

COMET

Scope

The trouble with current messaging services is that many of them can not talk to each other. They are community oriented and based on different technologies. Also, user interfaces are dissimilar and often complex, thus shutting out large groups of people using these services. Moreover, no framework exists to control Quality-of-Service of the rich multimedia messaging service delivered between the end devices over multiple heterogeneous networks. All these heterogeneous networks, proprietary messaging services, competing standards and incompatible user devices get in the way of simple, seamless communication. The goal of the Comet (Converged Messaging Technology) project is to develop and implement a messaging architecture and framework to let users send, receive, navigate and manage their messages irrespective of network technology and access device, at any time and wherever they are.

Today, a user has to have knowledge about the recipient's capabilities when composing the message. He or she has to know the target messaging domain (Sms, MMS, IMPS, SIP etc), make sure that he or she has also access to that domain and know-how to use the corresponding client. With Comet, an average user would be able to intuitively use one single client to send a message to a recipient without having to deal with technicalities like in what messaging domain the recipient currently is present. The user simply can focus on the message itself. Comet may soon make sending and receiving a message as easy as having a telephone conversation. It will demonstrate that a truly ubiquitous messaging experience, comparable to the global voice telephone service, is possible.

Advances

Existing messaging systems typically operate in splendid isolation. Most existing messaging systems, voicemail/ videomail, Sms, MMS, IM as well as proprietary messaging systems like MSN, are based on client/server architectures. Each serves a specific user community and has little or no awareness of the existence of other messaging services. Comet technology will enable operators to increase their ARPU levels by removing the barriers that limit both end users and service providers from adopting messaging services. While Comet technology protects existing messaging infrastructure investments, it enables the operator to create new revenues based on investments in IMS technology.

Not only are the existing messaging services poorly integrated from the server perspective, the same holds true for the clients. Many modern end user peripherals, like PC's and mobile phones, are off-the-shelf equipped with

dedicated clients for e-mail, Sms, MMS, IM and Voice/ Videomail. This makes the messaging user experience confusing, laborious and error prone and prevents the uptake of messaging service by user communities that are less IT-savvy. Comet will create a single, easy-to-use Converged Messaging user interface that can run on a wide variety of device platforms, regardless of resource constraints and form factors.

Increasingly, the end devices do not connect to the fixed (Internet) and mobile (IMS) IP core networks directly but via public access networks instead (like WiFi and WIMAX networks). Controlling end-to-end quality of rich multimedia messaging services becomes a challenge in such situations due to specific technical properties of those services and networks as well as the different ownership and control of the networks. This is particularly the case when streaming rich multimedia (audio, video) messages in the context of interactive message user dialogues has to be supported, in which the timeliness of the streamed messages is a key requirement for an acceptable user experience. What operators need is an effective session-based dynamic QoS mechanism.

Contribution to standardization and interoperability issues

Comet contributes to a unified set of standards to enable seamless, global, messaging. To accomplish this, the consortium works closely with several international industry bodies, including the Internet Engineering Task Force (IETF), the 3rd Generation Partnership Project (3GPP), and especially the Converged IP Messaging (CPM) track of the Open Mobile Alliance (OMA). The goal of this track is to break the currently existing messaging silos and to create a converged architecture and set of protocols to achieve the converged messaging end-user experience.

Furthermore, Comet participates in a series of IMS Forum Plugfests and OMA IMPS Testfests.

Both kinds of fests are aimed to verify the quality of specifications and enabling vendors to verify and test the interoperability of their product implementations.

Target users / sectors in business and society

Making the messaging service more uniformly accessible, attractive and of appropriate quality will attract more users coming from a wider spectrum of society and increase the overall use of messaging services. All this will

lead to better communications amongst citizens, faster adoption of messaging services by elderly and technically illiterate people and to additional revenue for operators and service providers.

Overall benefits for business and society

Converged Messaging will increase the well-being of citizens and stimulate economic growth. The service has the potential of becoming an essential element in the service portfolios for upcoming IMS network introductions. The seamless and transparent interworking with existing messaging services will create an IMS-based messaging service that has global reach from day one. The Converged Messaging concept resonates with Fixed-Mobile Convergence and quad-play business strategies that many telecom operators in mature telecom markets have adopted. It is a major step towards a truly global messaging service that is the equivalent of the ubiquitous telephony service.

Achievements

In its bare essence, the server centric part of Comet is a Message Router (MR), capable of routing messages between different Message Service Centres, e.g. an SMSC. For this purpose, Comet defined an open protocol, Message Routing Protocol MRP, to facilitate the exchange of messages. The Message Routing Protocol allows single messages as well as instant message dialogues to be exchanged between distinct and previously incompatible message domains, including Sms, MMS, IM, voicemail and videomail. From an end-user perspective, MRP allows a messaging user to seamlessly send and receive messages, without having to know what messaging technology his/her counterpart is using.

The Converged Messaging Client (CMC) supports a number of innovative features making it intuitive and easy to use. The CMC unifies all forms of messaging in a single interface; the IM-like conversational messaging style is supported as well as the chronological style found in legacy Sms messaging. Furthermore, the message delivery method and technology is hidden from the end user; end users are released from having to know the difference between text message and multimedia messaging and between single and conversational messaging. All messages are managed from a single client application and all messages are stored in a single message box.

The Converged Messaging architecture has been successfully implemented and demonstrated at various industry events. A text-based Converged Messaging service was demonstrated at GSM Barcelona 2007. A multimedia-based Converged Messaging Service will be shown at the ICT Mobile Summit 2008, 10-12 June, in Stockholm, Sweden. The finalized converged messaging service framework will appear as Comet Release 4, expected by October 2008.

Converged Messaging concepts, architecture and requirements are injected in the Open Mobile Alliance (OMA) standardization body that has recently also embraced Converged Messaging.

In the context of the Comet project, 4 patent applications have been submitted. Three of them relate to delivering messages and messaging interworking between fixed, mobile and converged networks. The fourth is related to sustaining a required Quality of Service in end-to-end data delivery where controlled networks are delivering services through uncontrolled access networks.



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