

CellCastTechnologies

The Global Authority On Location-Based Communications Solutions

Current Status and Next Steps for Geo-targeted Public Warning Systems



Presented in Geneva by:
Bruno Walter, Managing Director EMEA
CellCast Technologies
bruno.walter@CellCastCorp.com
www.CellCastCorp.com

Minimizing Disaster Impact

Disaster = Hazard x Vulnerability

“Effective emergency notification reduces vulnerability.”

~ UNITED NATIONS INTERNATIONAL
STRATEGY FOR NATURAL DISASTER REDUCTION

 Vulnerability =  **Cost of Disaster**
(Human and Material)

What is Cell Broadcast?

Technology

- Point to Multi-point (broadcast)
- Delivers short text message to unlimited number of cellular phones
- Geo-targeted

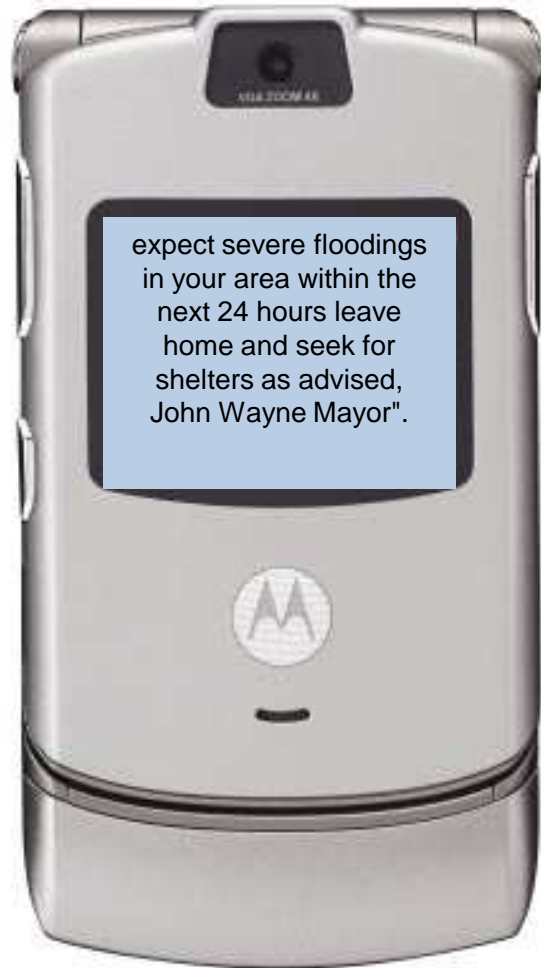
Delivery

- Phone rings to announce message
- Message is displayed immediately -or-
- Message is placed in phone's Inbox
(Depending on handset)

Database-Free

- Phone number is not used for message delivery
- No subscriber database required
- Area visitors also receive alerts

Targeted Delivery to Mobile Phones



- There are about 3 billion mobile phones.
- Usually self paid by the user.
- The user nearly always carries it (at work, home or holiday).
- The user charges the battery every night.
- The user repairs it at his own cost promptly.
- The typical user upgrades to a newer model at his own expense about every year.

Emergency Warning System Criteria

Trustworthy

Authenticate -- Authorize -- Verify

Pervasive

Reach most of at-risk population
(residents, visitors, tourists, commuters)

Geo Specific

Deliver messages only to affected areas

Affordable

Capitalize on existing infrastructure

Timely

Notify maximum people in minimum
time

Efficient

Broadcast once to a million phones -vs-
make a million individual phone calls

Cell Broadcast Facts

- **DOES WORK** with 1S95 CDMA
- **WILL WORK** with 3G technology
- **IS ECONOMICAL** to activate
- **DOES WORK** with existing carrier infrastructure and doesn't require purchase of additional equipment by the wireless carrier
- **IS PROVEN**
- **IS** commercially sustainable

A Better Way—CELL BROADCAST

	Safe and secure	100% penetration	Geo specific	Existing equipment	Database free	Timely response
CellCast Solution with Cell Broadcast	✓	✗	✓	✓	✓	✓
Landline wireless	✗	✗	✓	✓	✗	✗
Dialup wireless	✗	✗	✗	✓	✗	✗
SMS	✗	✗	✗	✓	✗	✗
Email	✗	✗	✗	✓	✗	✗
Fax	✗	✗	✓	✓	✗	✗
TV/radio	✓	✗	✗	✓	✓	✓
Signage	✓	✗	✓	✓	✓	✓

