



Intelligent Container Technology: Interoperability with First Responders

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The Technology Fix

- Secure, track and monitor containers
- Many questions are unanswered
 - What happens when there is a problem?
 - Who verifies the problem?
 - Who is notified?
 - How is data transmitted to authorities?
 - Will existing protocols enable authorities to preempt the use of a container as a WMD?





Purpose

Evaluate existing interoperability capabilities for dealing with intermodal cargo container emergencies and recommend ways to improve notification and response protocols when the everyday use of intelligent container technology becomes a reality.





Procedures

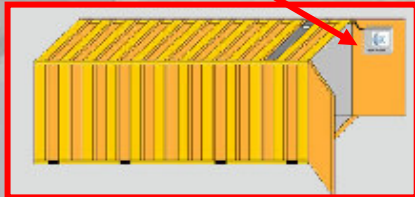
- Identify & Select COTS intermodal tracking devices
 - GPS tracking
 - “Geo-fencing”
 - Intrusion detection
- Design and execute exercises
 - Alarm condition
 - Notification protocols.
- Surveys and site visit interviews
 - Emergency 911
 - Anti-Terrorism Hotlines
 - Canadian and US transportation Co.’s
- Test existing law enforcement information networks
 - New England State Police Information Network (NESPIN)
 - National Response Center (NRC)





COTS tracking technology:

- GPS tracking
- Geo-fencing
- Intrusion detection
- CBRNE detection



Data is sent to a secure website:

- First Responders
- Shipper/Importer
- Government
- Third Party

NI2-CIE's objectives:

(a) Demonstrate how *iContainer* data can be transmitted to the first responder network.

(b) Demonstrate how response information is shared to create an optimal response.

Notification Link

Emergency notifications:

- NESPIN - RISS/ATIX
- NRC
- Emergency 911
- State's Anti-Terrorism Hotline

NI²/CIE ran field tests and conducted research on the emergency notification link between transportation companies, first responders and the public.

