] If no CLID information is present, then either it is not possible for the caller to log in or it is possible for the caller to log in by providing a set of credentials including, possibly, entry of the specific telephone number.

[0027] Thus, the user may access Internet-related functions, such as Internet voice mail and email, using any regular telephone. Other functions are also possible, such as Internet telephony using the user's own computer as a bridge.

[0028] Now turning to FIG. 2, there is shown an embodiment of the method 200 for automatically logging in a user to an Internet-enabled computing device. As stated earlier, the Internet-enabled computing device running a validation application and has access to information specific to the user, namely user-specific information.

[0029] Method 200 comprises, at step 202, initiating a call from a first telephone means to a second telephone means. The call has associated thereto calling line identification (CLID) information.

[0030] At step 204, the second telephone means provides access to the Internet-enabled computing device. At step 206, the validation application, on the Internet-enabled computing device, compares the CLID information to the user-specific information.

[0031] Method 200 further comprises, at step 208, validating the CLID information using the comparison, and, at step 210, upon positive validation, logging in the user to the Internet-enabled computing device.

[0032] The above description is meant to be exemplary only, and one skilled in the art will recognize that changes may be made to the embodiments described without departure from the scope of the invention disclosed. Modifications which fall within the scope of the present invention will be apparent to those skilled in the art, in light of a review of this disclosure, and such modifications are intended to fall within the appended claims.

What is claimed is:

1. A method for automatically logging in a user, using a first telephone means, to an Internet-enabled computing device, the computing device onto which is installed a validation application having access to information specific to the user, namely user-specific information, the method comprising:

   initiating a call from the first telephone means to the Internet-enabled computing device, the call having associated thereto calling line identification (CLID) information;
the validation application, on the Internet-enabled computing device, comparing the CLID information to the user-specific information;

validating the CLID information using the comparison; and

upon positive validation, logging in the user to the Internet-enabled computing device.

2. The method of claim 1, further comprising, prior to initiating the call between the first telephone means and the Internet-enabled computing device, the user registering information identifying the first telephone means in a database accessible to the Internet-enabled computing device.

3. The method of claim 2, wherein the registering further comprises registering an association between the user and one or more specific telephone numbers that the user expects to use.

4. The method of claim 2, wherein the registering further comprises registering authentication credentials.

5. The method of claim 4, further comprising, prior to the validation, performing an authentication using the authentication credentials to confirm the identity of the user.

6. The method of claim 4, wherein when the CLID information cannot be validated, the method further comprises prompting the user to input authentication credentials, comparing the user-inputted authentication credentials to the registered authentication credentials, and validating the user-inputted authentication credentials.

7. The method of claim 1, wherein the first telephone means comprises one of a Public Switched Telephone Network (PSTN) phone or a mobile phone or a Voice over Internet Protocol (VoIP) phone.

8. The method of claim 1, wherein the Internet-enabled computing device comprises a second telephone means comprising an Internet telephone application installed on the computing device.

9. The method of claim 8, wherein the second telephone means has a Voice over Internet Protocol (VoIP) number associated to the user.

10. The method of claim 1, further comprising, prior to the validation, obtaining authentication information from the user and using the authentication information for performing an authentication to confirm the identity of the user.

11. The method of claim 1, wherein the logging in comprises logging the user into a local application on the computing device.

12. The method of claim 11, wherein the logging comprises triggering the opening of an Internet session with a target web site.

13. The method of claim 12, wherein the validation application is further for accessing the account credentials associated with the authorized user and transferring the account credentials to the target web site, thus allowing the authorized user to gain access to an Internet-accessible account via the target web site.

14. A system for automatically logging in a user to an Internet-enabled computing device upon initiation of a call from a first telephone means to a second telephone means, the call having associated thereto calling line identification (CLID) information, the second telephone means for providing access to the Internet-enabled computing device, the system comprising:

     an input for receiving the CLID information;
     a database for storing information specific to the user, namely user-specific information; and
     the Internet-enabled computing device on which is installed a validation application for comparing the CLID information to user-specific information and for validating the CLID information using the comparison, and, upon positive validation, the Internet-enabled computing device for logging in the user to the Internet-enabled computing device.

15. The system of claim 14, further comprising another input for receiving user registration information prior to initiating the call between the first telephone means and the Internet-enabled computing device, the user registration information identifying the first telephone means.

16. The system of claim 15, wherein the user registration information comprises an association between the user and one or more specific telephone numbers that the user expects to use.

17. The system of claim 15, wherein the user registration information further comprises registering authentication credentials.

18. The system of claim 17, wherein the Internet-enabled computing device further comprises an authentication device for performing an authentication using the authentication credentials to confirm the identity of the user prior to the Internet-enabled computing device validating the CLID information.

19. The system of claim 17, wherein the Internet-enabled computing device further comprises a prompting device for prompting the user to input authentication credentials when the CLID information cannot be validated, a comparator for comparing the user-inputted authentication credentials to the registered authentication credentials, and a validating device for validating the user-inputted authentication credentials.

20. The system of claim 14, wherein the first telephone means comprises one of a Public Switched Telephone Network (PSTN) phone or a mobile phone or a Voice over Internet Protocol (VoIP) phone.

21. The system of claim 14, wherein the Internet-enabled computing device comprises a second telephone means comprising an Internet telephone application installed on the computing device.

22. The system of claim 21, wherein the second telephone means has a Voice over Internet Protocol (VoIP) number associated to the user.

23. The system of claim 14, further comprising an authentication device for obtaining authentication information from the user and using the authentication information for performing an authentication to confirm the identity of the user prior to the validation of the CLID information.

24. The method of claim 14, wherein Internet-enabled computing device further comprises a local application to which the user is to be logged.

25. The method of claim 24, wherein the local application comprises a trigger mechanism for opening an Internet session with a target web site.

26. The method of claim 25, wherein the validation application comprises a validation application for accessing account credentials associated with the user upon the positive validation, and for transferring the account credentials to the target web site, thus allowing the user to gain access to an Internet-accessible account via the target web site.

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