Cell Broadcast

The Next Wave in Public Warning Delivery

Warning Delivery Systems

* Sirens and Loudspeakers
* Changeable Message Signs
* Broadcast Interrupt
* RDS and Marine Alerting Radios
* Telephone Notification
* Email and SMS Text
* And most recently… Cell Broadcast

What is Cell Broadcast?

* Alerts are “broadcast” from cell towers to cellphones
* A single transmission reaches all cellphones in range
  * Whereas ordinary “SMS” texting requires one transmission for each recipient.
* Thus faster and less costly

But alas…

* Many wireless carriers have been slow to implement this capability
  * Lack of a clear revenue model
  * Fear of undermining revenues from SMS texting
* Although "CB" is part of the cellular specifications, it can require carriers to install extra software and equipment.
* Also, existing cellphones would need to be reconfigured.

And yet…

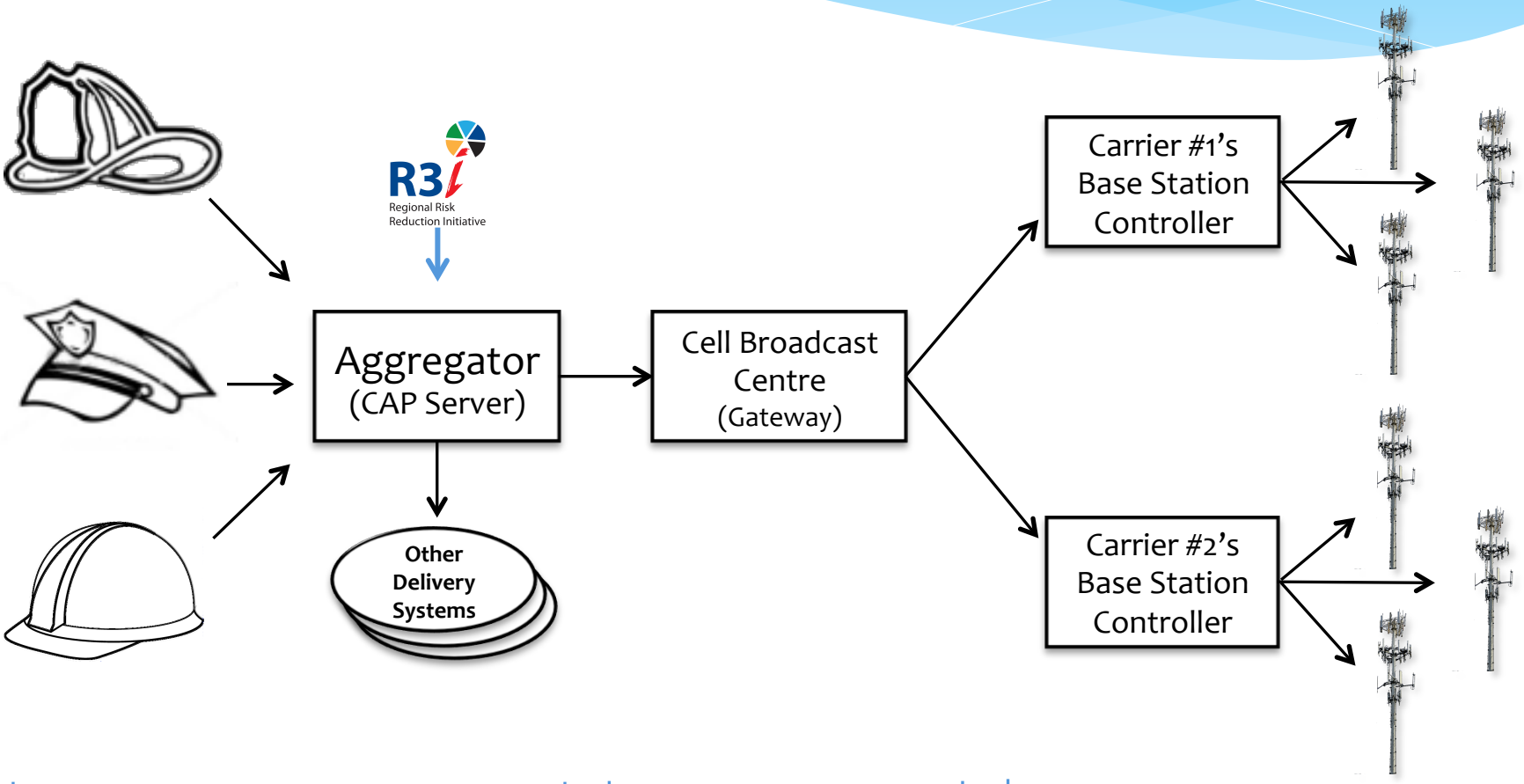
* Cell Broadcast alerting systems are being deployed in the U.S., the Netherlands, Japan, Chile and elsewhere.
* International organizations are setting standards to make CB alerting compatible worldwide.
* A number of companies are specializing in integrating multiple carriers' CB with CAP-based alerting systems.
* Some legislatures are making CB alerting a "cost of doing business" for wireless carriers in their jurisdiction.

So what does it take?

TECHNICALLY:

* An alert “aggregator” to authenticate alerts and put them in a standard format such as CAP;
* A gateway between the aggregator and each carrier’s equipment;
* In some cases, updates to the carriers’ operating software; and,
* Either user configuration of existing phones to accept CB alerts, or pre-programming of new phones sold.

