

From: Walsh, Joe
Sent: Thursday, July 13, 2006 9:56 AM
To: fred.campbell@fcc.gov
Cc: Tom Stroup; Rich Biby
Subject: Requested information on IP messaging applications

Fred,

It was a pleasure to meet you yesterday and explain our efforts to commercially deploy the Mobile Alert Network for geographically targeted messages to mobile phones. Rich has been having issues with his email and asked me to forward on this information to you that you requested.

SquareLoop has developed its Mobile Alert Network to use different transmission mechanisms based on the most efficient method available for each carrier. On some networks, this will consist of a combination of SMS and TCP/IP communication while other networks allow use of IP for end-to-end messaging.

SquareLoop is using IP exclusively in its implementation on the iDEN network. In the production configuration, the Mobile Alert Network server will communicate behind the Sprint firewall to iDEN handsets using their static, private IP addresses. An applet on the handset receives the messages and determines if the subscriber is in the right location to display the message. The application runs in the background and can be awakened if not running when a message is received.

Based on the current implementation of SMS and IP infrastructure, there is a major difference in throughput between the two architectures. Throughput of most cellular / PCS systems limits the digital (SMS) traffic to the excess available capacity of the cell's control channel (after the primary needs of controlling the cell site have been accomplished), which is traditionally no more than a single DS0 (or approximately 28.8 or 56 kbps).

In contrast to using the control channel, most carriers have allocated separate channels to data transmission. This network topology provide higher throughput than would be available in the spare capacity of the control channel. Additionally, higher capacity communications dedicated to data transmission to each cell site feed the multiple data channels allowing multiple phones to be communicated to simultaneously. Thus, the capabilities, or available data carrying capacity of a system's non SMS message delivery is considerable.

SquareLoop has taken great pains to develop an architecture that is "transport agnostic." This will allow the Mobile Alert Network to be deployed today, while also leveraging new transmission methodologies as the carriers deploy them (e.g., IP multicasting).

I hope this answers your questions. Please feel free to reach out if we can provide any further information.

Sincerely,

Joe