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Memorandum

To Emergency Preparedness

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Re: Emergency Notification Technology

We have been developing a enterprise platform cross communications system that utilizes text/voice and voice/text technologies (IBM and ScanSoft - development partners with each), that – particularly in the wake of the Virginia Tech shootings, has some relevance and application to the problem found there and in other Homeland Security applications.

1. We perceive the need to instantly send out a message that is instantly receivable on all or nearly all message reception devices.
2. We believe that the source of the message can be any device capable of sending a message.

We are in the last stages of development for a system for Cendant (Budget and Avis Division) that incorporates the following:

Step 1: Message origination:

Currently workable "message out" components:

Any telephone (wireless or LAN)
Any e-mail originator
Any WP or MS typed document
A microphone attached to a PC

Most common configuration:

Any telephonic device (as no typing is required at any time, any telephonic device will work equally well.

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Step 2: The message

The message can be any length. It is, in its most common form, “spoken”. Security can place a “voice recognition/identification” check into the normal “log in/password” connection establishment. The message is then simply dictated.

The message is then incorporated into a message packet (proprietary/patent in application) and then contains both the original spoken version and a text to voice rendition of the verbal message. We use Dragon Software from ScanSoft resting on an IBM pervasive platform (directory dialer) with message routing functionality. We now have a message that is both in digital text rendition and the original audio message. We attach a self-opening java applet to the message so that no third party player (Real, MS Player, etc.) is needed.

The addressee(s) are then selected. Any combination of recipients can be selected either by group or individually. There is no practical limitation to the number or type of recipients.

Languages: currently ScanSoft and IBM regularly translate into 23 common languages. The system can accept input in 23 languages and output an audio and text message in 23 languages. More languages are possible but with a slightly reduced voice to text accuracy rate. Current accuracy is that of hospital level dictation expectations.

Step 3: Sending/Receiving

At the “save and send” command (all voice messages can be edited and reviewed before sending), the message packet is sent to the platform and all variants are processed. The packets progress to (currently) a Sprint Telephony Center in Boston that coincidently sits on the Internet backbone. Backup distribution is through IBM data storage and management.

The recipient has made a number of reception choices. These include:

Telephony (LAN or cellular) with the message sent as spoken
Text Message to cell or Palm device
VoIP reception
E-mail
FAX
And we are developing: Satellite (XM radio or dish TV)

We can also distribute the message in text form as a screen crawl on television or in an “emergency broadcast” file to radio.

The recipient can choose the language in which he/she wants the message to be received. As an example, if recipient A wishes to receive all emergency notifications by:

Cell phone text message, email and fax (the later in Spanish), the system will so note and distribute the message accordingly.

Implementation:

This is a very easy tool to set up. We consider approximately 12 weeks from beginning to end to provide “black box” software that would be able to handle the entire interface. We cannot estimate ISP integration times or local telephony provider integration but we can provide an “off site” set up that would work something like as follows:

Our telephony server will be connected to digital voice T1 lines to handle inbound call traffic over TDM. The circuits would be configured with 24 channels per trunk, E&M wink, with 4 digit DNIS and full ANI. When a call comes in, the telephony server would answer, play a prompt asking the user to identify him/herself, and then expect DTMF digits for validation. Once validated, the system would prompt the user with a menu of options, including listening to email messages and sending an email message. The interface to any email system is done via HTTP GET's to our application server, which would broker connections to a database of accounts (for validation) and control the business logic of the call flow. It is the app server that logs in to the email server, retrieves the messages, and formats them into a finite state machine for the phone server to interpret. In this way, the system is fault-tolerant and able to be load-balanced among several different identical telephony and app servers.

The app server would need access to the email servers of expected users in the same way Outlook would - so if you require SMTP authentication, we would send it. Similarly, if you only allow access from a restricted firewall zone, we would need a VPN or pinhole to that zone on port 25 and 110 if we were talking SMTP and POP3. This component is customizable and will be adjusted to fit your needs upon implementation.

With the inclusion of a self-opening audio message player, voice authentication (user recognition) can be achieved in a normal email environment. As speech identification (for security recognition) is an important consideration, the inclusion of appropriate levels of recognition software (IBM) has been planned for. A series of sign-on codes and authentications can be easily put in place so as to reduce the chance of a “hacked” message.

Summary:

We are just a few months away from having this system complete. It will permit instant messaging across all available message receptors. The message can emanate from one source and the recipients can be selected from a range of 1 to all.

We point out to you that on 9-11 there were several major communication problems in NYC. First, all cellular phones and eventually LAN lines were overloaded to the point that the system shut down. Second, emails on dial-up were down almost immediately due to volume. Email transmitted on T1 or broadband was largely uninterrupted.

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Broadcast radio and television with transmitters at WTC I were out of commission and therefore useless.

The end effect was that with all the good information and direction flowing outbound, there was NO CENTRAL INFORMATION SYSTEM THAT COULD REACH EVERYONE THAT WORKED. Cell phones were useless. The next level up, LANS were overloaded. The backup "email" was working only on broadband. Radio and television were dependent on information dissemination that was interrupted and on sources that were often second hand.

Now imagine Mayor Giuliani picking up a phone – cell/LAN/Payphone – and accessing a platform that simultaneous started leaving messages by email/fax/phone/screen crawl/satellite, web-posting (yes we can post the message as a linked file on any site, anywhere at the time of message reception so if you are NOT ON THE DISTRIBUTION LIST, you can get the message.

Imagine the Chancellor of Virginia Tech when hearing the news called in an instantly distributed the word of the shooting and the danger to every cell phone (by text or by call) every LAN, every fax and every email both within the Virginia Tech community and alerting all relevant hospitals, police, and emergency responders by similar means.

For further information on the core technologies, please visit:

Http://www.opusonemedia.com/4investors

Or write to Harold House at hdh@opusonemedia.com

Sincerely,

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