



MARITIME SAFETY COMMITTEE
75th session
Agenda item 17

MSC 75/ISWG/INF.2
15 January 2002
ENGLISH ONLY

PREVENTION AND SUPPRESSION OF TERRORISM AGAINST SHIPPING

Consideration of proposals and information on maritime security issues

Intersessional Working Group on Maritime Security

ISO initiatives relating to maritime security

Submitted by ISO

SUMMARY

Executive summary: This document provides the status of development by ISO of standards relating to the matter of maritime security.

Action to be taken: Paragraph 4

Related documents: A 22/C.2/WP.3/Add.1

1 At its twenty-second session of the Assembly, IMO was advised of the ISO work on development of standards relating to maritime security by the ISO Observer. Three initiatives were presented:

- a. ISO Standard 15849- Guidelines for Implementation of a Fleet Management Systems Network
- b. ISO 16917- Data Transfer for Maritime, Intermodal Transportation and Security
- c. An International "Pilot" Effort in Containerized Cargo Identification and Tracking Using Electronic Seals

2 Status of each initiative is as follows

- a. ISO 15849 - published in September 2001
- b. ISO 16917 - a CD which was recently modified to reflect maritime security needs (Details are provided in the annex to this paper)
- c. "Pilot" Effort - recently started with committed support from manufacturers of electronic seals. We will develop the standard and test the result. Two features of this initiative are: to positively identify (ID) the person sealing the container and to have an alarm system to identify any tampering with the container in transit while in the

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port terminal to alert "security police" . The effort will include two major countries and one developing country.

- d. We have also received offer of assistance from IAASP (International Association of Airport and Seaport Police) in support of our work related to maritime security.

3 ISO an as international non-government organization plans to participate in the MSC Intersessional Working Group on Maritime Security and to provide other assistance as desired by the Committee and IMO.

Action requested of the Working Group and the Committee

4 The Committee and the Intersessional Working Group on Maritime Security are invited to note the continuing progress in completing these three initiatives, noting that ISO 15849 has been completed and published, and take into account as it sees fit these matters in the IMO work on maritime security.

ANNEX

The Case For Data Exchange Standards for Transportation Security

Introduction

The events of September 11 have shown the need for Security Systems in the transportation industry to guard against potential terrorist attacks. Entry ports in particular will require screening of ships, cargo and personnel. Since the majority of international trade is by sea, the volume of cargo traffic is such that it is impossible to inspect every ship or cargo shipment that enters a port. The only immediate solution lies in the use of information technology to analyse existing data that may reveal some warnings. Such Security Systems will rely heavily on access to special information and the ability to process it into a useful form very quickly. The required information is available electronically and resides in both government and industry databases throughout the world, but most of these databases were built primarily to serve the needs of the owning organization and were not designed to exchange data with others.

In the general commercial world, the need to exchange electronic data seamlessly has been apparent for a number of years. Efforts to solve the data exchange problem have been through the implementation of EDI (Electronic Data Interchange) messages, but this has been a slow and expensive process to set up, and there is no single international standard in use. Each data message has its own data definition and has led to a number of different data transfer message sets being used by industry today. The key to solving the problem for maritime transportation security, as well the marine industry in general, is to quickly develop an International Standard, which will facilitate such information sharing, and the use of existing legacy databases via the Internet. How to do this is discussed below.

The Internet for Data Access

The World Wide Web operating on the Internet has grown at an astounding rate in the last few years to link business enterprises together on a global basis. The use of the Web has been primarily through the **display** of text and graphics documents. The new Web technology is being driven by the emerging need to pass meaningful data over the entire Internet. Tim Berners-Lee, the inventor of the World Wide Web and the HTML display language, in his book, *Weaving the Web*, points out that very little information on the Web is in a form a machine can understand. He proposes that we can link understandable terms through an inference language that will allow computers to explain to each other that two seemingly different terms are in some way the same.