CellCast Technologies' Aggregator Broker™ Solution

Available

- Exists today
- Enabled with setting change or minor hardware/software upgrade
- Most phones already have feature built-in
- No need to design or build new systems

Scalable

- Is a massively scalable messaging solution
- Can reach hundreds or millions in minutes

Geo-Specific

- Evacuate neighborhood by neighborhood
- Warn only affected regions - avoid “warning burnout”

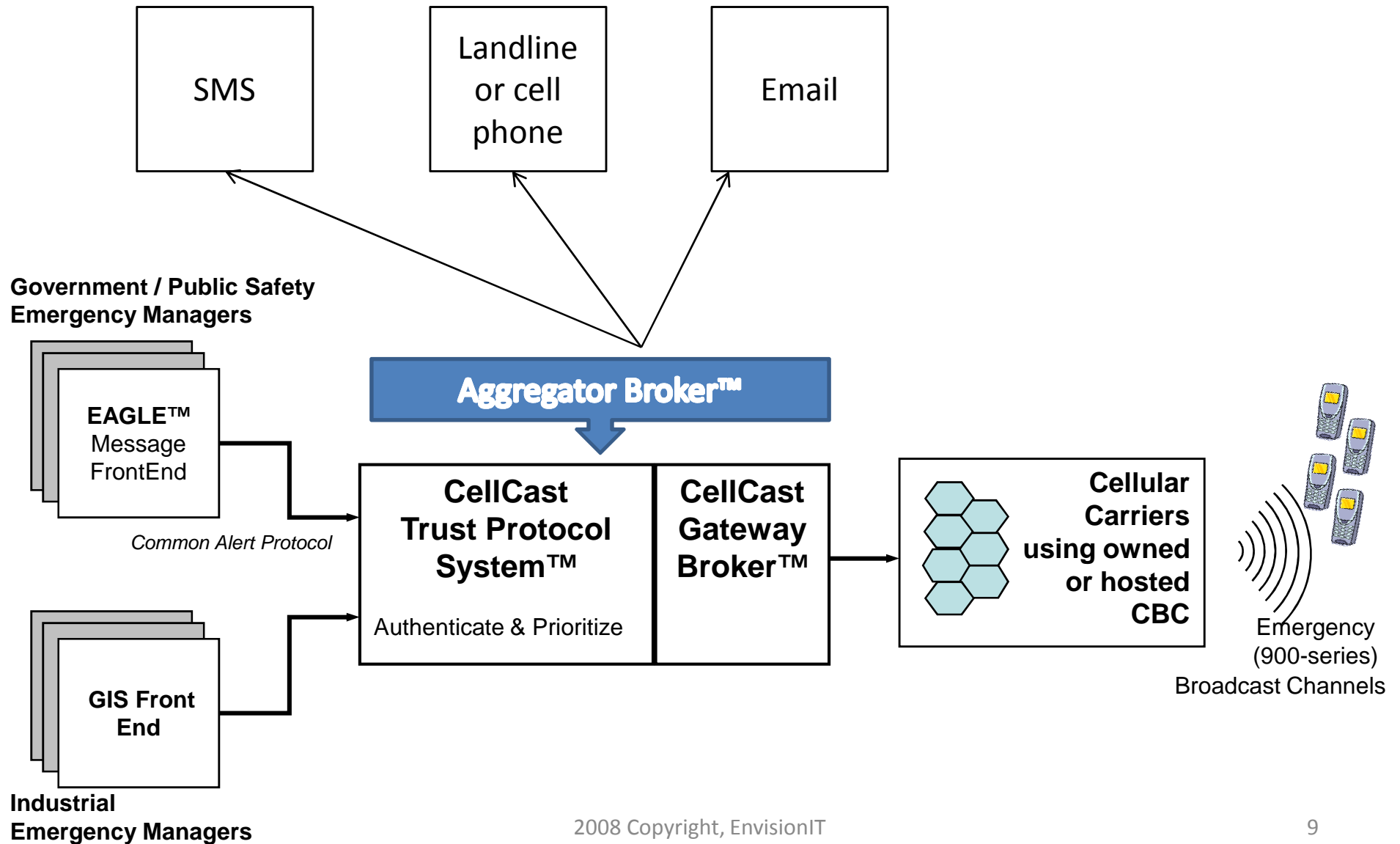
Reliable

- Works despite voice and text messaging system congestion
- Will not crash cellular network
- Point to Multi Point cell broadcast technology
- has not failed in any operational scenarios.

