Cyber Security nel settore Marittimo (IT)
Maritime Cyber Security (ENG)

TECHNOLOGY TREND DEL SETTORE MARITTIMO – PORTUALE

Gianluca Papaleo

Genova, 29 Giugno 2017

genoa shipping week

■ 26 GIUGNO - 1 LUGLIO 2017 ■

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Introduction

► With the increasing use of systems with embedded software on ships and mobile offshore platforms, cybersecurity is becoming critical not only for data protection, but also for reliable operations.

► The maritime environment is not immune to the radical ability of modern digital communications and computing to be disruptive. In order to gain the advantages of modern technology those operating in the maritime must also become aware and develop strategies to handle the inevitable security issues that modern computing systems bring with them.

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Risks and Security

▶ Cyber attacks and data leakage on real-time data

▶ Manipulation of Container Ships routes

▶ System failure impacts and business interruption

▶ Dedicate resource to risk management

▶ Active loss prevention

▶ Security knowledge gathered in other lines of business will be used in marine sphere

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Automated Electronic Data Exchange

Two important decisions by IMO:

▶ Introduction of the electronic exchange of information

▶ Standardization and harmonization of ship reporting in support of e-navigation developments

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Modern Ship Automation and Control System

- ▶ Weather routing

- ▶ Optimum trim

- ▶ Performance monitoring

- ▶ Engine monitoring

- ▶ Condition monitoring

- ▶ Power plant energy management

- ▶ Remote maintenance

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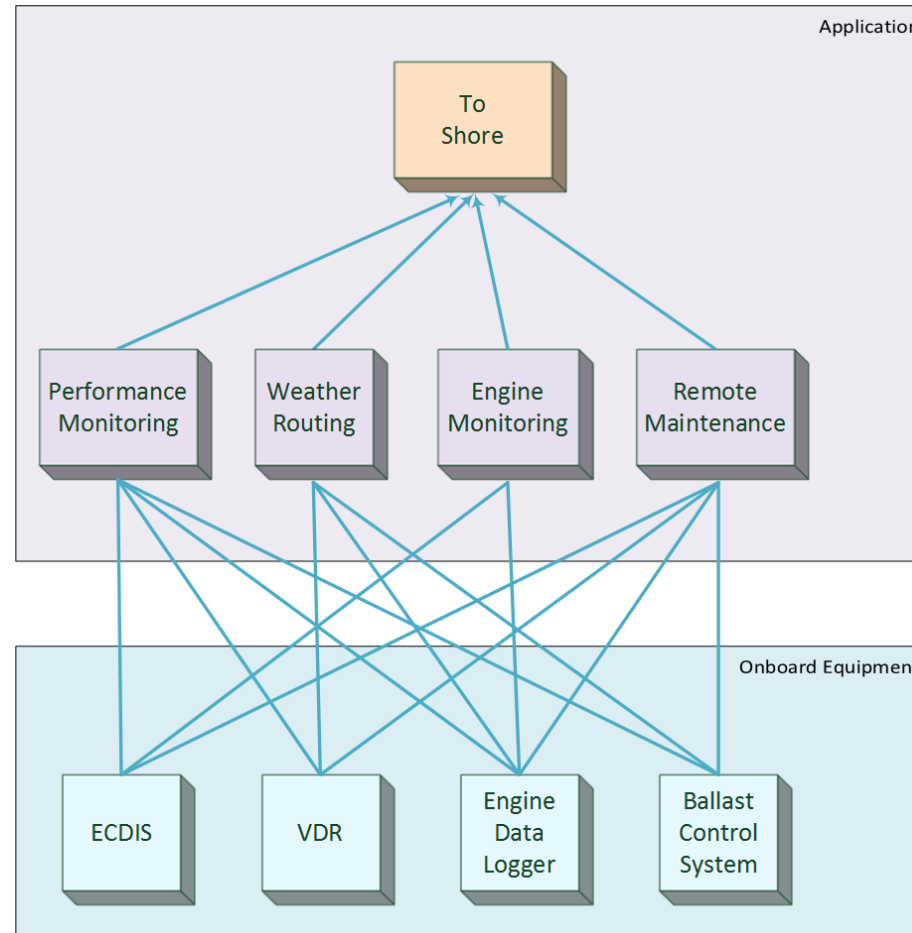
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Onboard Application Installation (Now)

