



6th SSN LRIT Group Meeting

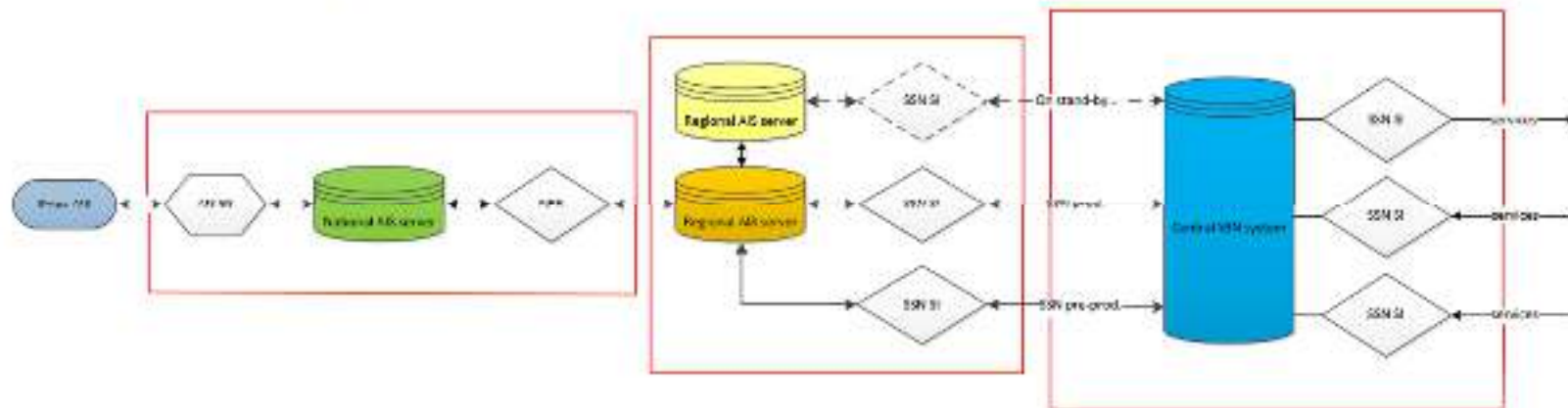
Coordination activities with regional AIS servers

Agenda item: 6.6.2

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Department C: Operations/Unit C.2.1

Lisbon / 31 October 2019

- T-AIS network in Europe
 - > 720 Base stations
 - 27 T-AIS networks
 - 3 regional AIS servers
 - Central SSN system



- SLAs between EMSA and the RSs hosting Authorities

- **Meetings:**

- Lisbon, 7 February 2017
- Rome, 10 August 2017
- Venice, 28 November 2018
- Oslo, 29 August 2019

- **Objectives:**

- to discuss the status and quality of services,
- agree the operational and technical requirements,
- agree the harmonisation and further improvements of the systems.

- **Legal bases**

- **Art. 2.1.2. of Annex III of the VTMS Directive:** EMSA is responsible for the SSN technical implementation, in cooperation with the Member States and the Commission.
- **Section 1.4 of the SSN IFCD:** the regional AIS servers are considered as part of the SSN system.
- **Art. 5 of Annex 4 of the SLA:** the Parties may conduct meetings to discuss the status of execution of the current SLA.

- **Planned upgrade of the SSN proxy application**
 - EMSA and RSs are testing the new proxy application (“STAR Remote hub”)
 - Is planned to replace the existing SSN SIs in November 2019 (depending the testing results)
 - The software is installed by all AIS data providers to SSN (RSs, Germany and Luxspace)
 - The new proxy application will be proposed also to the data recipients (S-AIS and T-AIS)

- **NPRs harmonisation issues**
 - NPR functionalities: (e.g. mandatory / supported / additional)
 - The agreed mandatory functionalities:
 - Data buffering (for at least 12 hours)
 - Data filtering (per message type)
 - “Old” data removing window (i.e. starts only after 12 hours of storing)
 - Data automatic retransmission
 - The mandatory functionalities will be harmonised between the RSs
 - Implementation of additional functionalities shall not impact the mandatory functionalities
 - Requirements will be included in the SLA amendments and the RS Technical manual
 - The possibility to maintain both solutions ((12 hours (MARES)) and (2 GB (HELCOM/NSATL))) will be assessed by RSs

- **“Old data” reception and forwarding by RSs**
 - “SSN/LRIT 5.3.4 Common Operational Procedures update”
 - To reduce the risk of loss of AIS data
 - Member States may resend data automatically (in the background) or manually, or submit via e-mail or FTP
 - The solution should be agreed at regional level
- NSATL and MARES will evaluate their solutions to receive, accept and forward all data retransmitted by MSs (including “old” data) and will present their proposals at the next EWGs meetings
 - 4th NSATL EWG (Sept. 2019): BEL and NOR agreed to tests the solution

- **Data retransmission by RSs**
 - Data manual transfer as the main solution
 - Data automatic retransmission may be used as an alternative
 - A standardised data format and procedure for the data retransmission will be implemented by RSs
 - Requirements will be included in the SLA amendments
 - Technical implementations by EMSA

- “SSN/LRIT 5.3.4 Common Operational Procedures update”
 - **Situations**
 - Scheduled interruption and/or failure < 12 hours:
 - Scheduled interruption and/or failure > 12 hours:
 - **Cases**
 - **Case I:** Failure of national AIS network or server affecting the collection and/or processing of data
 - < or >12 hours: report / monitor or switch to BCF / recovery actions / report
 - **Case II:** Failure affecting the connection of national AIS system with regional AIS server (RS) or central SSN system
 - < 12 hours: report / monitor or switch to BCF / recovery actions / verify the data retransmission by NPR_ / report
 - > 12 hours: report / monitor or switch to BCF / recovery actions / retransmit the dataset / report
 - **Case III:** Failure affecting the national AIS server’s connection with NPR or SSN SI
 - < or >12 hours: report / monitor or switch to BCF / recovery actions / retransmit the dataset / report

Why 12 hours? Chapter 4.2 of IFCD: ... with a maximum permissible period of interruption of 12 hours...