Trustworthy

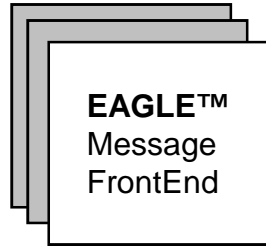
- Protected against spamming, hacking and spoofing.
- Access limited to authorized officials
- Citizens are assured of message authenticity - not possible in point to point systems

CellCast Emergency Notification System Components



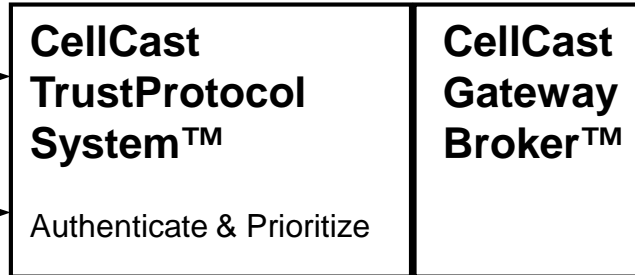
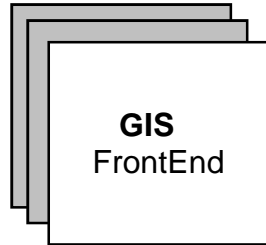
CellCast Emergency Notification System Components

Government / Public Safety
Emergency Managers

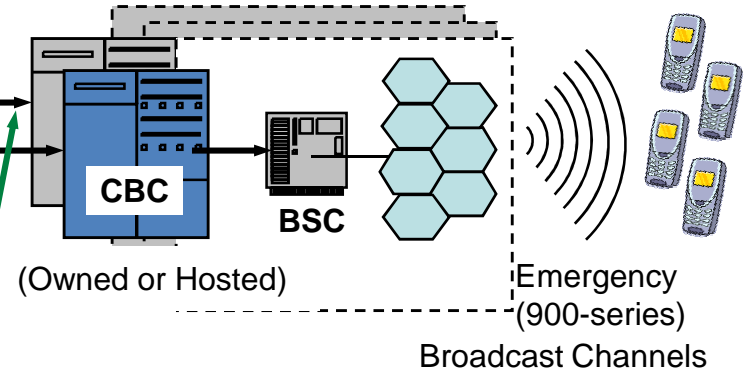


Common Alert Protocol

Industrial
Emergency Managers



Wireless Carriers



**Commercial
Content.**

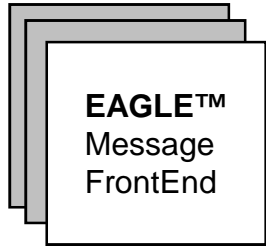


**CellCast
Commercial
Broker™**

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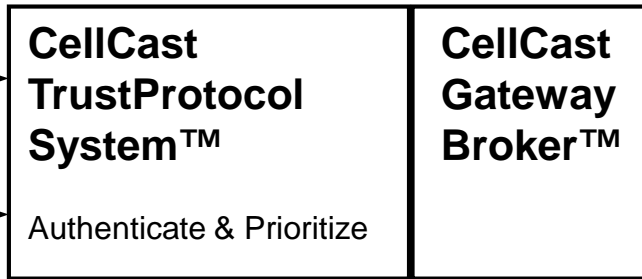
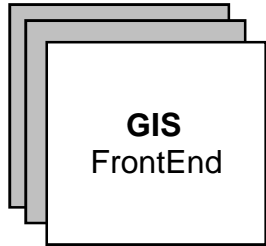
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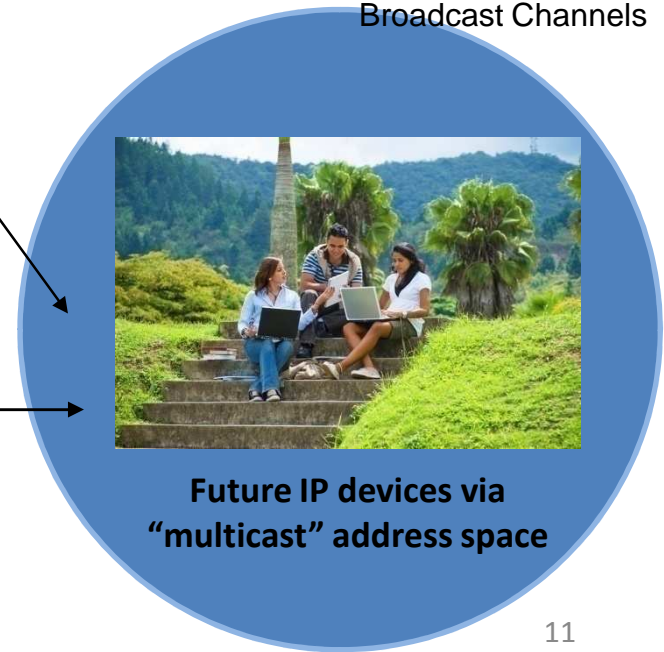
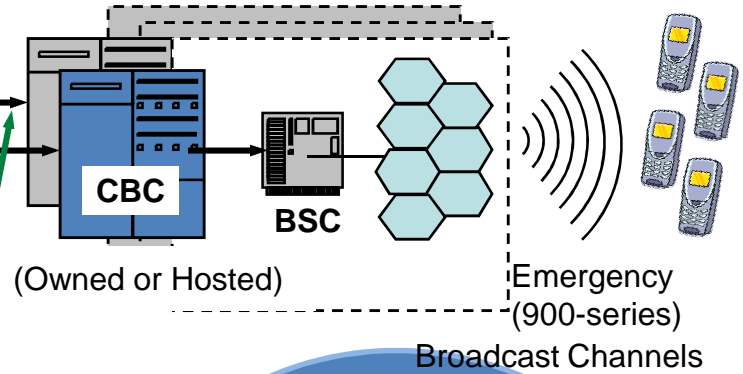


Common Alert Protocol

Industrial
Emergency Managers



Wireless Carriers



Operational Cell Broadcast Systems

- South Korea
- The Netherlands
- Wisconsin, USA
- Turkey
- India

Harmonization efforts

- UN/ITU is a UN agency that is working on a framework for civic address space such as Cell Broadcast message identifiers, 900 block for alerts, 500 block for e-governance purposes.
- OASIS is working on Common Alert Protocol (CAP), which is supported by CellCast Technology Solutions.
- UN/ISDR is a UN agency which can promote best practices in warning the public, according to the Hyogo framework.