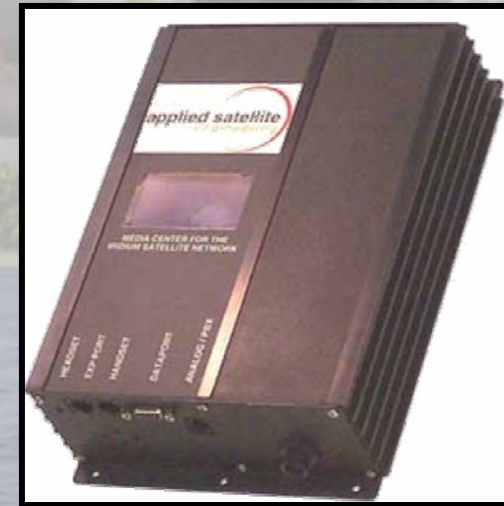


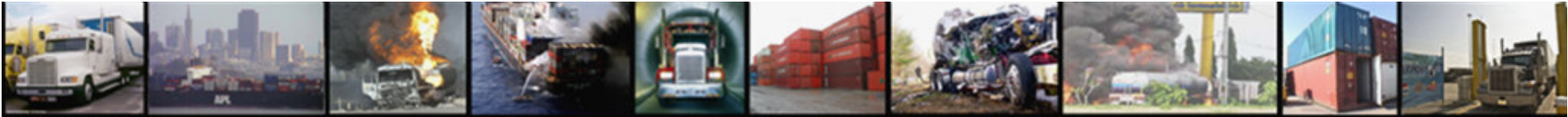


GlobaTrax

Highlights

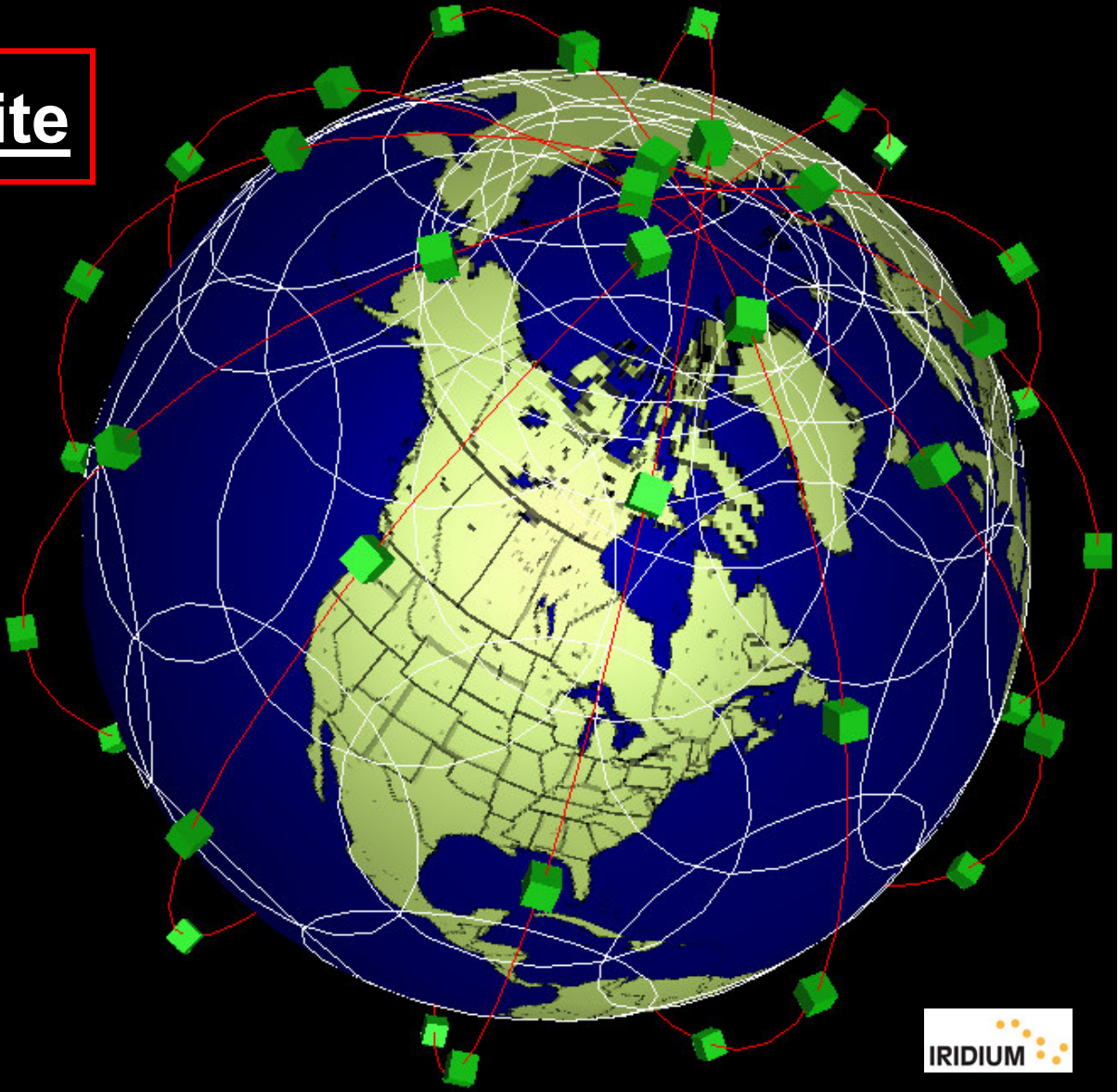
- GPS Tracking Capabilities
- Alerts while phone in use
- Crew calling; unique caller ID codes and call history access
- “Smart Dialing” recognizes country codes (+ or '00')
- Voice communication available
- Panic Button input
- Battery back-up (optional)
- GlobaFone - <http://globafone.com>





Iridium Satellite

- Truly Global**
- 66 LEO's
 - 6 planes of 11
 - 11 spares
- Coverage**
- Satellite to Satellite
 - Near polar orbit
 - Each linked to four
 - Altitude = 485 miles
 - 16,832/hour





OnTec Tracking

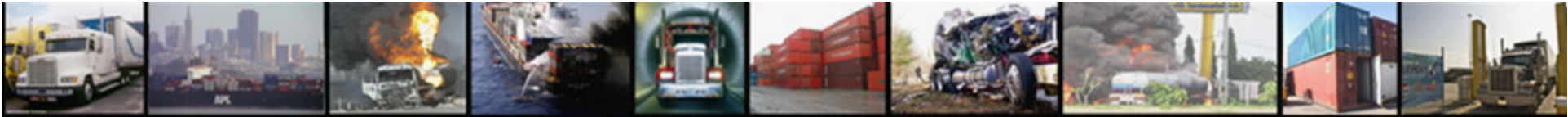
- Alarms via email, fax & pager
- Unit event logging and settings
- GPS listing and mapping
- Single or fleet unit configuration
- View call logs
- Unit address book, crew ID codes & tracking parameters

Personalized options

- Permission based
- Action logs and tracking
- Logo, color scheme & content

Requested	Latency	Category	Unit Name	Action	Status
1/25/04 8:47:22 AM	57H 4M 40S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - User/Caller Identification	Pending
1/25/04 8:58:58 AM	55H 54M 54S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - User/Caller Identification	Pending
1/25/04 12:00:00 PM	51H 51M 57S	Onlec Tech	2 ASE 2 (Testing Unit)	Available Update - Configuration Settings	Pending
1/25/04 9:52:05 PM	47H 55M 46S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending
1/25/04 9:52:58 PM	47H 55M 57S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending
1/25/04 9:52:59 PM	47H 55M 54S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending
1/25/04 8:58:38 PM	47H 55M 15S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending
1/25/04 9:57:22 PM	47H 54M 21S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending
1/25/04 9:58:23 PM	47H 53M 28S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending
1/25/04 10:00:22 PM	47H 51M 21S	Onlec Tech	1 ASE 1 (Testing Unit)	Available Update - Address Book	Pending