So what does it take?



The Cell Broadcast Centre

* Provides a trusted interface between the message aggregator (CAP server) and the wireless carriers' equipment.
* Different carriers may have different equipment.
* May be operated by government, by carriers or by a third party.
* Several firms offer this as an integration service.

What else does it take?

* Agreements with wireless carriers
  * Service level agreements for CB transmission
  * Configure new cellphones for CB alerts
  * Limit carriers' liability for alerts
  * Appropriate use / official access control
  * Compensation / reimbursement
* Also record keeping and program management
* Legislation may be required (as in U.S.)

In sum…

PROs

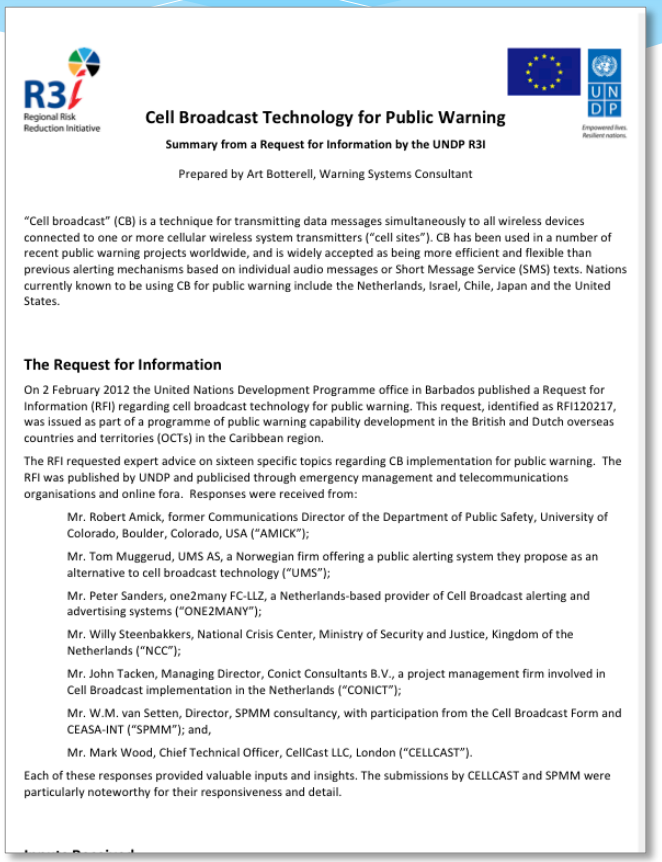
* Highly relevant to mobile users, especially young
* Even greater reach than radio / TV alerting
* Opportunities for precise geographic targeting
* One more tool in the tool kit

CONs

* Requires active cooperation of wireless carriers
* May require legislation or regulation to coordinate
* May take multiple years to deploy

For more information

* R3i conducted a Request for Information (RFI)
* Received inputs from global experts and providers
* Project has prepared a summary for your convenience



R3i Regional Risk Reduction Initiative

UNDP Empowered lives. Resilient nations.

Cell Broadcast Technology for Public Warning

Summary from a Request for Information by the UNDP R3I

Prepared by Art Botterell, Warning Systems Consultant

"Cell broadcast" (CB) is a technique for transmitting data messages simultaneously to all wireless devices connected to one or more cellular wireless system transmitters ("cell sites"). CB has been used in a number of recent public warning projects worldwide, and is widely accepted as being more efficient and flexible than previous alerting mechanisms based on individual audio messages or Short Message Service (SMS) texts. Nations currently known to be using CB for public warning include the Netherlands, Israel, Chile, Japan and the United States.

The Request for Information

On 2 February 2012 the United Nations Development Programme office in Barbados published a Request for Information (RFI) regarding cell broadcast technology for public warning. This request, identified as RFI120217, was issued as part of a programme of public warning capability development in the British and Dutch overseas countries and territories (OCTs) in the Caribbean region.

The RFI requested expert advice on sixteen specific topics regarding CB implementation for public warning. The RFI was published by UNDP and publicised through emergency management and telecommunications organisations and online fora. Responses were received from:

Mr. Robert Amick, former Communications Director of the Department of Public Safety, University of Colorado, Boulder, Colorado, USA ("AMICK");

Mr. Tom Muggerud, UMS AS, a Norwegian firm offering a public alerting system they propose as an alternative to cell broadcast technology ("UMS");

Mr. Peter Sanders, one2many FC-LLZ, a Netherlands-based provider of Cell Broadcast alerting and advertising systems ("ONE2MANY");

Mr. Willy Steenbakkers, National Crisis Center, Ministry of Security and Justice, Kingdom of the Netherlands ("NCC");

Mr. John Tacken, Managing Director, Conict Consultants B.V., a project management firm involved in Cell Broadcast implementation in the Netherlands ("CONICT");

Mr. W.M. van Setten, Director, SPMM consultancy, with participation from the Cell Broadcast Form and CEASA-INT ("SPMM"); and,

Mr. Mark Wood, Chief Technical Officer, CellCast LLC, London ("CELLCAST").

Each of these responses provided valuable inputs and insights. The submissions by CELLCAST and SPMM were particularly noteworthy for their responsiveness and detail.