The Maritime Connectivity Platform (MCP)

- in the context of e-navigation

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The Maritime Connectivity Platform Consortium
What is e-navigation?
Are there any services available now?
So what do we have? Nothing?

No – we have building blocks
Which building bocks?

How to model data

How to describe (technical) services

How to identify things

How to secure information exchange
What do we have?

How to model data                  S-100

How to describe (technical) services G1128

How to identify things             MRN (Maritime Resource Names)

How to secure information exchange
What do we have?

- How to model data: S-100
- How to describe (technical) services: G1128
- How to identify things: MRN (Maritime Resource Names)
- How to secure information exchange: MCP
Services – que?

Maritime Services (in the context of e-navigation)
  Maritime service portfolios (collection of Maritime Services)
Technical services (identified with MRN)
  Service specification (data model: S-100)
  Service design (describing how to implement using specific technology)
  Service instance (endpoint, coverage etc)

In IMO resolution MSC.467(101) ‘guidance on the definition and harmonization of the format and structure of maritime services in the context of e-navigation’
Maritime Services (in the context of e-navigation)

- 1 VTS Information service (INS);
- 2 Navigational assistance service (NAS);
- 3 Traffic organization service (TOS);
- 5 Maritime safety information service (MSI);
- 6 Pilotage service;
- 7 Tug service;
- 8 Vessel shore reporting;
- 9 Telemedical assistance service;
- 10 Maritime assistance service (MAS);
- 11 Nautical chart service;
- 12 Nautical publications service;
- 13 Ice navigation service;
- 14 Meteorological information service;
- 15 Real-time hydrographic and environmental information service; and
- 16 Search and rescue service.
<table>
<thead>
<tr>
<th>Maritime Service</th>
<th>Technical Service specification</th>
<th>Technical Service design description</th>
<th>Technical Service instance description</th>
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<tr>
<td>VTS service</td>
<td>Inter VTS information exchange</td>
<td>Web service using REST</td>
<td>Provided by Sound VTS</td>
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<td>S-210</td>
<td>Web service using SOAP</td>
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<td>Other technical design for VTS</td>
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<td></td>
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<td>information exchange</td>
<td>Another instance of that design provided by someone somewhere</td>
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<td>Route exchange ship to shore</td>
<td>S-???</td>
<td>Some design technical</td>
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<td>design</td>
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<td>Another instance</td>
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<td>Another technical VTS service</td>
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<tr>
<td>Another service</td>
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NCSR 6/8
Technical challenge

Governance challenge
THE MARITIME CONNECTIVITY PLATFORM

Stakeholders
- VTS
- Customs
- Ports Operators
- Service providers

Services
- Reporting
- Navigation
- Weather
- Warning
- Registration
- Port info

Contextual Geolocated Information

Maritime Identity Registry (MIR)
Maritime Service Registry (MSR)
Maritime Messaging Service (MMS)

Open Source
MIR - Maritime Identity Registry

Contains identities for users, ships, devices...

Using unique identifiers (MRN - Maritime Resource Name)

Facilitates standardised single login to access services (OpenID Connect)

Facilitates standardised secure machine to machine communication (X.509 certificates)

Facilitates security; confidentiality, integrity & authenticity
MSR; Maritime Service Registry

Contains service specification on different levels (G1128)
- Service specification (data model: S-100)
- Service design
- Service instance

Searchable for endpoint to services

Criteria: keywords, geographic coverage, etc

Endorsement of services
MMS; Maritime Messaging Service

Seamless communication using different physical channels
IP & non-IP

Logical roaming for point-to-point communication

Store-and-forward functionality

Geo- and groupcasting

Providing single data stream from several services
Maritime Connectivity platform Consortium; MCC

W3C inspired

- General assembly
- Board
- Host members
- General members
- Working group

- MCP Operator
So, the MCC

Does NOT run an operational instance of the MCP

Does everything necessary for others to do so, including:
- Maintaining all standards relating to MCP - including a reference implementation
- Run a test instance of MCP
  - in order to validate the reference implementation
  - And provide a public open MCP demonstrator
- Define criteria for operating MCP instances
  - Technical
  - Procedural (including validation of identities)
- Accredit (and audit) organisations to run MCP instances
### MCC members

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<th>Advisory board</th>
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<td>GLA (UK,IE)</td>
<td>VTS Finland (FI)</td>
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<td>Observers</td>
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Is it here, or how mature is it?

A prototype has been running since 2015

Several operational instances are in the process of being established

Next year

Korea national/regional MCP
STM consortium MCP
...

More info and access to the testbed at

www.maritimeconnectivity.net