International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Seventh Meeting (CNS SG/8)
(Cairo, Egypt, 26 - 28 February 2018)

Agenda Item 4:   **CNS Planning and Implementation in the MID Region**

STATUS OF SITA AMHS GATEWAY INTERCONNECTIONS AND
TRANSITION TO AMHS WITHIN ICAO MID REGION

(Presented by SITA)

SUMMARY

This paper aims to inform the CNS SG/8 on the progress made in SITA AMHS Gateway inter-connections and transition to AMHS in every ICAO Region, and considering the completion of AMHS tests with Jordan and Lebanon seek coordination in cooperation with the transition manager and AMC for transition to AMHS within MID Region.

Action by the meeting is at paragraph 3.

1. **INTRODUCTION**

1.1   This Working Paper presents the abreast of progress made with ICAO Regions on SITA's interconnection to AMHS and invites the meeting to propose appropriate recommendations and actions related to SITA AMHS interconnections and preparations to enable transition to AMHS within ICAO MID Region in coordination with AMHS gateway countries, the transition manager and AMC.

2. **DISCUSSION**

2.1   AMHS is being under active deployment by majority of ANSPs in view of AFTN replacement. Additionally, the new rich data formats using XML is planned to be used over the next few years to further improve air traffic management effectiveness which requires the use of new generation messaging based on ICAO AMHS standards.

2.2   The move to this new communication path for SITA required AMHS and appropriate gateway deployment and interconnections to AMHS in most of ICAO Regions to continue to support data exchange between ATS Organizations which will use AMHS and airlines using Type B or Type X for XML based information such as digital NOTAMs.

2.3   Type X is an IATA reliable messaging standard based on XML and Web service technologies ratified in September 2009 with addressing and routing capabilities based on IATA codes as well as ICAO AFTN addresses indifferently.

2.4   To this end following the ICAO procedures SITA is allocated the PRMD name SITA as a part of ADMD=ICAO. This PRMD name is registered within AMC.

2.5   Subsequently and following ICAO EURNAT AFSG recommendations SITA worked with ICAO EURNAT AFSG - Operations Group to elaborate a detailed architecture for SITA interconnection to AMHS in a mixed AMHS and AFTN environment which specifies the details of addressing and routing for message exchanges between ATS and SITA users.

2.6   AMHS / SITA Interconnection Architecture Document Version 1.0 is approved during ICAO EURNAT AFSG/17 meeting which took place in Paris from 22 to 26 April 2013, and communicated to all other ICAO Regions on the 21st of June 2013, requiring SITA AMHS interconnection in every ICAO Region for redundancy and reduction of inter-Regional traffic.

2.7   Following the technical and operational recommendations elaborated as a part of the AMHS/SITA Interconnection Architecture document, SITA addressing scheme changed from CAAS to XF addressing scheme as C=XX/A=ICAO/P=SITA/O=AFTN/OU=AFTNADDR, where AFTNADDR is an AFTN address of a SITA user.

2.8   AFTN addresses of SITA users exchanging with AFS users are published in AMC User Address Look-up Table.

2.9   The progress status at the time of writing this Working Paper is as follows;

1) SITA transition to AMHS within ICAO EUR Region has been completed after AMHS test completion with DFS-Germany and Skyguide-Switzerland and successful transition in 2016.
2) SITA transition to AMHS within ICAO APAC Region has been completed after AMHS test completion with Singapore and Thailand and successful transition on AIRAC Day 14 September 2017.
3) Currently all SITA exchanges within ICAO EUR and APAC countries flow through AMHS. This has been achieved in closed cooperation with AMHS gateway countries, AMC with coordination with transition manager for PRMD=SITA and routing set up in every country.

2.10   AMHS Interoperability and Preoperational tests have also been completed with Brazil, South Africa pending the required preparations for transition within ICAO SAM and AFI Regions.

2.11   Network connection is under set up with FAA-United States and the draft AMHS Interoperability document is under review in view of preparations for AMHS testing and transition within ICAO NAM Region.

2.12   The AMHS Interoperability and Preoperational tests with Jordan and Lebanon are completed and coordination with the ANSPs within MID Region has started to plan for transition to AMHS within ICAO MID Region. To this end Jordan, acting as Transition Manager, is actively communicating with other ANSPs in the Region for validation and appropriate set up but reportedly, the progress is pending completion of address validation and appropriate configuration update with some AMHS COM Centres to complete transition within MID Region.

2.13   To assist transition planning and advice COM Centres impacted with implementation of AMHS SITA Gateway on the AFS Network a document is prepared by AMC and ICAO EUR Region AFSG-Operations Group to provide guidance and AMC support to the COM centres to enable integration of SITA AMHS Gateway.   This document is attached as at **Appendix A**.

2.14   SITA in keen to work closely with the AMHS gateway COM Centres and AMC to coordinate the continuation of migration to AMHS, initially with the flows related to the AMHS Gateway COM Centres, and progressively for the other underlying COM Centres through the AMHS gateway COM Center. This practice follows the agreed architecture and Regional interconnection topologies.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

   a) note the contents of this Working Paper and provide comments; and

   b) provide recommendation and provide guidance for related COM Centers preparations to enable transition to AMHS within MID Region.

APPENDIX A

ICAO AFSG-OG 20-3 WP03 - SITA AMHS Transition Planning and Coordination into AFS Operations

SITA   Gateway   TransitionPlanning

Introduction

This guide provides planning, transition information and advice to COM Centres impacted with implementation of AMHS SITA Gateway on the AFS Network. It provides AMC support to the COM centres to enable smooth integration of SITA Gateway. To allow the AMC Operator to successfully coordinate the activity, important steps and information are required to be followed.

