

**Report on e-Navigation IdeaScale Online Dialog  
April 4, 2013**

**PURPOSE:**

The CMTS e-Navigation Strategic Action Plan notes that, “A core element of successful e-Navigation implementation is partnering across the spectrum of stakeholders” and directs Federal e-Navigation partners to: (1) Focus on meeting user’s requirements; (2) Develop a collaborative partnership with the MTS community; and (3) Encourage and support regular and frequent communications.

The purpose for the e-Navigation IdeaScale Online Dialog was to support the CMTS e-Navigation Integrated Action Team’s (e-Nav IAT) strategic outreach with key partners and stakeholders regarding the future direction for e-Navigation in the United States.

**BACKGROUND:**

The CMTS e-Navigation IAT conducted a National Online Dialog on e-Navigation from 14 January to 15 March, 2013. This two-month online outreach was sponsored by the DOT’s Office of Public Engagement and run on DOT’s IdeaScale platform. IdeaScale is described by DOT as an “inexpensive and efficient tool for collecting public comment online and engaging in conversations with any number of people” because it “provides a flexible collaborative space for interested parties to interact with each other and to easily collect feedback from stakeholders and the public at-large.”

**e-Navigation Online Dialog Activity**

- 2-Month Outreach
- 1,497 visits to site
- 803 Unique Visitors
- 97 Registered Participants
- 31 Ideas; 82 Comments; 144 Votes
- 59% direct traffic
- 36% referral traffic
  - CMTS Web Page - 33%
  - NOAA Coast Survey - 14%
  - Bryant’s Maritime - 5%
  - eNavigation.org - 4%
- 5% search engine traffic

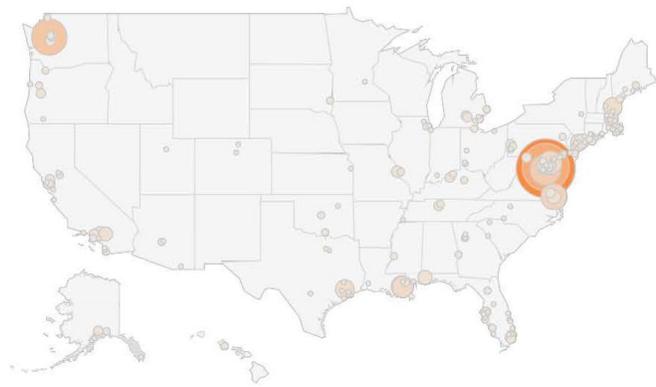


Figure 1 - Location of Visits to e-Nav IdeaScale

## **TOP 5 IDEAS**

The five most popular ideas discussed during the two-month online dialog, based on the number of comments and votes, are listed and briefly described below. Current or envisioned CMTS e-Navigation IAT and Member Agency activities relating to these ideas are identified where applicable.

### **Broadband Connectivity at Sea**

The idea is that, as part of the U.S. eNavigation program, the federal government should see that broadband data and communications connectivity be extended out to 30 miles from the shore. Such a connectivity infrastructure would permit, for example, high speed Internet service over which multiple providers could furnish data and navigation information products and services to ships.

Broadband availability could support, for example:

- the provision of real-time navigation information such as wind, wave, real-time water depth, vessel traffic, etc.;
- single window/single instance reporting by vessels;
- navigation as a web service for recreational boaters;
- alternative communications to VHF radio.

It is envisioned that construction and operation of this connectivity infrastructure would be done as a commercial activity by the private sector and that access, financing, and charges would mimic that of existing broadband networks. The need for new federal regulations or mandatory carriage requirements is unclear.

### **Related CMTS e-Nav IAT Activity**

The CMTS e-NAV IAT, through its member agencies including USACE, USCG, and NOAA are engaged with the Port of Pittsburgh Commission in a Wireless Waterways project. The Wireless Waterways Project intends to provide broadband connectivity to vessels and other MTS stakeholders for e-Navigation services on the Western Rivers.

### **Navigation as a Free Web Service**

The idea is that the federal government should provide navigation as a free web service, i.e. an “ECDIS on-line”. Only an Internet browser and GPS would be needed to use it. This proposal offers a number of potential benefits:

- Provides a common operating picture aboard all ships and ashore;
- Provides a common operator interface from vessel-to-vessel and ship-to-shore;
- Supports the distribution of real-time information such as tides, currents, vessel traffic and chart updates;
- Eliminates the need for chart and software update because data and functionality would be shore-based on constantly updated servers;
- Works for a broad base of users and supports a broad range of devices;
- Reduces end-user cost and eliminates data encryption, secret keys and the complex fee structures experienced with ENC's.

This idea was floated as a concept of operations for e-Navigation. Commenters to the IdeaScale Online Dialog expressed interest in this concept and supported further investigation, but also pointed out significant technological and business challenges.