According to Berners-Lee, "Databases are continually produced by different groups and companies, without the knowledge of each other. Rarely does anyone stop the process to try to define globally consistent terms for each of the columns in the database. When we can link terms, even many years later, a computer will be able to understand that what one company calls "mean-diurnal temperature" is the same as what another company calls "daily average temperature". If HTML and the Web made all online documents look like a huge book, then a Resource Description Framework schema and inference languages will make all the data in the world look like one big database."

Data Exchange Standards

In order to access information quickly on a broad basis, new methods must be instituted that will allow data access without the sharing partners being required to modify their databases. Fortunately, new technology available today can facilitate this requirement, but its use will require a new approach to data transfer. Data definitions must be separated from the message and identified in standard data dictionaries rather than in individual EDI message sets. Data dictionaries facilitate the use of modern XML data transfer technology as shown on Figure 1. An agreed data exchange standard starts with naming and structuring the data elements in standard data dictionaries, broken down by specific industry groups

An International Standard, now under development by a Working Group under ISO TC8/SC10, is addressing the problem of maritime data exchange. It is ISO/NP 16917 *Data Transfer Standards for Maritime and Intermodal Transportation*. Without such an international standard, it is very difficult to get agreement among the various stakeholders on how the data are named and structured. Such a standard will facilitate the implementation of dictionaries covering a wide range of security data from all the participating entities. To this end, marine industry groups will be needed to coordinate the data dictionaries development. This can be accomplished readily and effectively by use of a development web site on the Internet as shown on Figure 2.

Summary

Many existing industry and government developed IT systems can be useful to support identification of potential terrorist activities. Current EDI data sets can serve as the basis for dictionaries. The implementation of the ISO Standard noted above will provide the basic building blocks to have these and future systems linked together through seamless data exchange based upon a special Maritime/Security Data Dictionary. Using the ISO (International Organization for Standardization) will provide the means to gain needed worldwide support.

ISO Standards developed through volunteer groups alone take many years to implement. The development of this standard is critical to implementing a worldwide cargo data security system. Providing resources now to speed up the process is in the best interest of the free world.

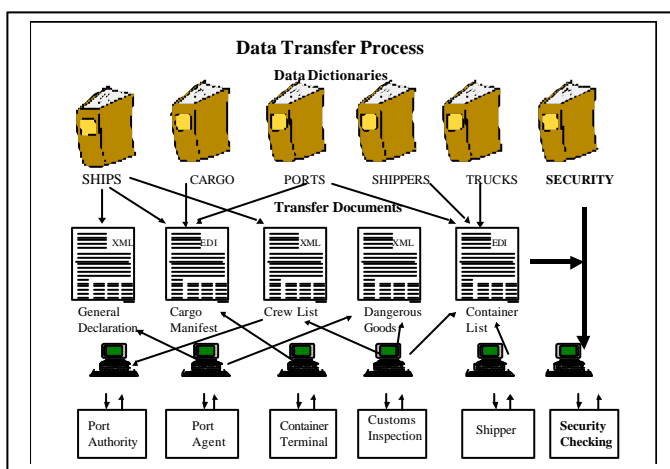


Figure 1

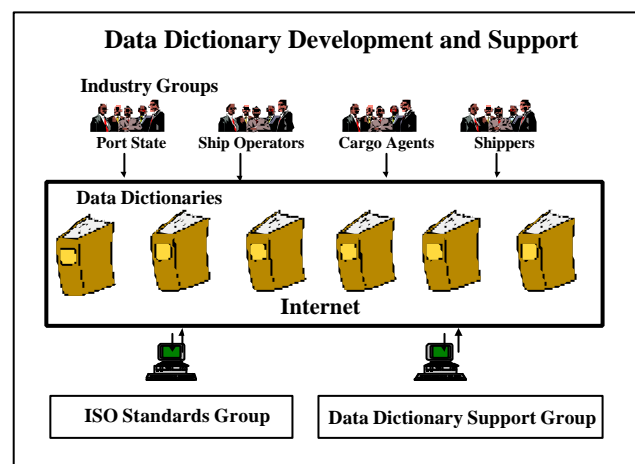


Figure 2