In the ICAO Memorandum sent to all ICAO Regional CNS Officers, it states that the 'ATS

Messaging Management Centre (AMC) will coordinate the activity' and that 'each COM Centre shall take actions.'   Whilst the AMC Operator cannot mandate the steps in this guide, it requests the cooperation of COM Centres to follow the steps allowing a smooth transition of new SITA AMHS Gateways into Global operations.   The risks of not coordinating the transition activity include message looping, message loss and NDRs throughout the global AMHS network.

ICAO Memorandum 11th January 2016

Reference: EUR/NAT 16-0013.TEC (FIC/SAN) - 11 January 2016

'The work with respect to the introduction of the SITA PRMD and related routings will be coordinated out by the ATS Messaging Management Centre (AMC)2 (Ref.: State Letter AN 7/49.1-09/34, 14 April 2009 refers), however to ensure that such a Global activity has the correct level of engagement, Regional coordination is required. Please note that each State/COM Centre is affected and shall take actions, regardless of whether the COM Centre currently supports an AFTN to SITA connection. Every COM Centre will be required to route SITA AMHS messages to their Regional SITA AMHS gateway and validate the User Addresses in the AMC for their State.'

Planning

With respect to the ICAO Memorandum, this guide should be followed by COM Centres impacted with implementation of SITA Gateway.   Importantly, a point of contact for the activity should be appointed. This will be a representative from a COM Centre, ideally the Regional Focal Point.

The appointed contact will be known as the **Transition Manager** who will inform, coordinate with the Regional COM Centres and coordinate with the AMC responsible for the overall integration activity.
Prior to the activity, Transition Manager having coordinated with SITA will contact the AMC Operator to notify the intention of integrating a new SITA Gateway COM Centre by providing the following information:

- o   Contact Details for who is managing the transition of the SITA Gateway into operations (Transition Manager).

- o   The planned AIRAC date the transition will occur. o   Confirmation that testing has been completed at the Gateway with SITA.

- o   The status (if required) of the SITA Gateway for the Region once in operation: Primary/Alternate.

Accordingly the AMC will inform ICAO Regional CNS Officer, all Regional Focal Points and impacted Regional COM Centres regarding the planned activity and the Transition Manager who will be coordinating the activity. Following the acknowledgement by the AMC Operator, the following planning activity will be carried out by the Transition Manager.

Confirm that the COM Centres are ready for the activity

The Transition Manager will coordinate with each COM Centre in the Region for the acknowledgement of the following information:

- o   Confirm COM Centre access to the AMC Application. If not please register with the AMC https://extra.eurocontrol.int.

- o   Confirm that all contact details in the Network Inventory are complete and up to date.

- o   Confirm COM Centre validation of the AMHS User Address list.

- o   Confirm the coordinated Routing of the PRMD = SITA to the new SITA Gateway*.

This may require coordination with adjacent COM Centres if the SITA Gateway is more than one hop in the network.

Once the above information has been provided by each COM Centre, the following 'Planning

Acknowledgement Table' must be completed by the Transition Manager and submitted to the AMC Operator to confirm Regional Acknowledgement. **Additionally, the routing arrangements of the COM Centres must be provided to allow the AMC Operator to create the Routing tables.**
For the transition to be coordinated effectively, the AMC must have all of the required information at least one AIRAC Cycle before the transition date.

Planning Acknowledgement Table

COM Centre	Contact	Tel.	E-mail	ACK Date
e.g. WSSS	Mr. Smith	+1123456789	mr.smith@comcentre.org	9/12/16

By analysing the planning ACK table and provided routing arrangements the AMC will inform the Transitional

Manager, Regional CNS Officer, Regional Focal Points and all impacted COM Centres to confirm the activity.

Transition

Carry out an AMC cycle to integrate SITA Gateway

Transition will occur on the agreed AIRAC date for the Region.   During the AIRAC cycle leading to the transition date, the following tasks will be completed:

o   The agreed transition date will be published on the AMC Bulletin Board by the AMC Operator.

o   The AMC Operator will create the Routing tables in the AMC Application to correctly reflect the routing of the PRMD SITA for each COM Centre.

o   Each COM Centre will check the AMC data including routing and user address list.

o   The following Transition Acknowledgement Table must be completed and sent to the AMC Operator by the Transition Manager **by Day 21** (ACK/NACK) of the AIRAC cycle.

Transition Acknowledgement Table

COM Centre	Contact	AFTN	E-mail	Check routing	Check address list	ACK Date
e.g. WSSS	Mr. Smith	WSSSABCD	mr.smith@comc entre.org			9/12/16

o   By analysing received Transition Acknowledgement Table, the AMC Operator will confirm that the activity will continue as planned if all COM Centres acknowledge the process. On Day 25 of the AIRAC, the AMC Bulletin Board will be updated to confirm that the activity is taking place. The Transition Manager will inform each COM Centre in the Region by e-mail and AFTN/AMHS message.

o   On Day 28 after 11:00 UTC, the AMC Operator will confirm that each COM Centre has implemented the AMHS User Address list and routing the SITA PRMD to the SITA Gateway.   This confirmation will also be sent to the Regional COM Centres, the ICAO Regional CNS Officer, Regional Focal Point by the AMC.

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