### **PORTS Data via AIS**

The suggested idea is to operationalize the transmission of NOAA's PORTS data (real time weather and tidal current data) over AIS. The USCG and NOAA have already demonstrated the technical capability to accomplish this service.

Commenters to the IdeaScale Online Dialog pointed out that AIS bandwidth and standard message format restrictions limit the potential value of this proposed new e-Navigation service. However, AIS is an operational system and proponents see a value-added opportunity to provide needed real-time meteorological data to mariners in the near future, while further standards development is ongoing for the S-100 series data format that will enable a more robust portrayal of these data sets.

### **Related CMTS e-Nav IAT Activity**

The CMTS e-Navigation IAT has stood up a Task Team, consisting of IAT representatives from USCG, NOAA, and USACE to identify the steps necessary to operationalize the transmission of PORTS data via AIS.

### **Single Window Reporting**

The idea is to enable the reporting of hull (vessel) data, cargo and voyage information in one standardized format. This concept would help both the government and the industry in avoiding duplicate and inconsistent data submission. If achieved, single window reporting would have a major impact on global transportation. As it provided benefits for both authorities and industry, it could potentially become a primary objective for e-Nav. Single window reporting would allow for sharing the information with other transport modes to allow for completely transparent cargo tracking over the complete route.

The single window concept has lots of benefits to vessels engaged in international commerce and has long been discussed amongst CBP and Coast Guard as related to eNOA/D filings and the crew/passenger lists especially for vessels with multiple ports of call in the U.S. The pilot program of the I-418 has shown there are a few bugs mainly between the handshaking of information for USCG and CBP regulatory needs and interests. Making one filing and updating it between ports would be a huge improvement and it would appear to improve crew security and help with vessel tracking between government agencies.

### Related CMTS e-Nav IAT Activity

CMTS e-Navigation IAT members are actively involved in both the Federal Industry Logistics Standardization (FILS) and the Federal Initiative for Navigation Data Enhancement (FINDE). The objective of these groups is for their member agencies (and industry) to “work together to develop a federally integrated navigation data system utilizing the Automated Identification System (AIS) and other public and private cargo and vessel data sets.” Additionally, FILS includes MTS industry partners and stakeholders in an effort to incorporate the use of Federal data sets and codes.

The USCG, USACE and IRS are working together to create a federally integrated navigation data framework. The USCG has been designated as the Federal Government’s official vessel database. The USACE and NOAA have collaborated to identify and define unique navigation points of interest (NPI). The CBP is currently providing vessel entrance and clearance information to enhance the USCG’s AIS information. These are significant first steps toward enabling an integrated sharing of MTS data and necessary work to lay the foundation for single window reporting.

### **Use an Open Source Reference System Architecture for e-Navigation**

The proposed idea is to adopt an Open Source (OS) Reference System Architecture (RSA) for the e-Navigation infrastructure. Proponents of the idea suggest that it would allow:

- Automated Ship/Shore Information Exchanges (in S-100 format)
- Inter-operability between diverse computing environments (On-Board and Ashore)
- Health & Accuracy “Meta” Data for all Information Sources
- Region/Area Specific Solutions
- Redundancy with Automatic Fail-Over for all Critical Resources
- Use Existing Infrastructure/Technology where possible (On-Board and Ashore)
- Low Total Cost of Ownership (Acquisition, User Training and Maintenance Costs)
- Mix & Match Applications with sensors and other information sources
- Deploy an application on any computing platform without customization

Proponents assert that the experience with adoption of a Reference System

Architecture in other industries (AUTOSAR in the automotive industry, SAVI in the avionics industry) shows that the quality and availability of solutions are significantly improved and that the total cost of ownership (TCO) is drastically reduced.

## **STATUS:**

Each and every comment submitted to the e-Navigation IdeaScale Online Dialog has been recorded and is being considered in the further development of the CMTS e-Navigation IAT's work plan. The CMTS e-Navigation IAT presented the results of the dialog to the CMTS Coordinating Board on April 4, 2013. The slide deck for that presentation is available below. Additionally, the full transcript of the IdeaScale dialog has been recorded and compiled in tabular form below.

Although this initial two-month Online Dialog on e-Navigation has concluded, the CMTS e-Navigation IAT outreach is ongoing. CMTS e-Navigation IAT members actively participate in numerous national and international organizations involved in the development of e-Navigation.

Further ideas and comments regarding e-Navigation may be sent to the following dedicated email address: [enavigation@cmts.gov](mailto:enavigation@cmts.gov).

## **ACKNOWLEDGEMENT:**

The CMTS e-Navigation IAT acknowledges the outstanding support from Mr. Dan Morgan (OST) who oversaw the technical implementation of the e-Navigation IdeaScale Online Dialog.