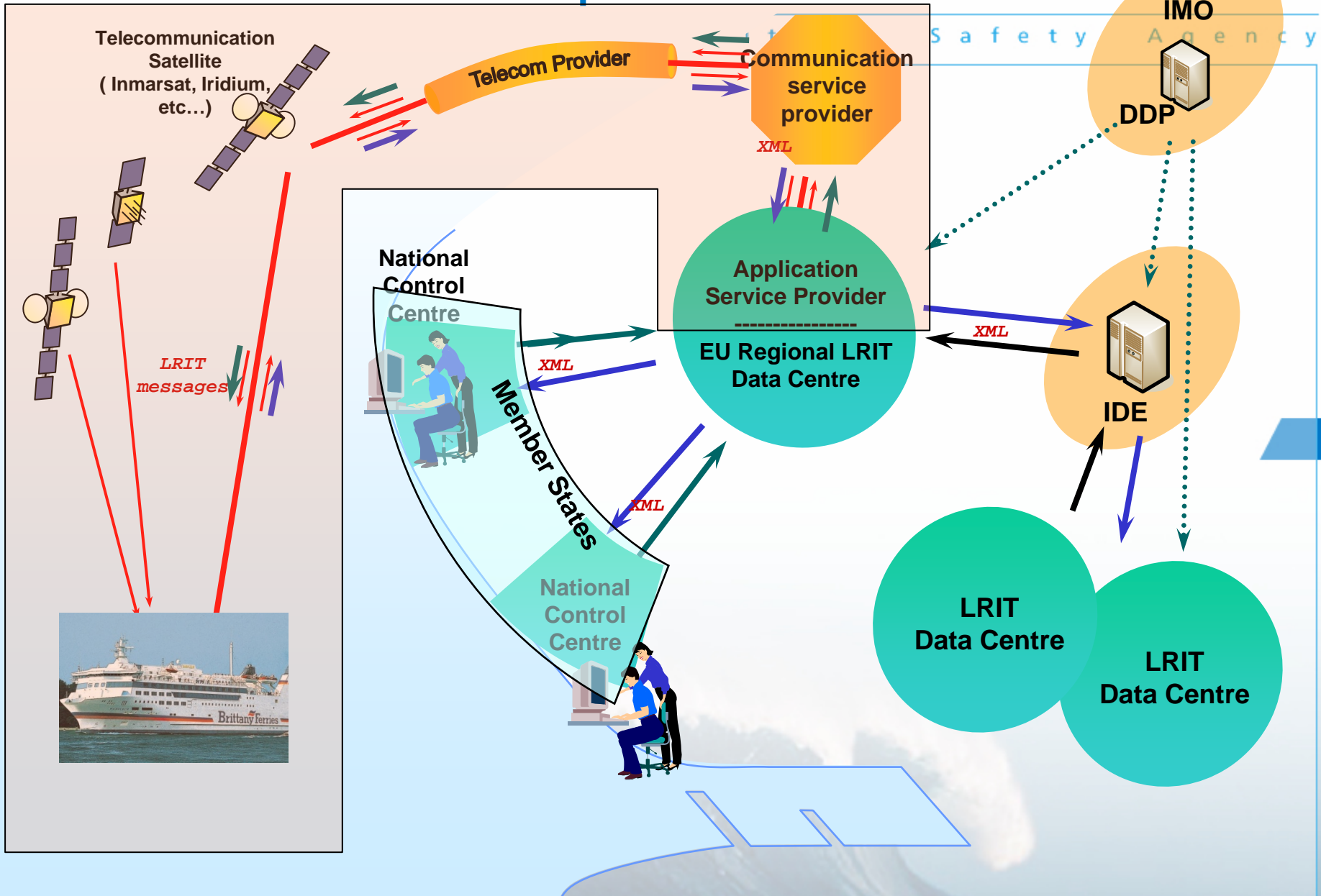


Development of CSP/ ASP Services for EU LRIT Data Centre

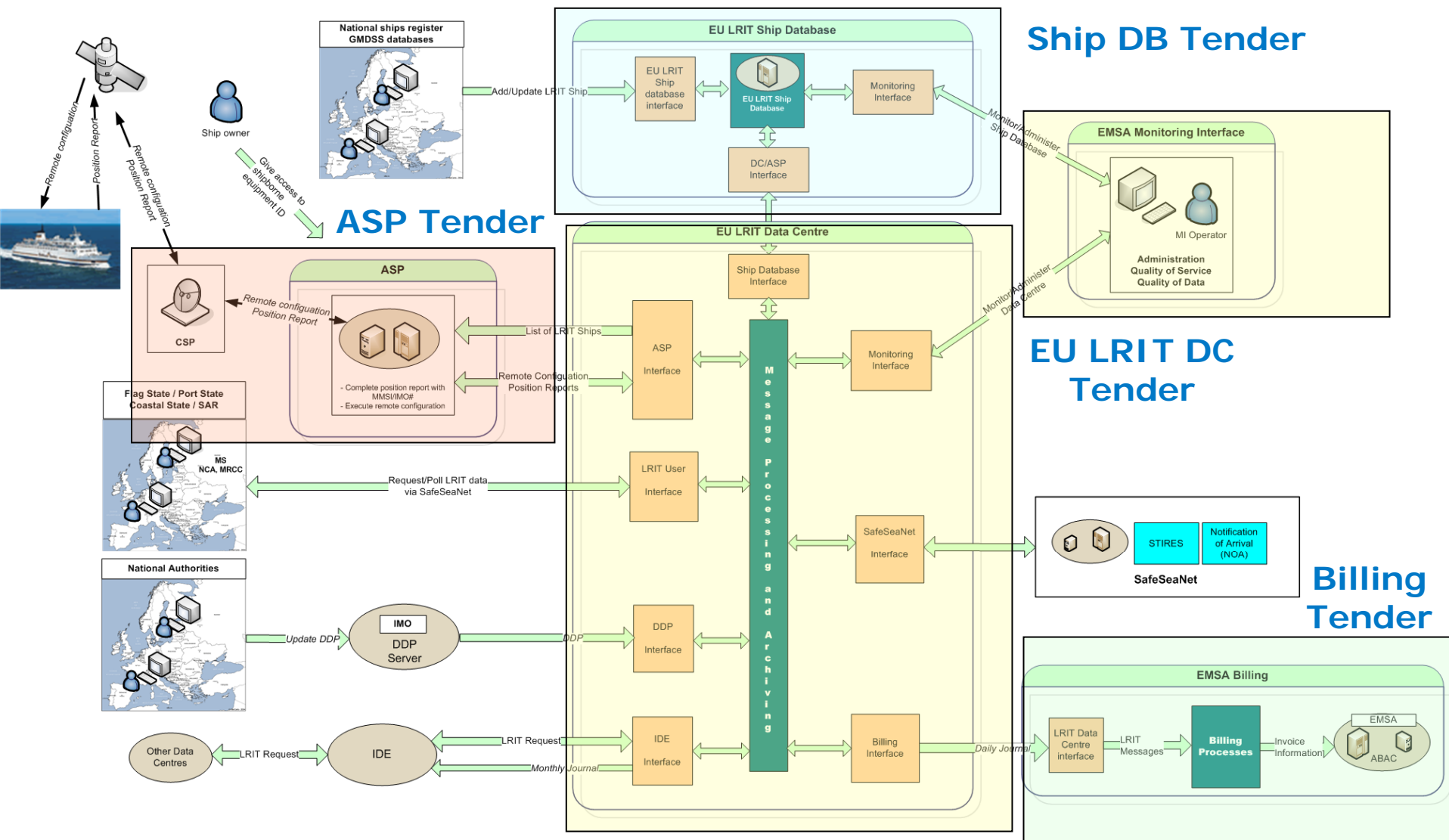
2nd meeting EU LRIT Expert Group
22-23 May 2008

Olaf Trieschmann
LRIT Task Force

Overview of International LRIT components



LRIT System Architecture



Invitation to Tender EMSA/OP/06/08

Delivery of ASP / CSP Services for EU LRIT DC

TENDER ENCLOSURE I - TENDER SPECIFICATIONS**ATTACHED TO THE INVITATION TO TENDER**

(Invitation to tender No. EMSA/OP/06/08 concerning contracts for "Delivery of ASP / CSP Services for the EU LRIT Data Centre")

