U.S. Virtual Sea Border Project (USVSB)
A Web-based Risk Assessment Tool

TRB Joint Summer Meeting
July 10, 2006
• We strive to bring about change that will improve critical infrastructure security in a systematic and cost-effective manner through applied methodologies versus theoretical modeling.

• We endeavor to be the catalyst that brings together federal, state, local governments, private industry and non-government organizations to facilitate the highest possible levels of critical infrastructure protection.

• Non-profit, funded by NIST.
This library, sponsored by the National Infrastructure Institute (NI²) Center for Infrastructure Expertise, in partnership with the University of New Hampshire and funded by a grant from the National Institute of Standards and Technology, is designed to serve as an information clearinghouse for those professionals and scholars interested in the protection of America's "built" critical infrastructure and key assets. Learn more...

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NI² Center for Infrastructure Expertise Projects:

Cargo Security  Tunnel Safety & Security  School Safety & Security  CARVER2

Library Overview  Learn About Critical Infrastructure

Many documents in this Library are in PDF format, which requires Adobe Reader. To download a free copy of Adobe Reader, click on the image below.
### Criticality
**Impact of Loss of Asset**
- Users Affected: More than 10,000 People
- Economic Loss and Rebuild Cost ($) Under 10 Million
- Potential Deaths from Attack: 100

### Vulnerability
**Susceptibility of asset to damage or destruction**
- Select Value:
  - Remote Site?: Yes

### Accessibility
**Ease of entry into the asset to cause its damage or destruction**
- Select Value:
  - Remote Site?: No

### Recoverability
**Time needed to replace asset, if possible**
- Select Value:
  - More than 6 mo

### Redundancy
**Percentage of “back-up” facilities or equipment that will offset asset loss**
- Select Value: 50%

### Interdependency
**Additional CI Sectors Affected by Loss of Asset**
- Agriculture & Food
- Banking and Finance
- Chemicals
- Commercial Facilities
- Dams
- Defense Industrial Base
- Emergency Services
- Energy
- Government Facility
- Information Technology
- National Monuments and Icons
- Nuclear Sector
- Postal and Shipping
- Public Health
- Telecommunications
- Transportation

**Notes:**
Contact Police Department (911) in the event of an emergency.
Tunnel Symposium

- International Symposium on Tunnel Safety & Security, Washington, DC, Nov 2004
- 2nd Symposium held in Madrid, Spain, March 2006
- Global experts on tunnel design, construction, operation, and protection
- 3rd Symposium, March, 2008
  Gothenburg, Sweden
  Call for papers now open
Canada-US Cargo Security Project

- Project includes law enforcement/first responders.
- Evaluate cutting edge technologies for i-containers.
- Promote interoperability of i-containers with public safety.
- Developing notification & response protocols
Canada-US Cargo Security Project

1. Western Europe cargo; barge & ship to Montreal, trucked to Londonderry, NH (Jan ’06)

2. UK cargo; ship to Halifax, short sea & truck to Lewiston, ME (Mar ’06)

3. Western Europe cargo; ship to Montreal, truck to Rochester, NY (May ’06)
September 14, 2006, Manchester, NH
- Results of CUSCSP i-Container Tests
- i-Container Interoperability with First Responders
- Developing Cargo Security Technologies
- Results of Transport Canada Technology Tests

Keynotes:
- Vice-Commandant Vivien Crea, USCG
- Commissioner W. Ralph Basham, CBP (invited)

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U.S. Virtual Sea Border Project

• What is the threat?
  – Disrupting maritime commerce and freedom of navigation to and from the United States would create a global economic crisis.
    • WMD’s in cargo (containers or bulk cargo)
    • Absconders
    • Hijacked ship used as a weapon
  – Disrupting maritime commerce disrupts intermodal commerce.
• What is the threat?
  “I don’t think there is any question that as we thwart [Al Qaeda’s] attacks and disrupt their operations on land, that we should expect them to turn to the sea.”

Vice Admiral Patrick M. Walsh
U.S. Naval Forces Central Command
July 4, 2006
Interview: Gulf-Times.com
U.S. Virtual Sea Border Project

• Current threat assessment protocol
  – 96-hour pre-arrival notice information
    • Ship Arrival Notification System (SANS)
    • E-NOAD (Electronic Notice of Arrival/Departure)
  – Agencies conducting assessments:
    • USCG (Captain of the Port)
    • CBP
    • ICE
    • National Vessel Movement Center
  – Additional intelligence analysis
U.S. Virtual Sea Border Project

• Analysis of static data from arriving foreign ship results in determination of the need to conduct a law enforcement sweep of the vessel.

• At-sea boarding & inspection
  – Manpower intensive
  – Can result in significant delays to the ship ($$$)
  – Can be limited in scope
  – Significant data not available
  – “High-profile” cargo may not pose the greatest threat
Proposed Concept

- Establish a real-time web-based communications link with the ship, shipping company security officer, financier, terminal operator, etc.

- Trained analyst would conduct a virtual interview and perform a dynamic assessment of the potential threat
  - Evaluate pre-arrival info; audit ship’s management, financial management, & commercial charter
  - Document verification
  - Review of intelligence data
  - Interview could include voice, video & biometrics
  - Incorporate future i-container data
Project Model

Maritime Security = Maritime Transparency

Wide Area Network
Secure Web Audit & Remote Documentation Verification (It could include voice & video)

Cargo ship is not allowed to enter LLS waters because web interview & risk analysis deemed ship and/or crew to be too great of a threat.

Web interview & risk analysis identified partial concern. Therefore, cargo ship is subject to current CG boarding matrix and at sea Law Enforcement Sweep.

Cargo ship is allowed direct entry to the desired port facility because the web interview & risk analysis identified full compliance / no concerns.

“MARITIME GREEN LANE”
Another tool in the toolbox

US Economic Exclusive Zone
200 nm

LE sweep ship is delayed

CAUTION LANE

NO ENTRY

USCG
USICE
USCBP

Shipping Co. Security Officer
Ship Security Officer
Chartering Co. Resp.

Web Audit

High Seas

North America

PORT

Europe
Potential Benefits

- Enables use of low-cost, universal technology to access supply-chain partners & their data
- Refines validity of threat matrix
- Reduce private sector costs by eliminating shipping delays
- Reduce law enforcement costs by enabling boarding parties to focus on higher threat targets
- Integrates documents, intelligence data, and real-time on-board conditions into a “trusted audit” system
- Transparent system accessible by multiple agencies
- Establishes track record for ships & shippers
- Creates achievable, realistic metrics for a true “green lane”
U.S. Virtual Sea Border Project

• Status of project:
  – Funded by NIST, 18 month project
  – Identified project partners
  – Selecting technology partner for document verification phase
  – Developing risk matrix and virtual interview questions
  – Will conduct a series of simulations & real-time tests
U.S. Virtual Sea Border Project

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