- **Updates to the RS Technical manuals**
 - Agreed at the 3rd meeting
 - Required updates by RSs
 - Questionnaires to the MARES participating MSs: Feb. 2019
 - Information from the NSATL and HELCOM RSs participating MSs: collected during the EWG meetings (25.09.2018 and 28.05.2019)
 - Technical manuals are published on the EMSA web (restricted site) as version 1.2.
 - The status of manuals will be revised/confirmed by RSs every 6 months, in the Service summary reports.

- **European AIS operational manual**

- EMSA, Italy and Norway agreed to introduce an “European AIS operational manual”, which would present the objectives, purposes and solutions of the European AIS network.
- The manual would provide information about AIS system of each country, with photos and maps, and would be made available to the public.
- Information to the manual would be submitted by the MSs
- MSs are invited to participate
 - Promote the activities
 - Show the work, ongoing and already completed
 - Demonstrate achievements
 - Introduce further plans

- **AIS data buffering tests**
 - All NPRs (connections) are tested
 - All NPRs were buffering and retransmitting the data
 - Technical issues with some NPRs will be further analysed:
 - NPRs configuration
 - the number of messages retransmitted
 - a low retransmission rate
 - difficulties to re-establish streaming
 - needs to improve the monitoring
 - Tests with the SSN proxy application - October/November
 - Tests with RSs – TBD
 - Agreed to conduct the NPR stress tests (e.g. one NPR per the RS network)
 - Avoiding impacting the data provision
 - Voluntary MSs
 - The test scenario will be agreed between EMSA, RS and the participating MS

• Second NPR

- Potential improvements by introducing two NPRs for each connection
- Experience of the NSATL/ HELCOM shows that operating of 2 or more NPRs per MS is possible and beneficial
- MSs replies to the questionnaires indicate that all of them (except 1 MS) are capable to install two NPRs

NORTH SEA									
Status as of UTC 13 sep 2019 13:12:49									
✓ C-Scope Proxy service	All users sending data								
✓ Proxy RX rate (bps) (sentences/sec)	114733 (164)								
✓ Proxy TX rate (bps) (sentences/sec)	1191340 (1813)								
✓ C-Scope Network service	Running								
✓ Last archived NMEA file	12 Sep 2019 with size 1034 MB/bytes								
Status	User	# (Dis)Connected (UTC)	Time diff (secs)	Version	RX rate (bps) (sentences/sec)	TX rate (bps) (sentences/sec)	Availability (%)		
✓	UNITEDKINGDOM 1	10 sep 2019 23:31:08	-1	v4.4.31	10387 (19)	73748 (123)	100.00		
✓	UNITEDKINGDOM 2	10 sep 2019 23:31:06	-1	v4.4.31	0 (0)	79779 (121)	100.00		
✓	UNITEDKINGDOM 3	11 sep 2019 21:01:16	-1	v4.4.31	12378 (19)	29722 (121)	100.00		
✓	UNITEDKINGDOM 4	12 sep 2019 22:39:33	-1	v4.4.31	0 (0)	79727 (121)	100.00		
✓	IRELAND 1	05 sep 2019 11:06:50	0	v4.4.31	2023 (4)	92020 (142)	100.00		
✓	NETHERLANDS 1	13 sep 2019 11:37:12	0	v4.3.90	20649 (31)	74888 (114)	100.00		
✓	BELGIUM 1	11 sep 2019 16:26:32	1	v4.4.31	11903 (19)	83853 (128)	100.00		
✓	IRELAND 1	13 sep 2019 05:10:57	-1	v4.3.90	0 (0)	92694 (141)	100.00		
✓	IRELAND 2	13 sep 2019 05:19:13	-3	v4.3.90	2932 (5)	92921 (141)	100.00		
✓	FAROEISLANDS 1	10 sep 2019 01:03:47	0	v4.4.30	755 (2)	64793 (144)	84.92		
✓	FRANCE 1	13 sep 2019 10:43:30	-1	v4.4.31	5148 (8)	90428 (138)	100.00		
✓	NORWAY 1	08 sep 2019 08:22:56	1	v4.4.31	17324 (27)	78207 (129)	100.00		
✓	DENMARK 1	10 sep 2019 17:02:01	4	v4.4.31	9356 (15)	86133 (121)	100.00		
✓	SWEDEN 1	12 sep 2019 10:04:49	-1	v4.3.90	9858 (15)	85792 (131)	100.00		

- **Other issues**

- RSs will implement an automatic warning (e.g. by e-mail) to be sent to MSs in case the time asynchronization goes beyond the agreed threshold.
- The issue whether the NPRs buffered data need to be down sampled or not, and the down sampling configuration will be further assessed, considering the capabilities of NPRs and “Remote Hub” application.

- **Amendments to the Service Level Agreement**
 - New amendments to the Service Level Agreements between EMSA and the regional AIS servers hosting Authorities (NCA and ICG) are expected in 2020.
 - Outcomes of the EMSA/Italy/Norway meetings on regional AIS servers
 - Results of assessments
 - The amendments will consider:
 - New definitions for EMSA proxies
 - Data retransmission issues
 - Data quality definitions
 - Minimal requirements to the NPRs
 - other



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