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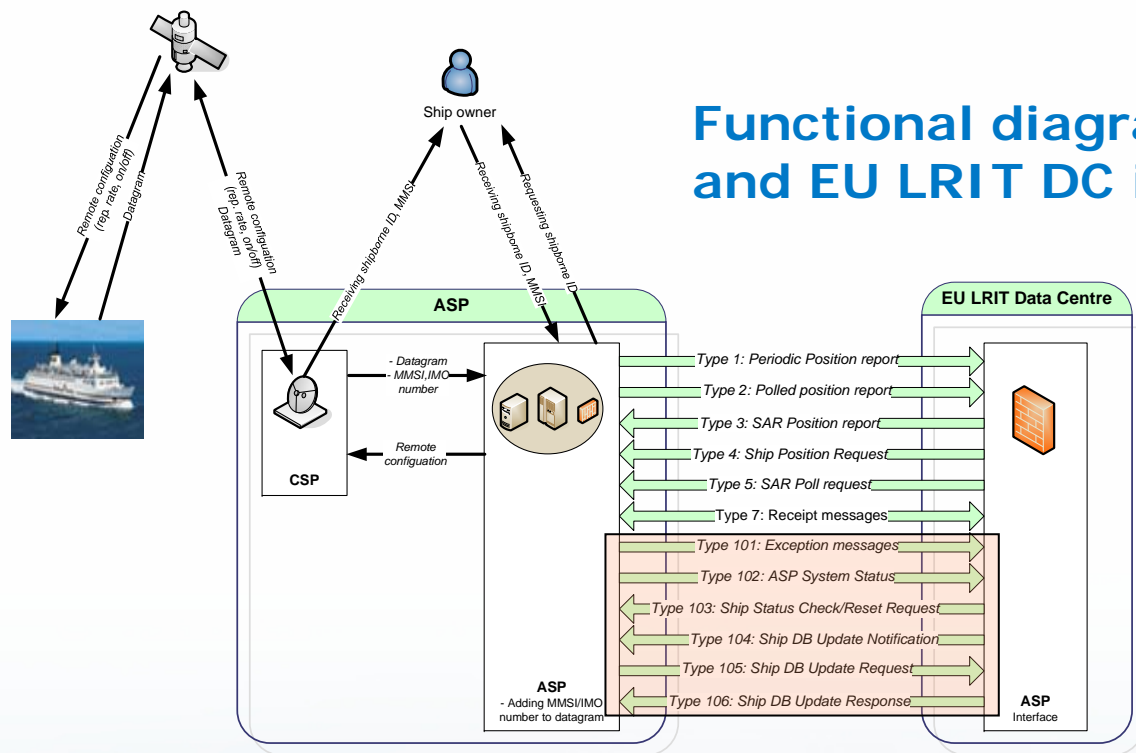
ASP/CSP system objectives

- To provide ASP/CSP services for the EU LRIT system (link to the EU LRIT DC) based on the IMO LRIT specifications
- ASP will collect & transfer LRIT messages from ships of EU MS, Norway & Iceland & will forward them to EU LRIT DC
- Interested Overseas Territories still to be confirmed by the relevant MS
- Costs of regular ASP/CSP operation will be borne by the Agency
 - costs for more than 4 messages per day and polling requests will be forwarded to the requestor

- The ASP provides communication protocol interface between CSP and EU LRIT DC to:
 - Ensure LRIT messaging
 - remote integration of the shipborne equipment into an LRIT Data system;
 - configuration of shipborne equipment for transmission of LRIT information (incl. modification of the transmission interval);
 - on demand transmission of LRIT information;
 - automatic failure recovery and management of transmission of LRIT information;
 - adding specific information to the vessel LRIT data as requested by IMO; and
 - Journaling/billing interface.
- Secure and **high** availability hosting

Interface ASP with EU DC

Functional diagram of the ASP/CSP and EU LRIT DC interaction



- Route LRIT message in secure manner
- Complete the ship identification
- High availability

Network selection criteria

- Dedicated networks requested by MS:

Network	Requested by MS
INMARSAT C & mini C	21 MS (the network called “INMARSAT” was assumed to be INMARSAT C)
INMARSAT D+	4 MS
INMARSAT mini M	3 MS
IRIDIUM	5 MS
INMARSAT B	2 MS
INMARSAT Fleet 77	2 MS
V-SAT	1 MS
MF/HF	3 MS

Network selection criteria

Basic requirements:

- Able to transmit the required data
- Allow remote configuration via CSP/ASP
- Provides a dedicated LRIT network channel
- All networks together have a global coverage (including the poles)
- Are economically reasonable

HF communications

- Limited range; in one year AIS data will be available through STIRES
 - Very complex system setup, because HF receiving stations are spread around all over the European coastline
 - Remote configuration is not possible without the interaction of the vessel operator, which is not in line with the IMO specifications
- > not included in the standard set of networks**

INMARSAT B, mini-M & Fleet 77

- Voice optimized services; Not tailored for data transfer. Therefore data package size is not optimized which leads to increased costs.
- Present shipborne equipment do not automatically send positions, nor receive position requests or change of reporting intervals, unless additional equipment is placed onboard the ship. Only very recent models of shipborne equipment can be modified to be IMO compliant.
- Systems are multi-purpose and will not be exclusively assigned to LRIT

-> **not included in the standard set of networks**

Completely open network

- Each communication network requires individual set-up costs which are not economically viable.
- The tender is generic to allow multiple networks to be integrated, but a minimum set of networks have been defined to ensure the LRIT functionality.

