



European Maritime Safety Agency

**1<sup>st</sup> Meeting of the LRIT NCA's**  
**Agenda item 5**  
**Lisbon, 19-20 October 2009**

## **OPERATIONAL ISSUES**

### **Communication on**

**"User Web Interface Security Policy, Xml interface, Ship data import"**

**Submitted by EMSA**

<i>Action to be taken</i>	Take into consideration questions brought up in this paper as well as EMSA proposals to ensure a smooth integration of ships in the EU LRIT Data Centre, a security policy for the UWI and the development of an Xml interface.
<i>Related documents</i>	<ul style="list-style-type: none"><li>• Conditions of Use to use the EU LRIT DC</li><li>• MSC.1/Circ. 1296 – Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information</li><li>• Getting started for the EU LRIT Ship database</li><li>• Getting started with the EU LRIT DC</li></ul>

## **1. INTRODUCTION**

### **1.1. The User Web Interface (UWI) Security policy within the EU LRIT Data Centre**

The EU LRIT DC provides each User with a Web based Graphical User Interface (UWI) giving access to the functions of the EU LRIT. The UWI is accessible in a secure manner following the IMO security recommendation contained in MSC.1/Circ.1259/Rev.1 Interim revised Technical specification for the LRIT system.

Authorisation, identification, authentication, confidentiality and integrity are the key functional concept with respect to data security for the LRIT system. The implementation of the UWI follows the IMO recommendation but it is of high importance that end users are informed about the security rules in place and strictly apply these rules. This document recalls the security rules to be followed by the NCAs and end users.

### **1.2. Exchange of LRIT information between the EU DC and NCAs using a Webservice**

Exchange of data between the EU LRIT DC and end users will be provided by a Webservice (XML interface) in addition to the UWI after the first year of operation (starting mid 2009). This service will request the development and implementation of an Xml interface at the Member State client application. The purpose of this document is to highlight the fact that some preparatory work may be needed at a MS level and therefore this should be taken into account to ensure MS readiness for communicating with the EU LRIT DC using a Webservice and the strategy to follow regarding the UWI.

### **1.3. Importing of data in the EU LRIT Ship database**

The registration of ships within the EU LRIT ship database can be done manually using a web interface or automatically using a Webservice (Xml interface).

A temporary functionality using "Excel/Xml Import files" was offered In order to help MSs during the initial phase of the implementation of the system. This temporary procedure is not justified anymore and should be phased out.

## **2. DISCUSSION**

### **2.1. The User Web Interface (UWI) Security policy within the EU LRIT Data Centre**

Each LRIT component within the LRIT network should ensure that the component with which it is communicating is authorized to receive the information being transmitted in accordance with the DDP. For that reason, each user is identified according to his role (see Annex 1 table 1) and is granted a set of access rights (see Annex 1 tables 2 and 3). Access to the UWI is using an individual login and password. The various LRIT components in the LRIT system perform identification and authentication of each component before exchanging information using a standard authentication process (Https one way SSL certificate). CGs requested that the information exchanged within the EU LRIT system be treated as confidential. Therefore, the data transmitted (XML messages) between the Member States and the EU LRIT DC are encrypted (using HTTPS). Integrity guarantees that no data has been altered (using HTTPS).

Before entering in Production, all NCAs received a "Getting Started" document that provides LRIT end users and administrators with information on how to access and to use the UWI. This document also provides guidance on how an NCA should deliver a User ID (see Annex 1 Table 4). The "Getting Started" leaflet is available on line from the home page of the UWI.

EMSA noted that certain UserIDs are shared amongst users, which is in contradiction to the principles of the Conditions of Use (CoU) and the MS request to exchange data in a confidential way as well as the information indicated in the "Getting Started" document. A Technical note 3 was sent to all NCAs on 4 August 2009 focussing on this practice and a request was made to end this practice by mid September.

## **2.2. Exchange of LRIT information between the EU DC and NCAs using a Webservice**

The most practical and efficient way to exchange LRIT information between the EU LRIT DC and NCAs is using a Webservice. The contract for the establishment of the EU LRIT DC includes the development of an Xml interface which shall be available mid 2010. This Xml interface shall support the functionalities available in the User Web Interface for the exchange of request and position reports and specific messages for the Administration of the system.

EMSA is currently in the phase of providing the contractor with revised technical requirements. The First version of the Xml reference guide is expected by the end of 2009 for MS review.

## **2.3. Importing of data in the EU LRIT Ship database**

The uploading of ship data using the "Excel/Xml Import files" must be phased out for the following reasons:

- this was a temporary solution offered to MS for uploading the initial list of ships registered in the Ship database. Most MS have now completed the registration of their ships and the connection with the database concerns essentially the update of individual ship data or the registration/deregistration of ships.
- A webservice is now available and MS can begin the development and implementation of their Ship database Xml interface in order to automatically process the LRIT information.
- The import of data using the "Excel/Xml Import files" necessitates manual access to the database which is not a recommended practice.

