

**Instant Messaging for
Improving Communications with the Local Media**

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Abstract

The primary mission of the National Weather Service (NWS) is to protect lives and property. While NWS forecasters issue watches and warnings, the broadcast media plays a critical role in distributing this vital weather information to the public. The Birmingham Weather Forecast Office (WFO Birmingham) and the local media have formed a partnership to improve communications. Through this collaborative effort, lives and property are being saved.

1. How it All Started

In 2000, two lead forecasters were trying to figure out why WFO Birmingham rarely heard from the local media stations, especially during severe and winter weather events. Meetings with these partners were set up to determine ways of improving communication and service. The forecasters learned that phone communication was often difficult in television studios, plus the media were reluctant to disturb WFO Birmingham during warning operations. However, each station did mention that they had Internet access. One of the forecasters had been using a type of Instant Messaging (IM) to “chat” with friends and family at home, so it was decided to test the feasibility of this medium for establishing two-way communication with various weather contacts in the area. The project was set up in hopes of fostering better communications between the media and WFO Birmingham. Types of information shared would include severe weather, snowfall or heavy rain reports, equipment outages, and interactive forecast and warning decision making discussions.

WFO Birmingham workload priorities were clearly conveyed to the media during the initial phase of the project. Given the warning role, it was understood that forecasters might not always be available to chat. However, all the information shared during the IM session would be archived, so if the forecasters had to solely focus on warnings, they could go back and read the archive at the next available opportunity.

2. What is Instant Messaging?

“Instant messaging is sometimes considered “instant mail.” Instant messaging is a type of electronic communication that is generally free and relatively easy to use. It is different from e-mail in that it is synchronous or real-time communication versus asynchronous or delayed communication” (DMR, 2002). Users create a buddy list, and can either “chat” one on one with individuals, or with many other users via a conferencing feature. (Fig. 1). IM was started by an Israeli firm called Mirabilis in November, 1996. Since then, several other companies have created similar IM systems (Brand, 2001).

3. Instant Messenger Program

WFO Birmingham chose IM software that is easy to install, relatively easy to use, and free. For specific set up information, please contact the author. Since employing Instant Messaging, communications with the media have dramatically improved. In fact, during the Veteran’s Day Weekend 2002 Tornado Outbreak Survey Assessment, the use of IM technology was considered the number one “Best Practice for Communications to Customers and Partners.” (U.S. Department of Commerce, 2003). Communication between the media and WFO Birmingham now occur through a broad range of contexts. Before large outbreaks, an IM conference is started with the broadcast community. Everyone on the buddy list is invited to participate, and the situation of the day is discussed. The chat serves as an efficient way of briefing the entire group at one time. SPC outlooks, significant parameters, and issues of timing, location and

impact are all discussed. A similar process occurs prior to smaller scale events, though the breadth of the conference may be more limited.

4. Advantages

The instantaneous exchange of warning information and storm reports during events is the greatest advantage of IM. Instant Messaging can and often does increase the speed with which the warning is disseminated by the broadcaster – sometimes by several minutes. If the public has more time to act on the warning, then more lives and property can be saved and protected. Instead of the broadcaster waiting for the warning via standard dissemination means, they receive word of the warning as it is being prepared, saving critical seconds (or minutes) before it is issued. The information sent over IM is abbreviated - basically the type of warning, the county or counties it is for, the expiration time, and the reasoning behind the warning (if needed). The media still gets a complete copy of the warning via standard dissemination to the station's display system so any additional information is still available.

When asked, all the television stations in WFO Birmingham's market agree that Instant Messaging is an essential tool. In the Veteran's Day Weekend Tornado Survey Assessment, Birmingham's ABC 33/40 Chief Meteorologists James Spann commented, "This is the greatest thing that ever happened between the private sector and the National Weather Service. The greatest ever." Former ABC colleague Mark Prater agreed, "We started using the text messaging system which vaulted us to a whole new level of coverage and getting the word out because we were linked to the National Weather Service Office." WVTN-TV (Birmingham) Chief Meteorologist Jerry Tracey added, "You have the latest on what has happened in terms of damage. You also get some great insights on what they're (WFO meteorologists) thinking if a storm looks suspicious-but is not at warning status yet. And I think lives were saved!" (U.S. Department of Commerce, 2003).

Besides serving as "a heads up" for warnings, IM is a great tool for discussing the current meteorological situation. The media can query WFO Birmingham concerning a storm they may see on their radar, and read the forecasters' reasoning for issuing (or not issuing) a warning. This kind of dialog with the media can in some cases help the forecasters make better warning decisions, particularly if the decision is not clear cut. WFO Birmingham's warning reasoning also assists the media in informing their audiences, and helps them attach the appropriate level of urgency to their weather broadcasts. "In the past, we relied on listening to spotters on HAM radio and calling them (WFO Birmingham) occasionally. This [instant messaging] has been the biggest thing to happen in our relationship with the NWS," said FOX 6 Meteorologist David Neal. "Somebody will say 'we're watching X storm – and that gives me an unbelievable jump to get everyone prepared for another warning for this county or that one'" (U.S. Department of Commerce, 2003). Real-time communication methods such as IM promote a more calibrated response to weather events by the media. In this manner, particularly dangerous storms can be addressed aggressively, while less threatening situations are handled in a more restrained fashion.

Another advantage of using Instant Messaging is the sharing of real time damage reports. The

television stations often receive a large number of damage reports, some of which may not be received by WFO Birmingham in real time. With IM, the media can easily pass this information to WFO Birmingham, which in turn can be disseminated to the public via Severe Weather Statements and Local Storm Reports. In addition, these reports can impact decision making for future warnings. Conversely, as WFO Birmingham gets damage reports from spotters and amateur radio operators, it can pass that information to the media. In the past, media outlets had to monitor scanners to receive reports of this type.