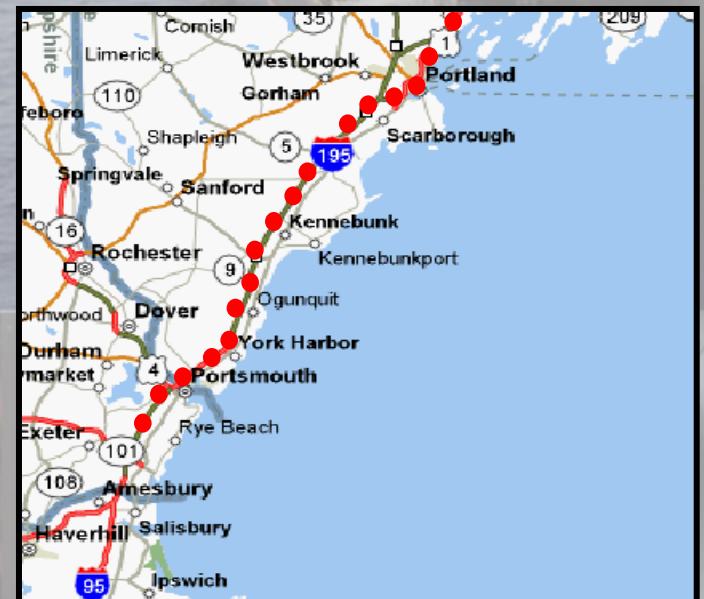
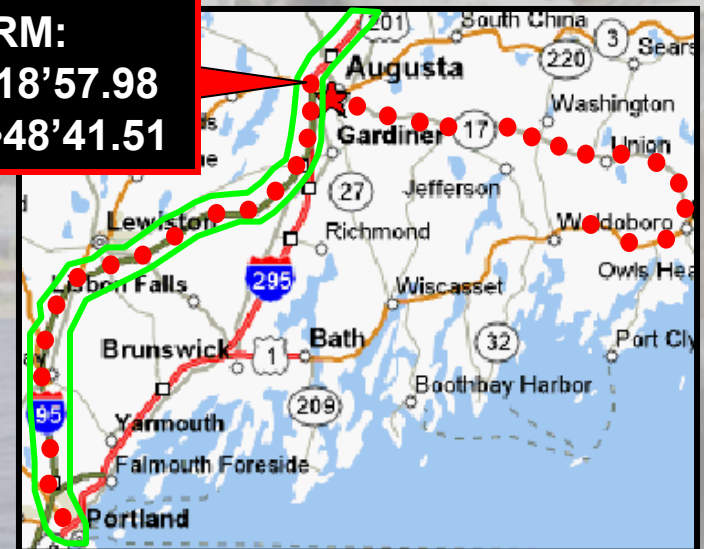




The Scenario

- New England
- Role Players
 - Hijacker, Logistics Mgr., First Responders
- Portland to Bangor on I95
- Hijacked; South to Boston
- What's the target?

ALARM:
N44°18'57.98
W69°48'41.51





Interoperability Analysis



Test One

➤ **New England State Police Information Network (NESPIN)**

- Regional Information Sharing Systems/Automated Trusted Information Exchange (RISS / ATIX)
- Web based electronic notification including
 - Bulletin Boards, ATIX Live, Secure Email & Web Links
- Ability to alert law enforcement & first responders at all levels of government





Interoperability Analysis

Test Two

- **U.S. National Response Center**
 - Telephone, email or fax notification
 - Immediate access to live watch-stander
 - Numerous follow-ups
 - Very proficient at initiating multi-jurisdictional response --- Federal level



**NATIONAL
RESPONSE
CENTER**



**One Call
Does It
All**





Further Analysis

- Emergency 911 public safety answering point (PSAP)
 - In-state alerts
 - Adjacent state alerts
- State's anti-terrorism hotline
 - Intelligence collection
 - Limited emergency response





Notification Limitations

- NESPIN and RISS/ATIX
 - DOJ recognition
 - Lack of participation throughout DHS
 - No single network for uniform coordination
- National Response Center
 - Lack of coordination with municipalities
 - Emphasize federal relationships
- Emergency 911
 - Protocols prevent quick escalation to federal level





Transport Industry

American and Canadian transport operators

- Lack of multi-jurisdiction protocols
- Reliance on Emergency 911
- Many unaware of the NRC
- Many unaware of the NRP
- All companies use GPS location tracking
- Upgrade to “intelligent systems tracking” only by mandate





Conclusions

- Geo-position tracking improves supply chain security
 - Government mandates needed
 - No voluntary purchases
- Industry needs to be aware of best practice emergency communications
- Multi-jurisdictional Improvements
 - Communications
 - Interoperability
 - Coordination





Conclusions

- Strengths of current emergency communications
 - Emergency 911 --- in-state/adjacent state coordination
 - The NRC --- federal coordination
- The in-state notification and cooperation capabilities of Emergency 911 and the federal notification and coordination capabilities of the national response center, should be combined to create a nationally recognized law enforcement information network that will centralize intelligence gathering and emergency mobilization.
 - NESPIN, RISS/ATIX
 - National recognition (including DHS & DOJ)





Questions?

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