The bidders are invited to add further networks.

- Due to the non proprietary nature of the interface and the use standard XML messages, additionally CSP/ASPs might plug to EU LRIT DC in future, if necessary.

Selected network

- Selection criteria based on:
 - Requests by MS
 - Prime requirements
 - Market analysis (technical capability of shipborne equipment/communication networks and economic aspects)
- The following networks will be supported:
 - Inmarsat C and mini C (standard GMDSS devices)
 - Inmarsat D+ (specialised network for tracking purposes)
 - Iridium (global coverage)
- Terrestrial networks (VHF, ...) are not supported as the present shipborne equipment can not be remotely configured according to the IMO specifications
- Additional networks provided by the bidder will be considered positively during the evaluation

Vessel Integration

- Establishing the communication link between vessel and ASP via CSP and land earth station
 - Taking over the LRIT communications costs (airtime)
- MS have to provide ship owner info and shipborne equipment/communication parameters according to IMO resolution on GMDSS database (A.887(21)).
- In case of missing information, the ASP has to :
 - determine the Ship owner (and its points of contact) based on the IMO number
 - request the shipborne equipment/communication parameters (e.g. for INMARSAT-C: the terminal, serial number and DNID)
- **Only ships with type approved equipment will be supported**

Type approval

- It is under the responsibility of the administration
 - to type approve the shipborne equipment and
 - to deliver the relevant LRIT compliance certificate to the ship owners.
- The ship owners/flag states are free to contract any ASP for conformity testing.
- Nevertheless to facilitate the process for the ship owners/flag states, the ASP shall be able to perform conformity tests of the shipborne equipment
 - which then enables the Contracting Governments / Flag States to certify the shipborne equipment to be type approved to be used for LRIT.

Dedicated LRIT network channels

- Shipborne equipment, capable to operate several recipient addresses (like INMARSAT C), LRIT messages can be directed to the CSP configured by the ASP
- For shipborne equipment allowing only **point-to-point** communication (e.g. IRIDIUM, INMARSAT D+), the ASP has to establish the procedure to reconfigure the shipborne equipment such that the device is solely dedicated to sending LRIT messages & addresses all messages to the CSP defined by the ASP
- **In case a ship owner does not want to dedicate point-to-point operating shipborne equipment solely to the LRIT functionality, then he**
 - has to provide the CSP functionality himself and
 - has to report the LRIT message in the standard format to the ASP for further processing.
 - has to cover the airtime and CSP costs himself.

Main Award Criteria

- Requirements (chapt. 4 of the tender specifications excl. Hosting and infrastructure issues)
- Quality of the system (chap. 5 of the tender specifications)
- Hosting and infrastructure
- Management

Shows EMSA expectation on service development

	First half year of contract	Second half year of contract	2 nd year of contract	3 rd year of contract
European flagged vessels under the LRIT service	none	Linearly increasing to 9,000	10,000	10,000
Vessel integrations to the system	3,000	6,000	2,000	1,000

- 4 standard messages per day and per vessel
- The network distribution is as follows:
 - 80% INMARSAT C and Mini C
 - 15% INMARSAT D+
 - 5% IRIDIUM
- Vessel integrations to the system: for 1/2 of the vessels the communication ID is not available
- Up to 20% of all requested messages might have to be checked
- Further developments will require 20 days of work for a "Junior specialist" and 10 days of work for a "Senior specialist"

Questions by MS (BE, NL & PL)

- **One or several ASP's being contracted?**

According to a market analysis and legal reasons only one ASP will be contracted

- Many ASP's would significantly increase the interface complexity (vessel assignments, ASP-DC interfaces, ...)
- EMSA wants to ensure that all selected networks are covered
- Each European vessel should be monitored by the most advanced service (obviously just one service is scored best)

Questions by MS (cont'd)

- **Who will pay for “type approval” of the vessels?**
 - The vessel owner is responsible for type approval of its shipborne equipment.
 - EMSA provides a framework for type approval by forwarding the ASP offer/price to the MS and ship operators/owners.
 - However, the vessel owner is free to task any ASP with the type approval according to the IMO requirements.

Thank you very much!

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