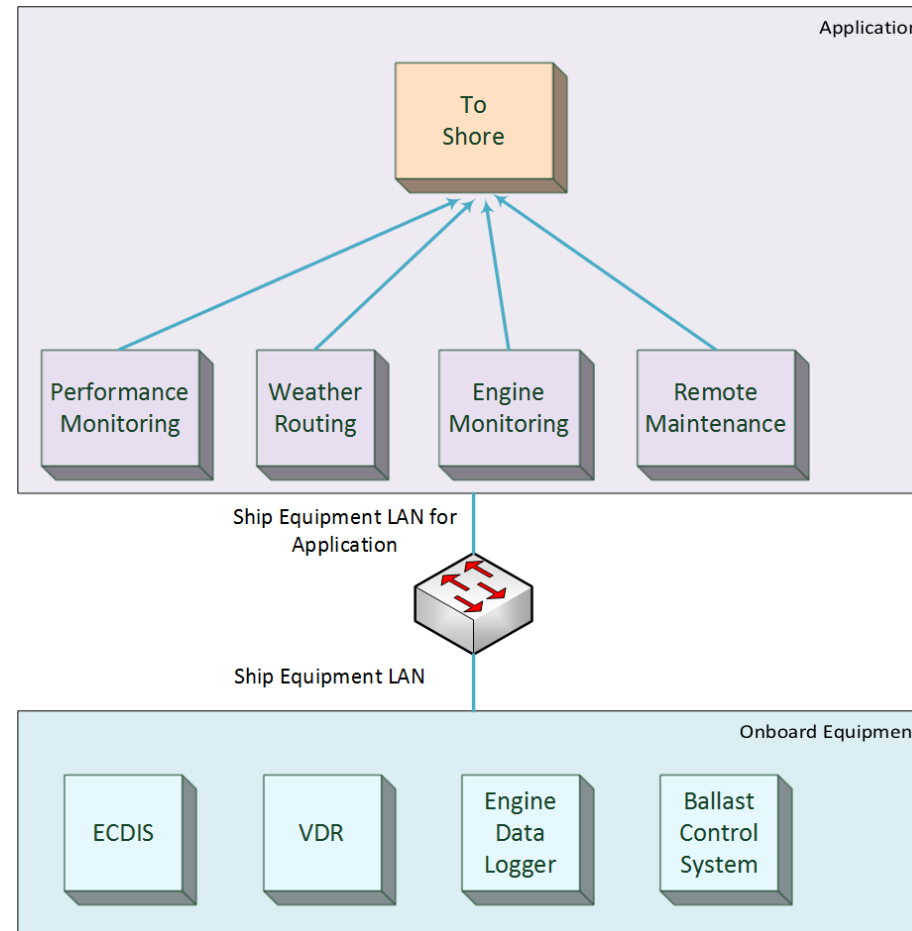# PORT&SHIPPINGTECH

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DASTech

Onboard Application Installation (Now)

Application

To Shore

Performance Monitoring | Weather Routing | Engine Monitoring | Remote Maintenance

Ship Equipment LAN for Application

Ship Equipment LAN

Onboard Equipment

ECDIS | VDR | Engine Data Logger | Ballast Control System

Cyber Crimes and Shipping Industry

Cyber threats in the shipping industry can be divided into five major types, Threats to:

▶ Ships and safe navigation

▶ Satellite communication

▶ Cargo tracking systems

▶ Marine Radar systems

▶ Automatic Identification systems

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E-learning Course

▶ Dastech together with IMSSEA developed an e-learning course for crews and shore staff to raise awareness and establishing new competences concerning cybersecurity, about threats and countermeasures.

▶ The course meets the need to strengthen cybersecurity in maritime environment and to protect workers, cargoes, passengers, vessels, environment and your company against cybersecurity threats.

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Objectives

▶ Learn about basic IT and Communication Systems

▶ Acquire knowledge of Maritime Technologies

▶ Increase awareness of Security Risks connected to Maritime Environment

▶ Learn about basic methods to increase Cyber Security

▶ Acquire Knowledge of key technologies to help protecting your organization

▶ Acquire awareness of common techniques used by Hackers to exploit vulnerabilities

▶ Increase awareness of human factor risks and importance of educating users

Entry Standards

This course is targeted on the following categories:

▶ IT Officers and Assistant IT Officers

▶ Security Officers

▶ Ship Engineers

▶ Engineers specialized in other fields willing to expand their competences on ship and sea environment

Course Certificate

▶ After the completion of the course, participants have the chance to attend a specific competence assessment test (to be performed personally).

▶ Upon successful passing, it will be issued an IMSSEA certificate.

Platform and Contents

▶ Moodle platform

▶ Pdf Slides

▶ Video Lessons

▶ Final Lesson Tests

▶ Forum

▶ On-line Tutoring

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Course Overview

▶ Basic IT and Network Security

▶ Maritime Communication

▶ Security Basics

▶ Exploring Control Types and Methods

▶ Securing you network

▶ Securing Hosts and Data

▶ Malware and Common Attacks

▶ Internet of Things

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Future Courses

▶ Advanced Cyber Security Courses

▶ Advanced Hacking Techniques

▶ Advanced Cyber Defense Techniques

▶ Realistic Case Scenarios

▶ Interactive Lab