WFO Birmingham has also utilized IM to request special camera shots from the television broadcasters. As part of their severe operations, WFO Birmingham actively monitors the weather coverage being provided by all of the local television stations. On past occasions, WFO Birmingham has received live ground truth by asking television stations to repoint a weather camera, or to go back to a live shot that was shown a moment earlier. IM is the vehicle for accomplishing this request. At times, WFO Birmingham has wanted to see a particular storm live, and have asked the stations via IM if they had any live feed cameras in that area. Very often the answer was yes, and the forecasters were able to see the needed video. These shots helped determine if storms were rotating, and if so, how close to the ground the rotation was occurring. Post-event video also helped WFO Birmingham to determine types of damage, and where the hardest hit areas were located.

Apart from severe weather, IM is also used to give heavy rain or snowfall reports, and to discuss science related phenomena. During the May 7-8, 2003, record flood event across north central Alabama, the chat was used to give live rainfall totals. The spotter reports that the media received were used by WFO Birmingham to issue and upgrade warnings. Although some locations received 100-year flood rain amounts, no lives were directly lost due to flooding. This can be attributed to the increased communications with the media, facilitated by IM.

5. Problems

The advantages of IM have far outweighed the problems, though there have been a few bumps along the road. Software stability was a big issue when WFO Birmingham first started using Instant Messaging. Some media sites lost connection to the chat for no apparent reason. After further investigation, it was learned that inappropriate software versions and firewall access issues were causing most of the stability problems. To maximize stability, all participants should run the same version of the chosen IM software. In addition, any firewall-related instructions should be followed closely. The legality of using commercial software was also a concern. Designation of software as “freeware” does not always guarantee its legal use by government agencies. In WFO Birmingham’s case, the software company permitted access after they were contacted and notified of the intended use for public safety purposes.

Two other problems were encountered on the National Weather Service’s end. Security concerns were raised concerning the method by which WFO Birmingham was accessing the chat. When instant messaging was first started, it was placed on the Local Area Network (LAN). This left the network and the National Weather Service vulnerable to Internet security attacks. To solve this problem, IM was set up on a stand alone Internet Service Provider (ISP) that was

completely isolated from the Regional Network. Several methods exist for accessing the Internet for use with IM. WFO Birmingham uses a satellite uplink and downlink, while some other WFOs have access via a cable modem or Digital Subscriber Line (DSL). For the offices that are collocated at a university or another research type facility, associated networks are likely available.

Since WFO Birmingham uses a satellite connection, rain fade becomes a concern during certain situations. During rain fade periods WFO Birmingham has worked out an agreement with WFO Huntsville to broadcast any pertinent information to the media. WFO Huntsville is a regular participant on WFO Birmingham's chats so information is relayed to WFO Huntsville via telephone or 12 Planet. When the rain moves out of the area, the default satellite connection is automatically restored.

The second internal concern involved staffing. Instant Messaging is most beneficial and widely used during major weather events. From the outset, it was made clear to all the participants that if the office became too busy to chat, WFO Birmingham's participation in the chat would be suspended. WFO Birmingham still appreciated all of the information, and would go back and look it over when time became available. The chat was encouraged to continue among the other parties, and it has continued on the few occasions that WFO Birmingham has not been an active participant. There has not been many times that staff members have been unable to chat. Given the large effective role IM plays in the protection of customer lives, extra effort is made to ensure that someone will be available to work the chat. Recently WFO Birmingham has re-evaluated duties during severe weather and IM is one of the top priorities. Through experience, during large severe weather outbreaks, it has been found that having a person dedicated to Instant Messaging works best. It is too difficult to monitor the radar and operate the chat at the same time. During the smaller, short-lived events and when only a few storms are on the radar, it is possible for the radar operator to handle both roles.

Finally, one potential problem has thankfully been avoided by WFO Birmingham: direct competition between members of the same media market. As word of Instant Messaging has spread across the country, some television meteorologists have mentioned that their producers and management would never let them participate, because their job is to gain viewer share over the other stations in the local market. The stations in WFO Birmingham's CWA (County Warning Area) realize that they too, are in the business of saving lives. Competition certainly exists, but when it comes to severe weather, all stations try to work together in the public interest. Each on-air meteorologist has educated their producers and managers regarding the benefits of IM and cooperation with the NWS. Those few station managers who were initially reluctant were invited by their meteorologists to sit with them during a severe weather event. In this way, they witnessed first hand the benefits of Instant Messaging. The meteorologists were able to convince the producers and managers that the other stations were going to gain valuable information by participating, and that they should join as well. If a station decides to withhold information such as damage reports on a group chat, they can still participate by privately sending the relevant information to the WFO.

6. Conclusions

Instant Messaging has drastically improved WFO Birmingham's communications with the media partners in their forecast area. WFO Birmingham has formed a close, crucial partnership with their broadcasters, and the public is the real winner. IM fosters a rich exchange of information and ideas between WFO Birmingham and the media. Future steps might include outreach efforts to radio stations that provide extensive severe weather coverage, as well as certain TV stations that have been less active than others in the IM process. WFO Birmingham views Instant Messaging as a true success story. It has improved communications with the local broadcasters, facilitating faster relay of more detailed severe weather information.

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Figure 1: Instant Messenger transcript screen shot from May 7, 2003. kbm2_al entries originated from WFO Birmingham, entries in black are from media partners.