

[0019] Further according to the second aspect of the invention said application layer signaling is according to a session initiation protocol.

[0020] Yet further according to the second aspect of the invention, said spatial location information is received as a spatial location payload.

[0021] Yet further still according to the second aspect of the invention, said step of providing or receiving a message relates to use of said spatial location information by said presence server in conjunction with a location based service.

[0022] In further accordance with the second aspect of the invention, the step of utilizing a location based service in conjunction with said step of providing or receiving said message.

[0023] Further still in accordance with the second aspect of the invention, said step of providing application layer signaling includes the step of providing security for said spatial location information by encryption.

[0024] Yet further in accordance with the second aspect of the invention, said step of providing application layer signaling includes the step of providing security for said spatial location information by including security information for use by said presence service in handling said spatial location information.

[0025] Yet further still in accordance with the second aspect of the invention, the method further comprises the step of using said spatial location information in conjunction with a messaging service for said providing or receiving said message.

[0026] According to a third aspect of the invention, a system comprises a central server, responsive to an invitation message from an inviting user to exchange content with an invited user, for providing a presence query, and a presence server, responsive to said presence query, for providing presence information relating to a registered user, wherein said central server is responsive to said presence information relating to said invited user registered at said presence server, for use in deciding said content should be sent to said invited user, stored or refused, wherein said presence query and invitation message are communicated according to an application layer control protocol and wherein said information relating to presence pertains to a spatial location of said user.

[0027] Further according to the third aspect of the invention, said central server is also responsive to said invitation message for providing a subscription query and wherein said system further comprises a messaging server, responsive to said subscription query, for providing notification information relating to a request from a subscribed user for notification of an event, and wherein said central server is responsive to said notification information for said use in deciding said content should be sent to said invited user, stored or refused.

[0028] Yet further according to the third aspect of the invention, said application control protocol is a session initiation protocol (SIP).

[0029] Further still according to the third aspect of the invention, said information relating to presence and pertaining to said spatial location of said user is communicated as a spatial location payload.

[0030] According to a fourth aspect of the invention, a method comprises the steps of registering a first plurality of users to a presence service in response to a corresponding plurality of register requests from the first plurality of users, wherein said register requests include information relating to a corresponding communications state of each of said first plurality of users, subscribing a second plurality of users to an instant messaging service in response to a corresponding plurality of subscribe requests from said second plurality of users, wherein said subscribe requests include information relating to a corresponding request for notification of an event or set of events and wherein said first plurality of users includes users from said second plurality of users, receiving an invitation message from a user registered to said presence service to exchange content with another registered user also subscribed to the instant messaging service, and determining said communications state and said request for notification of said another registered user and deciding said content should be sent to said another registered user or stored by said instant messaging service depending on said communications state and said request for notification of said another registered user.

[0031] Further according to the fourth aspect of the invention, said register requests, subscribe requests, and invitation message conform to an application layer control protocol.

[0032] Yet further according to the fourth aspect of the invention, said application control protocol is a session initiation protocol (SIP).

[0033] Still further according to the fourth aspect of the invention, said information relating to presence pertains to a spatial location of said user.

[0034] Therefore, the invention solves the problem of transporting User Location within wired and wireless IP networks by using an application layer control protocol.

[0035] The present invention also provides a messaging solution that utilizes the application layer signaling protocol for informing the user about new incoming messages.

[0036] For the presence service, it makes use of a new data identifier promoted in IETF for storing and keeping the user location information when the user is moving. This approach uses the Spatial Location Payload (SLoP) for keeping track of the user location at any moment. Thus, the SIP will be used for registering that information in the Location servers that normally are collocated beside the SIP server acting like a SIP Registrar. Hence, a SIP User Agent will register his spatial Location information following the SLoP format into the SIP Registrar. That information will be stored in the Location Server and will be available for the rest of CSCF (Call State Control Function) (SIP servers)) in case of emergency calls or other services such as instant messaging.

[0037] For the instant messaging service, the SIP will be utilized for notifying the user about any event that he has previously registered to be made aware of. Once the user has been subscribed for receiving any new message, when that event happens the SIP server will send the notify message indicating that he has a new message. See the IETF draft-mahy-sip-message-waiting-00.txt. (SIP Extensions for Message Waiting Indication by Rohan Mahy and Ilya Slain). The innovation in the present invention is based in the use of the same mechanism but accessing SLoP information. Based on that information, the Message Service Center know exactly