

INITIAL REPORT FOR CWID 06 TRIAL SPONSORS

[CWID Assessment of Mobile Detect's "MobRadNet" trial only]

INTRODUCTION

The Canadian Forces Experimentation Centre (CFEC) is the national coordinator for Canada within the Coalition Warrior Interoperability Demonstration (CWID) program. CWID 06 execution and technology assessments were conducted 12-23 June 2006. This briefing note includes a quick look assessment of the CWID 06 Canadian-led trials. These reflect the assessments that have been submitted to the US CWID 06 Final Report. A more detailed Canadian Assessment Report is currently being drafted and will be available within the next few months.

BACKGROUND

The CWID is a US Chairman of the Joint Chiefs of Staff (CJCS) annual event that assesses technologies and capabilities geared to solve current operational challenges focused on command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) in a coalition environment. In 2006, CWID brought together 23 countries, including different military services and government departments onto a single experimentation network using both a domestic homeland security scenario and a traditional military expeditionary scenario. The aim of the Canadian Forces for CWID 06 was to enhance Canada's interoperability with our principal Allies within a military coalition and domestic operational environment. It provided military operators (referred to as warfighters in this briefing note) with the means to evaluate the applicability and readiness of the technologies within an operational setting. It also provided them with first-hand experience of the new technologies.

DISCUSSION

There were a total of 34 Interoperability Trials (IT) executed during CWID 06. Canada led eight of these trials and participated in another three. The quick look assessment for each of the eight Canadian-led trials are presented below. Note that a more detailed Canadian Assessment Report is currently being drafted documenting the process, observations and results of these trials.

[Information on other Trials deleted by Mobile Detect]

IT 1.34 MOBILE/STATIC REAL-TIME RADIOLOGICAL SURVEILLANCE NETWORK – WARFIGHTER RESULTS

PERFORMANCE

Mobile/Static Real-Time Radiological Surveillance Network (MobRadNet) is a radiological monitoring system, which is a combination of mobile and static radiological detectors that scan for radiological readings and report in real time to a central monitoring system. The central monitoring system is then accessible by a Graphical User Interface that allows the operator to monitor the sensors in real time as well as view reports on previous periods of time.

Through JDCAT questionnaires, there were five warfighters in Canada and the US who utilized the tool fairly extensively during both weeks of execution. The consensus was unanimous that MobRadNet was very easy to use and very effective in providing an easy to understand situational awareness specific to radiological events. The few comments that the users voiced on usability were noted by the vendor representative and were very professionally addressed. Several of these comments resulted in system enhancements that were implemented overnight and readily available to the warfighters and in turn successfully demonstrated the adaptability and flexibility of MobRadNet. The warfighters all agreed that MobRadNet fulfills an operational capability gap in that there are no current systems that provide the ability to monitor radiological incidents remotely in a common operational picture. They also felt that MobRadNet worked well during CWID and that it could be fielded in its current configuration. MobRadNet successfully met its CWID objectives.

TECHNICAL SUPPORT/TRAINING

Participants all received onsite training and found it to be very beneficial. The time allocated and the training provided was sufficient to complete all of their tasks for the CWID event. Documentation was also provided and they found it to be very helpful, although the system was quite easy to use. The participants reported the onsite technical support from the vendor to be outstanding. A variety of usability suggestions were provided to the developers throughout CWID and they were quickly implemented overnight and made available to the warfighters.

CAPABILITIES/FINDINGS

REAL TIME ACQUISITION AND TRANSMISSION OF RADIOLOGICAL DATA TO A CENTRAL SERVER: This capability allows the system to obtain second by second gamma ray sensor measurements, geospatial data and time data and provides the ability to transmit this information to a central server in real time (data was provided both by data simulators and by live fixed and mobile sensors in operational locations). The warfighters reported that the data was received in real-time and immediately visible on their monitoring stations. This capability also allows for easy monitoring of mobile platform based units. The warfighters were able to easily monitor and track mobile sensors and reported that the plotted path superimposed over the map made it very easy to visualize where the sensors were, where they had recently been, and where they were heading, all allowing them to easily pinpoint any areas of concern. This capability was successfully demonstrated.

TRANSFORMATION OF DATA INTO RADIOLOGICAL INFORMATION FOR RADIOLOGICAL SITUATIONAL AWARENESS: This capability allows obtaining real-time gamma ray radiation images. All of the warfighters reported being able to see second by second sensor reporting. This capability also allows the operator to create summary radiation data images, video output images, sensor data overlay onto maps or aerial images, as well as statistical distributions and graphs of the sensor measurements. The warfighters reported that MobRadNet was very effective in allowing them to easily create radiation images via screen capture or QuickTime videos. They noted that it was very easy to see exactly where the incident occurred and where the sensors are located with the sensor data superimposed over the map or aerial image. They also reported that the system was very effective in creating statistical distributions and graphs of the sensor measurements. Moreover, this capability provides the ability to

automatically recognize and track anomalous radiation events, differentiate those readings from normal background radiation and allows the warfighter to reply to the evolution of the radiation events. The warfighters reported that it was very easy to identify radiological incidents and that it was easy to determine whether the area of concern was changing in size or location. They also found that MobRadNet was very effective at allowing them to respond to the radiological events. This capability was successfully demonstrated.

REAL-TIME AVAILABILITY OF COMMON VIEW OF RADIOLOGICAL SITUATIONAL AWARENESS: This capability allows users to acquire multiple tactical views, provides access to data in real time and provides the ability to send relevant data and graphic images as email attachments. All of the warfighters reported being able to easily acquire multiple tactical views and monitor sensors in real time from multiple locations. The warfighters found that it was very easy to share radiological events with others and make them understand exactly what they were viewing without difficulty. This capability also provides Automated Targeted Spectroscopy (ATS) isotope identification. The warfighters reported that the system made it very easy to differentiate between incidents related to medical patients vs. incidents indicating potential concern. This capability was successfully demonstrated.

RADIOLOGICAL SITUATIONAL SUMMARIZATION: This capability allows users to assemble a replay of an incident with graphical data to create a meaningful summary of the incident. The warfighters found that it was easy to record and play back videos of current and historical events. These recorded videos could also be viewed by other warfighters who did not have the MobRadNet software installed. This capability was successfully demonstrated.

CONCLUSION

ModRadNet successfully met its CWID objectives. The warfighters unanimously stated **that the system was easy to use, highly functional, and ready to be deployed in its current form.** They stated that **there is a definite capability gap and that MobRadNet addresses this gap.** The warfighters were also extremely impressed with the technical support they received which made a very functional system even easier to work with. Recommendations for enhancements were provided by the warfighters and will be included in the final Canadian Assessment Report.

Prepared by:	Melanie Bernier, CWID Lead Analyst, 991-6151
Responsible Group Principal:	CFEC CWID Team/Maj P. Bailey, 991-6154
Date prepared:	September 11, 2006