Next steps towards Standardized and Automated Ship Reporting
Theme

• IMO carries overall responsibility for development of Standardized and Automated Ship Reporting as a prioritized solution (SIP Solution #2) to streamline ship-board and shore-side reporting processes and procedures

• IMO is uniquely positioned to address the ship-board side of the solution

• IALA is well positioned to address the solution from a shore-based perspective and, in doing, so assist IMO with taking the next step towards Standardized and Automated Reporting
Agenda

1. Background
2. Solution Components
3. Expected Benefits
4. IALA’s Role
5. Conclusion
1. Background

IALA’s ENAV Committee Work Group 4 Work Program for 2012-2017:
“Develop Guideline/Recommendation on Maritime Service Portfolios”
• Operational User Requirements for MSP#8 “Vessel Shore Reporting Service” (and others)

Findings
1. Most shore-based authorities still require unique reports (>1000)
2. A few (quite expensive) ship reporting solutions are currently available
3. Few bridge teams currently use a ship reporting solution
4. Many other solutions proposed (i.e. National Single Windows)
5. Most assume that shore-based authorities will harmonize reporting requirements and accept electronic reports but progress is limited
Findings (Cont’d)

Solutions will not be effective and widely adopted unless
• Their cost is reduced
• They fulfill current shore-based authorities’ reporting requirements including hard copy reports using their unique forms

To do so, the solution will need to include five distinct components:
1. Ship Report Registry
2. Cyber Security Infrastructure
3. Ship Report Collection Tools
4. Ship Reporting Tools for Bridge Teams
5. Common Ship Report Data Model
Ship Reporting Tool for the Bridge Team

Report 9

National Single Window
- Immigration
- Customs
- VTS
- Security

Port C

Report 10

Report 12

Report 13

VTS
- Security
- Customs

Port D
Ship Reporting Tool for the Bridge Team

Who is receiving our reports?
Authenticate Shore-based Authorities and encrypt reports!

Who sent this report?
Authenticate Bridge Team!

Port A
- Immigration
- Customs
- VTS
- Security

Port B
- Immigration
- VTS
- Customs
- Security
Ship Reporting Tool for the Bridge Team

Report 1

Immigration

Port A
Ship Reporting Tool for the Bridge Team

Report 1
Report 2
Report 3
Report 4
Report 5
Report 6
Report 7
Report 8

Immigration
Customs
VTS
Security

Port A

Immigration
VTS
Security

Port B

Report Templates
3. Expected Benefits

Ship Report Registry

- This is a High Priority Item
- Reduce Cost of Ship Reporting Tools
  - Obviates need for vendors to maintain a proprietary ship report registry
  - Without the Ship Report Registry, Ship Reporting Tools will remain too expensive for most ship owners/operators
- Will likely entice shore-based authorities to harmonize their ship reports
  - They will be able to see what reports their colleagues require
  - They will be assigned a security certificate to receive encrypted reports
3. Expected Benefits

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MCP Cyber Security Infrastructure

- Will allow shore-based authorities to authenticate report originators
- Will allow ship owners/operators to control access to their report information
3. Expected Benefits (Cont’d)

Ship Report Collection Tools

- Allows shore-based authorities to decrypt ship reports
- Allows shore-based authorities to automate data entry into their enforcement systems
3. Expected Benefits (Cont’d)

Ship Report Collection Tools
- Allows shore-based authorities to decrypt ship reports
- Allows shore-based authorities to automate data entry into their enforcement systems

Ship Reporting Tools for Bridge Teams
- Will minimize administrative burden on Bridge Teams
- Will allow Bridge Teams to encrypt their reports
- Will allow Bridge Teams to delegate ship reporting tasks
3. Expected Benefits (Cont’d)

Ship Report Collection Tools

- Allows shore-based authorities to decrypt ship reports
- Allows shore-based authorities to automate data entry in their enforcement systems

Ship Reporting Tools for Bridge Teams

- Will minimize administrative burden on Bridge Teams
- Will allow Bridge Teams to encrypt their reports
- Will allow Bridge Teams to delegate ship reporting tasks

Common Ship Report Data Model (Part of CMDS)

- Will allow collaboration on ship reporting tools
  - CMDS Structure is independent of the tool used to generate reports
- Will allow shore-based authorities to subscribe to new reports published in CMDS
4. IALA’s Role

Ship Report Registry

- Clearly in IALA’s remit
4. IALA’s Role

Ship Report Registry
- Clearly in IALA’s remit

MCP Cyber Security Infrastructure
- IALA is Partner in EfficienSea2 and holds a Board Seat
4. IALA’s Role

**Ship Report Registry**
- Clearly in IALA’s remit

**MCP Cyber Security Infrastructure**
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**Ship Report Collection Tools**
- IALA National Members represent Shore-based Authorities
4. IALA’s Role

Ship Report Registry
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Ship Report Collection Tools
• IALA National Members represent Shore-based Authorities

Ship Reporting Tools for Bridge Teams
• IMO develops rules and regulations
4. IALA’s Role

Ship Report Registry
- Clearly in IALA’s remit

MCP Cyber Security Infrastructure
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Ship Report Collection Tools
- IALA National Members represent Shore-based Authorities

Ship Reporting Tools for Bridge Teams
- IMO develops rules and regulations

Common Ship Report Data Model (Part of CMDS)
- In IALA’s remit. Closely related to Ship Report Registry
5. Conclusion

The IALA Council is invited to consider addressing the shore-based aspects of the Vessel Shore Reporting Service in the ENAV Committee 2018-2022 Work Program to assist IMO with taking the next step towards Standardized and Automated Reporting.
6. Questions?

Please feel free to contact me....

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Shipboard environment Shore-based authority, such as IALA National Member
Shipboard user VTS Operator MRCC Operator ... links
used by Technical services
Physical links used by Technical services
Maritime Service Portfolio

MCP Cyber Security Infrastructure

Common technical shore-based system harmonized for e-Navigation (incl. its Human-Machine-Interfaces)

Shipboard technical equipment supporting e-Navigation (incl. its Human-Machine-Interfaces)

Data provided in required format

Stated data request

“common data structure” = proposed Common Maritime Data Structure (CMDS)

Maritime Service Portfolio

World Wide Radionavigation System (WWRNS) of IMO (incl. GNSS, GNSS augmentation and terrestrial backup)
Shipboard environment Shore-based authority, such as IALA National Member

Shipboard user VTS Operator MRCC Operator

Shore-based system of different stakeholder etc.

VTS Operator MRCC Operator Shore-based Operator X

Shore-side based Operator X

Stated information needs / information items requested

Data provided in required format

Stated data request

Data provided in required format

Stated data request

Shipboard technical equipment supporting e-Navigation (incl. its Human-Machine-Interfaces)

MCP Cyber Security Infrastructure (used by Technical services)

Data provided in required format

Stated data of different stakeholder

Shore-based system of different stakeholder

Human-Machine-Interface(s)

Functional links

Operational services

Physical links used by Technical services

Maritime Service Portfolio Data

World Wide Radionavigation System (WWRNS) of IMO (incl. GNSS, GNSS augmentation and terrestrial backup)