- An agency needs to be identified to organize and monitor the framework of multicast address space for civic purposes.

Regulatory Efforts in US

- In the USA, the FCC's designation of a Commercial Mobile Alert System (CMAS) includes that a 90 character text message be transmitted to participating networks.
- The FCC specifies standards for message origination, authentication and security. The network determines the technology to achieve geo-targeted point to multi point delivery.
- Participation in CMAS is voluntary, but non participating networks must clearly warn their customers if they are not participating in CMAS.
- A government appointed and monitored aggregation system will collect and authenticate messages for wireless delivery.
- The network will have no liability for message contents.
- Networks will be free to use the technology for commercial purposes provided there is no interference with the warning system's functioning.

Next Steps

- Identify an agency/organization responsible for becoming the registry for civic purposes address space in IPV4 and IPV6.
- Develop relevant public/private collaborations.

Contact Us

For more information:

Bruno Walter

**Managing Director European
Operations**

Bruno.Walter@CellCastCorp.com

Paul E. Klein

Chief Operations Officer

Paul.Klein@CellCastCorp.com

- EAGLE™ (Emergency Alerts for Government and Law Enforcement)
- CellCast Gateway Broker™
- CellCast Trust Protocol™
- Consulting Services

Westlin Tech Center

550 Club Dr., Ste 232

Montgomery, TX 77316

info@cellcastcorp.com

936-582-5957 or 866-933-2003