



ICAO/IMO JWG ON HARMONIZATION OF  
AERONAUTICAL AND MARITIME SAR  
14th session  
Agenda item 7.3

ICAO/IMO JWG-SAR/14-WP/17  
17 August 2007  
ENGLISH ONLY

## **SAR COMMUNICATIONS**

### **Future trends in SAR communications**

#### **INTERNET RELAY CHAT PROGRAMMES IN SAR OPERATIONS**

**(Presented by United Kingdom)**

#### **SUMMARY**

***Executive summary:*** This paper reports on the use of Internet Relay Chat in an international SAR exercise and suggests further discussion of its possible use as a communications tool in SAR operations

***Action to be taken:*** Paragraph 12

***Related documents:***

## **INTRODUCTION**

1. This paper seeks to inform IMO/ICAO of Internet Relay Chat (IRC) and its possible use in SAR operations. It briefly examines the nature of IRC before looking at its experimental use in a recent NATO SAR exercise. The paper covers the reasons IRC was used, how it performed and how it could be exploited in the future.

## **NATURE OF IRC**

2. IRC is a form of real-time internet communication or synchronous conferencing. It can support group communication in discussion forums but also allows one-to-one dialogue and data transfer. Its ease of use and free acquisition has ensured its use around the world: there are thousands of IRC networks; many, including those mentioned below, run on Windows but clients can be found for all operating systems.

## **EXERCISE BOLD MERCY**

3. Exercise Bold Mercy is an annual NATO, peacetime live SAR exercise that focuses on prompting and testing essential cross-boundary, cross-border co-operation and interaction between military and civilian Rescue Coordination Centres and mobile SAR units. The training audience extends from the east coast of Canada to the eastern Baltic. Since the exercise's inception, communications difficulties have proved a consistent theme.

4. In general, cross-border/boundary communications are conducted by voice and fax. Evidence from successive exercises shows that voice communication, over telephone or radio, is immediate but prone to error and misinterpretation, due largely to operators having to communicate in a second language. Fax communication does not suffer from misinterpretation to the same extent as voice. Fax, however, is very much slower than voice, particularly when sending to multiple addressees.

5. During Exercise Bold Mercy 05, Latvian authorities employed a low cost IRC facility (MIRC) in the execution of one of their exercise incidents. (The system was already in widespread use by Latvian State Emergency Services). The system worked very well and the degree to which it improved rapid and accurate communications was noted by representatives from other participating nations. The Final Exercise Report suggested that MIRC could represent the first step in providing a fast, reliable, affordable communications system across RCCs in the Baltic that was not entirely reliant on the quality of spoken English and proposed a trial of the system in Bold Mercy 07.

6. ICECHAT was chosen over MIRC by the time of the trial as it was considered a better system. RCCs, equipped with stand-alone PCs, were able to down-load the free programme. MRCC Riga controlled the Chat network from twin servers which were protected by appropriate firewalls and passwords available on request. Riga provided instructions on how to set up the network and technical specialists to answer questions. Eleven RCCs, Latvian National Agencies and the French Fast Patrol Boat, Pluvier (at sea, on scene) took part in the trial. Other organisations, including RCCs from the Atlantic Region, joined the ICECHAT network to monitor events.

## **IRC PERFORMANCE IN BOLD MERCY 07**

7. ICECHAT was exercised across the Baltic in a number of demanding SAR incidents requiring cross-boundary, cross-border communications. The use of IRC functionality was discussed at length at the post-exercise debriefs. Those who used the system reported very favourably on its performance. The system proved easy to use, robust and effective in passing information rapidly and accurately. Of interest, Finland, who had chosen not to equip themselves with ICECHAT for the exercise, suggested that many communications problems they encountered during their incidents could have been avoided had they employed an IRC system. The following key points for and against IRC were identified:

### Pros:

- Fast, reliable, flexible and robust.
- Accurate transfer of mission critical information.
- Reliable audit trail and hard copy history of events.
- Effortless dissemination of information to multiple addressees.
- Enhanced, widespread situational awareness.
- Potential for pre-formatted information transfer, e.g. SITREPS.

Cons:

- Contributes to information overload.
- Prone to misuse and verbosity.
- Security concerns – hackers.
- Integration into existing national systems.

8. A pivotal conclusion of delegates at the debrief, all seasoned SAR operatives, was that the adoption of IRC systems was probably inevitable and a multi-national approach could ensure a smoother and more integrated introduction of this already proven technology. Policy direction from IMO/ICAO could resolve such issues as protocols, procedures, technical specifications, etc, ahead of possible divergent national initiatives to equip their SAR agencies with IRC functionality. IMO/ICAO guidance could also prompt nations to invest in integrating IRC functionality into their existing or future SAR Operations facilities.

9. Direction and guidance from IMO/ICAO could ameliorate many of the fears voiced by SAR operatives concerning IRC. Information overload occurred where operational staffs were monitoring IRC in addition to telephones and fax. Unnecessary, informal use of ‘chit-chat’ would be curtailed under strict IRC communications procedures and protocols. Fears regarding security could be reduced by incorporating additional layers of security to a system exclusive to the SAR community – ‘SARCHAT’ perhaps. This and a clear IMO/ICAO vision of the future would also encourage States to at least consider integrating SARCHAT functionality into future SAR facilities and units.

### **SARCHAT – THE FUTURE?**

10. With technical specifications, protocols and procedures agreed internationally, a flexible, inexpensive SAR communications network could be established – perhaps worldwide. The nature of SARCHAT would allow agencies to rapidly configure working groups to specifically fit the purpose for which they were required. As has been demonstrated, SARCHAT terminals could be fitted to SAR Units, allowing recorded, robust communications and data transfer, including images, to and from the scene. With a large number of users, SARCHAT could enable a greater degree of information and asset sharing, improving the efficiency and effectiveness of international SAR.

### **CONCLUSIONS**

11. IRC demonstrated its SAR utility in Exercise Bold Mercy 07. Affordable, robust and practicable, it provided fast and reliable inter-agency communication, independent of the quality of spoken English. With the proliferation and increased use of IRC communications, early IMO/ICAO guidance and direction on protocols and procedures for SAR operations would smooth the introduction of this technology.

### **ACTION REQUESTED OF THE JWG**

12. The JWG is invited to consider the contents of this paper and to discuss further action as appropriate.