

11th Mediterranean AIS Expert Working Group
Rome, October 21st 2013

MAREΣ 11/7/1
November 12th, 2013

Towards MAREΣ 2.0

Submitted by Italy

<i>Executive summary</i>	The paper proposes the substitution of the current MAREΣ release with the new release MAREΣ 2.0
<i>Action to be taken</i>	As per paragraph 7.
<i>Related documents</i>	<ul style="list-style-type: none">a. MAREΣ 10/5.1 – MAREΣ II developmentsb. STIRES 4/MED/6 – Med AIS Specificationsc. STIRES 9/MED/5 - MAREΣ duplicationd. STIRES 9/MED/7 - MAREΣ improvementse. STIRES 9/MED/9 – Ship Reference DBf. IALA Recommendation e-NAV-140 on the e-Navigation Architectureg. IALA Recommendation A-124 on the AIS Service (Edition 2.0)

1. Introduction

The Mediterranean AIS Regional System (MAREΣ) allows the exchange of AIS information among participating Member States. The information gathered is also forwarded to EMSA to be integrated in SSN.

The current architecture of MAREΣ was designed in 2007, implemented in 2008 and entered in operation on the 1st 2009, according to the provision of EU Directive 2002/59 (amended).

After more than five year from its design, there's a need to update the MAREΣ platform, to comply with recent recommendations and guidelines of the relevant international Authorities and Associations such as IALA.

2. Current implementation of MAREΣ and its limitations

The current implementation of MAREΣ is described in detail at the **Med AIS Specifications** (document STIRES 4/MED/6). The current MAREΣ presented the following limitations:

- the number of proxies to be connected is limited and this reflects to the further extension of MAREΣ;
- the platform used isn't a Service Oriented Architecture, limiting the MAREΣ overall capability to provide external services;

- the dBase Management System utilized is ORACLE, which is incompatible with the open source DBMS currently used by the Italian Coast Guard in its integrated national AIS network;
- MAREΣ software application is completely different from the ones currently used by the Italian Coast Guard to handle the integrated national AIS network. This means that any new tool must to be written twice, (for MAREΣ and for the national AIS network) duplicating the costs.

3. SOA implementation of MAREΣ

During the 10th EWG the ITCG proposed the replacement of the current version of MAREΣ with a new Service-Oriented Architecture (SOA) platform (called MAREΣ 2.0).

The document MAREΣ 10/5.1 contains a description of the SOA used for MAREΣ 2.0, allowing an easy scalability and expandability of the whole system.

The overall effort required to introduce SOA into MAREΣ will be reduced by the re-using the software modules already developed by the ITCG for its new integrated national AIS network called PELAGUS, able to handle information coming from different sources and originators like the LRIT, the VMS, the SafeSeaNet, the Vessel dBase and the Reporting System called ARES, mandatory for the Italian vessels greater than 1600 GT sailing worldwide.

The proper functioning of PELAGUS is now consolidated. It is well running since last year, managing both the Italian AIS network (currently based on 59 PSS), and several proxies, each of them configured with its own set of filtering rules. Every day PELAGUS manages an average of about 40 million of AIS information.

4. Impact to the current architecture

The transition to MAREΣ 2.0 will ensure immediate benefits and most functionalities will be ready to use with no effort by MSs. MAREΣ 2.0 is fully compatible with the current National Proxy already installed by the participating Countries. It doesn't require by the participating Countries to install new software. It is only requested to set up the proxy application with the new IP address to be assigned to the main MAREΣ 2.0, while the IP address towards the Disaster Recovery will remain the same.

MAREΣ 2.0 is providing a web user interfaces very similar to the one currently used, reducing the problems that might arise during the switching over. The Disaster Recovery currently in use is already fully upgraded to MAREΣ 2.0

The migration towards the new platform MAREΣ 2.0 will have a minimum impact to the participating Countries. Furthermore, during the swap, the information exchange will be ensured by the Disaster Recovery.

5. MAREΣ 2.0 functionalities

As soon MAREΣ will transit to SOA architecture the following 2 functionalities will not be available:

- **Data Quality Reports:** to overcome this problem Italy will maintain both MAREΣ and MAREΣ 2.0, and will continue to generate Data Quality Reports for EMSA. This solution will not impact the participating Countries. The old MAREΣ will receive the AIS data via a dedicated proxy.
- **Management Policy Password:** the set of rules designed to enhance computer security by enabling users to employ strong passwords and use them properly.

The above functionalities will be provided the next year.

6. Transition towards MAREΣ 2.0

Italy proposes to start the transition towards MAREΣ 2.0 in February 2014.

All participating Countries will be requested (by mail) to set up the national proxy in order to change the IP address of the main regional server. With separate e-mails Italy will provide accounts to the new WUI together with the user manual.

7. Action required

Participating countries are requested to note the above proposal and provide their feedback.