## **3. EMSA PROPOSALS**

### **3.1. UWI Security policy**

Technical note n°3 recalled the principle for using personalised logins/UserIDs and requested Member States to take appropriate action by mid September in order to avoid any sharing of login information.

Member States are requested to comment on this security policy measure and to provide their guidance and discuss relevant actions which may be undertaken should a user not respect such a rule.

EMSA proposal is to deactivate the users which are not complying with login procedures as described in the Getting Started document.

### **3.2. Exchange of LRIT information between the EU DC and NCAs using a Webservice**

Member States are requested to take note of the planned development of a Webservice for the exchange of LRIT information between the EU LRIT DC and the NCA applications. The technical specification for the Xml interface will be available by end of 2009.

In order to prepare the planning for the testing phase that will lead to the commissioning of the Xml interface developed by MS, NCAs are requested to notify EMSA as soon as possible with their firm intention to establish or integrate a webservice for exchanging LRIT information with the EU LRIT DC.

### **3.3. Importing of data in the EU LRIT Ship database**

The phasing out of the "Excel/Xml Import files" was planned for the 1<sup>st</sup> October 2009. From this date, MS will be able to manually upload their ship data using the Ship database Web interface or to use the Webservice for automatic updating.

## **4. ACTION REQUIRED**

The LRIT NCA Group is invited to note the above mentioned EMSA proposals and to provide comments.

## ANNEX 1

**Table 1 : Roles in the EU LRIT DC**

<b>Roles</b>	<b>Main capabilities</b>
EU DC Administrator	Administration capabilities
MSS Operator	DC monitoring & control
NCA	National User management Administrator at National level
Coastal State	Off-the-coast ship tracking
Flag State	National ship tracking
Port State	Entering ports ship tracking
SAR	Ship tracking for SAR purposes

**Table 2 : List of Access rights**

Access Rights	Capability
Flag Consultation	The user has access to all archived ship positions available to a Flag State. Polling and transmission rate change are not allowed.
Flag Request	The user can poll and change the transmission rate of ships as a Flag State.
Port Consultation	The user has access to all archived positions of ships bound to one or more ports of a Port State. Polling and transmission rate change are not allowed
Port Request	The user can poll and change the transmission rate of ships bound to an identified Port State (a list of Ports associated to a main Port or a list of places under jurisdiction identified by a locode)
Coastal consultation	The user has access to all archived ship positions available to a Coastal State user. Polling and transmission rate change are not allowed.
Coastal Request	The user can poll and change the transmission rate of ships as a Coastal State
SAR Consultation	The user has access to all archived ship positions (most recent position) requested by SAR users. Polling and transmission rate change are not allowed.
SAR Request	The user can make a SAR request and poll any ship anywhere in the world.
SAR SURPIC Request	The user can make a SAR SURPIC request and poll any ship anywhere in the world
Restart / Reset Request	The user can cancel all previous request messages and should only receive LRIT information based upon standing order in the DDP (per default shipborn restart at mandatory reporting rate i.e. 6h00)

Poll Request	The user can send a poll
Request (Manage/Make Periodic request)	The user can select a request type when using the menu Request - make a request
Most Recent Position Request	The user can make a request for a Most recent position
Archived Position Request	The user can make a request for an Archived position report
Stop/don't Start Sending Positions » Request'	The user can request the DC to stop transmitting LRIT messages to the User.
Search Ships'	The user can search for a ship it is entitled to view the position.
Ship Integration Management'	Refers to the integration of a new ship from the Ship DB into the EU DC/ASP. As all integration/re-integration costs are paid by EMSA only the EU LRIT DC Administrator has access to the additional functionality of a "re-integrate" button to be able to ask for the re-integration of a shipborne equipment.
Ship Integration Consultation'	The user can consult the status of integration for the list of ships for its flag.
Ship Reporting Management'	User can access the "stop – restart" button to be able to send a command to the shipborne equipment.  <u>Note:</u> The "stop – restart" capability should be <b>available both to NCA and to the EU DC Administrator</b> . The NCA can use it for any operational purposes (ex. – to cancel all requests from its users, or to cancel an over-reporting ship, etc) and will pay each command accordingly. The EU DC Administrator can also use this command for different reasons (testing, cancelling a heavy over-reporting without waiting for the NCA to react, etc). All costs generated by the EU DC Administrator will be charged as "common interest" messages.
Ship Reporting Consultation'	The user can consult a list of ships for its flag and see the status (normal, under or over-reporting) of their reporting.
Search Price Lists'	The user can consult all selected price lists which are also those on the IDE.
Overall DC Journal Consultation'	The EU DC Administrator and MSS can consult the overall journal for the data centre which includes all exchanged

