

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

MAREΣ 11/5/1
November 12th, 2013

MAREΣ progress report
Submitted by Italy

<i>Executive summary</i>	The document provides participating countries with updates on the MAREΣ progress in the period from July 2012 to September 2013.
<i>Action to be taken</i>	As per paragraph 7.
<i>Related documents</i>	a. STIRES 9/MED/4 Comment block utilization b. STIRES 9/MED/5 MAREΣ Server duplication c. MAREΣ 10/3 progress report d. MAREΣ 11/9/1 Functionalities of the new SafeSeaNet SI e. MAREΣ 11/2/1 Approval of minutes

1. Introduction

From July 2012 to October 2013 significant progress has been made increasing service availability.

2. MAREΣ duplication

The Service Level Agreement annually signed by EMSA and by Italian Coast Guard requires service availability no lower than 99% over any one year period, with a maximum single down time of 2 hours. To comply with such stringent requirements, during the 9th EWG meeting, Italy proposed the adoption of a new MAREΣ architecture with the aim of improving the overall availability.

At the 10th EWG meeting Italy illustrated the details of the new architecture which required the adoption of a second light server, installed outside Rome in a Coast Guard premises, using a dedicate Internet Service Provider, different from the one which provides the main internet connection to the Italian Ministry of Transport/Coast Guard.

The new regional system architecture has been working since on October 4th when the last Member State installed the improved proxy released. The second server is a back-up facility that will only be used when the main server presents an Internet connection failure, and is called "light" because it does not have all the characteristics of the main server. For this reason, the DB storage capacity of the second server is lower than the main server, and the web application is not available.

Following the implementation of the duplicated system, during the period from July 2012 to October 2013, only one incident occurred to the regional server, due to the change of IP service provider. No information was lost because of the store and forward functionality of the EMSA SafeSeaNet SI.

This excellent result is proved by comparing the previous 14 months, where MAREΣ experienced 8 incidents, causing an overall service unavailability of 35 hours (one incident caused about 24 hours of unavailability).

This duplicated configuration also well resisted an Anonymous attack against the main Ministry of Transport/Coast Guard Internet Service Provider conducted on 19 and 20 October 2013. **The duplicated server operated with the new software MAREΣ 2.0.**

3. Proxy distribution and installation

During the 10th EWG meeting MSs were requested to install an improved proxy release able to support the new regional system architecture upgraded with the disaster recovery. Table 1 below shows both the proposed and effective installation dates:

Member State	Proposed installation date	Effective installation date
SPAIN	02.07.2012	03.07.2012
SLOVENIA	29.06.2012	29.06.2012
BULGARIA	03.07.2012	28.06.2012
FRANCE	03.07.2012	04.07.2012
ROMANIA	04.07.2012	05.07.2012
MALTA	04.07.2012	30.06.2012
GREECE	04.07.2012	09.07.2012
PORTUGAL	05.07.2012	04.10.2012
CYPRUS	05.07.2012	13.07.2012
ITALY	-	22.06.2012

Table 1: proposed and effective installation dates

In October 2012 all participating Member States were fitted with the new proxy release.

Figure 1 below outlines the new architecture:

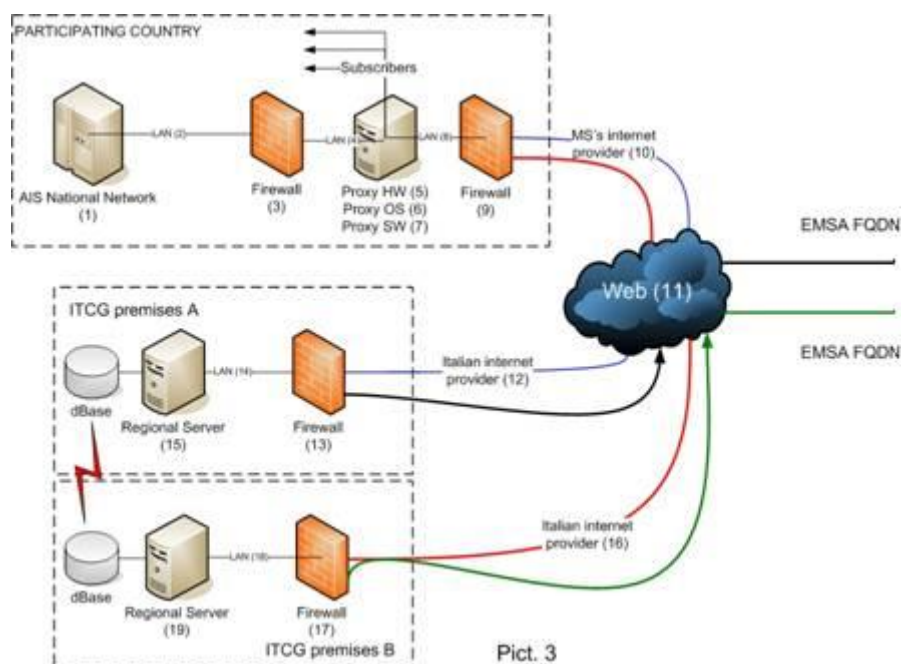


Figure 1: New MAREΣ architecture

The new proxy handles two different IP addresses (main and back-up). It sends the AIS stream automatically to the back-up IP address in case of the main one becomes unreachable. **The new proxy release is already suitable for MAREΣ 2.0.**

4. Participation of Croatia as Member State

On July 1st 2013 Croatia became the 28th Member State of the European Union. Croatia was already connected to MAREΣ, as participant in the Virtual Adriatic Sub-Regional Server project. Therefore, the participation of Croatia, as Member State, in the Mediterranean regional system requested only a Data Distribution Plan re-configuration in order to provide Croatia with the complete flow of AIS information gathered by the system.

EMSA and the Member States participating in MAREΣ were provided with the AIS information acquired by Croatia.

5. Supporting EMSA in conducting the SafeSeaNet Streaming Interface

In December 2012, Italy was requested by EMSA to install a new release of SafeSeaNet Streaming Interface (SSN SI) and support EMSA in the conduction of a testing phase.

The new SSN SI version was implemented by EMSA in order to improve the reception of AIS information (e.g. class B originated AIS messages) and the potential distribution of "enriched" data to MSs.

As reported in the document MAREΣ 11/9/1 the new SafeSeaNet SI enables the discrimination of the data provider in the incoming data stream (Country, System, etc..).

A second release of the SafeSeaNet SI was linked to MAREΣ test environment in the beginning of October 2013.

6. Supporting France and Spain

At the beginning of 2013, France requested Italy to provide three separate AIS information streams, with different downsampling, for the following national projects:

- MARYLIN, all information coming from a specific maritime area, with a downsampling of **one minute**;
- SPATIONAV-2 and ENVISIA, all information gathered by MAREΣ according to the current downsampling policy (**six minutes**).

In April 2013, Spain also requested to provide back its own AIS information with a downsampling of one minute.

Both the requests were useful to test the capabilities of the regional system to provide AIS information streams having different downsampling in certain areas. This was useful also for Italy, to exchange AIS information with a full data rate in certain areas such as:

- the Adriatic Sea;
- Bonifacio Strait;
- Corsica Channel;
- the channel between Sicily and Malta

The French request was fulfilled using the MAREΣ together **with a new Italian national integrated system called PELAGUS**, able to manage a large amount of information delivered both the AIS base stations and the proxies.

7. Action required

Participating states are invited to note the submitted information.