National Users Journal Consultation	The NCA user can consult the journal to see the activities of all its users.
Personal User Journal Consultation	A user can consult a journal to see all their personal activity on the UWI including requests, position reports received, etc.
Overall DC Statistics Consultation	The user can consult statistics for different activities performed by the DC
National Users Statistics Consultation	The NCA user can consult statistics to see on a national level what activities are being undertaken by its users.
Personal User Statistics Consultation	The user can consult statistics for his/ her personal activity on the DC
Performance Indicators Consultation'	The user can consult all performance indicators
User Management	The EU DC Administrator can create/update/delete/consult a NCA user The EU DC Administrator can enable/disable a NCA user.
National User Management	The NCA can create/update/delete/consult National users . The NCA can enable/disable a national user.
Password Reset	The EU DC Administrator, MSS and NCA can reset a password.
Manage Roles	The EU DC Administrator can create/update/delete/consult roles.
Exchanged Message Consultation	The EU DC Administrator and MSS can consult all messages processed by the DC
Exchanged Message Management	The EU DC Administrator and MSS can manage all messages processed by the DC. Only CLS at that time. button to re-process rejected or unprocessed messages
System Log Consultation	The EU DC Administrator and MSS can consult the logs of the DC
System administration	The EU DC Administrator and MSS can consult/activate/select system functionalities as DDP version, IDE Price list, etc...



**Table 3: Access right distribution per role**

	EU Administrator	DC MSS operators	LRIT NCA	COASTAL		FLAG Consultation	PORT * Consultation	PORT* Full	SAR Full	SAR + COASTAL Full	SAR + FLAG Full	SAR + PORT Full	Full (Flag +Port +Coastal +SAR)
				Consultation	Full								
National User Management			Y										
Password Reset	Y	Y	Y										
Flag Consultation	Y	Y	Y			Y			Y				Y
Coastal consultation	Y	Y	Y	Y	Y				Y				Y
Port Consultation	Y	Y	Y				Y	Y			Y		Y
SAR Consultation	Y	Y	Y						Y	Y	Y		Y
Search Ships	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y
Search Price Lists	Y	Y	Y		Y	Y		Y	Y	Y	Y		Y
Flag Request	Y		Y			Y				Y			Y
Coastal Request	Y	Y	Y		Y				Y				Y
Port Request	Y	Y	Y					Y			Y		Y
SAR Request	Y	Y	Y							Y	Y		Y
Restart / Reset Request	Y	Y	Y		Y	Y		Y		Y	Y		Y
Poll Request	Y		Y		Y	Y		Y		Y	Y		Y

	EU Administrator	DC MSS operators	LRIT NCA	COASTAL Consultation	FLAG Consultation	PORT * Consultation	PORT* Full	SAR + COASTAL Full	SAR + FLAG Full	SAR + PORT Full	Full (Flag +Port +Coastal +SAR)
Request (Manage/Make Periodic Report)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Most Recent Position Request	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y
Archived Position Request	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y
Stop/don't Start Sending Positions » Request	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y
SAR SURPIC Request	Y						Y	Y	Y	Y	Y
Manage Roles	Y										
User Management	Y										
Exchanged Consultation	Y	Y									
Exchanged Messages	Y	Y									
Overall DC Consultation	Y	Y									
National Users Consultation			Y								

	EU Administrator	DC MSS operators	LRIT NCA	COASTAL Consultation	FLAG Consultation	PORT * Consultation	PORT* Full	SAR + COASTAL Full		SAR + FLAG Full	SAR + PORT Full	Full (Flag +Port +Coastal +SAR)
Personal Consultation	User	Journal										
Performance Consultation		Indicators										
System Log Consultation												
System administration (usual actions)												
Ship Reporting Consultation												
Ship Reporting Management												
Ship Integration Consultation												
Ship Integration Management												
Overall DC Consultation		Statistics										
National Users Consultation												
User Personal Consultation		Statistics										

**Table 4: User ID Naming Convention**

User Type	User ID Structure	Example
MSS operators, EMSA administrators	Current EMSA login	seddost, guidavi
CLS operators	CLS_<user-family-name>[number]	CLS_smith2
Others if needed	<user-family-name>[number]	Smith2
		Smith
NCA and National Users (Flag, Coastal, Port, SAR)	<2-char ISO country code>_<user-family-name>[number]	fr_dupont
		fr_dupont1
		it_rossi3
		pt_lopes-ferreira01