



International Civil Aviation Organization

**Middle East Air Navigation Planning and
Implementation Regional Group**

**Sixteenth Meeting (MIDANPIRG/16)
(Kuwait, 13 – 16 February 2017)**

Agenda Item 5.2.2: Specific Air Navigation issues

AFS PLANNING AND IMPLEMENTATION

(Presented by the Secretariat)

SUMMARY

This paper presents the outcome of the CNS SG/7 meeting related to Aeronautical Fixed Services planning and implementation.

Action by the meeting is at paragraph 3.

REFERENCES

- CNS SG/7 Report
- MET SG/5 Report
- MIDANPIRG/15 Report
- MSG/5 Report

1. INTRODUCTION

1.1 The Seventh meeting of the MIDANPIRG Communication, Navigation and Surveillance Sub-Group (CNS SG/7) was held at the ICAO MID Regional Office, Cairo, Egypt, 31 May - 02 June 2016.

2. DISCUSSION

Removal of CIDIN

2.1 The meeting may wish to note that five (5) MID States had CIDIN links (Bahrain, Egypt, Lebanon, Saudi Arabia and UAE), and all these States already have AMHS system in place. All CIDIN connections have been removed within the MID Region and there is only one connection remaining. The other CIDIN connections are the inter-regional ones depending on Athens and Cyprus when they implement the AMHS and become ready to remove the outdated CIDIN connections. **Appendix A** is the latest COM chart.

AMHS Communication Paths for ROC

2.2 The CNS SG/7 meeting reviewed and updated the plan to implement AMHS communication paths between Jeddah-Vienna and Bahrain-Vienna to enable the exchange of OPMET data in digital format between the MID and EUR Regions as at **Appendix B**. Furthermore, Athens and Nicosia, which are the entry/exit points between the MID and EUR Regions, made progress in the procurement of the AMHS.

AMHS Gateway for the MID with SITA

2.3 The CNS SG/7 meeting noted that SITA is currently engaged with Jordan to prepare for IP Network Connectivity and AMHS Interoperability Testing, which is progressing well. Similar effort is initiated for AMHS interconnection with Qatar, according to SITA-AMHS gateway interconnection topology. Furthermore, Lebanon has an AFTN connection with SITA and established IP in order to migrate to SITA type X connection and planned to be additional gateway connection for the Region. The IP infrastructure and the interoperability test are done for Lebanon.

2.4 The meeting may wish to note that SITA registered new ATS Address, using XF scheme and PRMD value "SITA". For successful implementation, every Com Centre was required to validate the AMHS User Addresses and thirteen (13) MID States validated their addresses (Bahrain, Egypt, Iraq, Iran, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Sudan and UAE).

2.5 Furthermore, some airlines use same identical address for SITA and AFS networks, which no longer can be used with the introduction of SITA type X gateway. The gateway has a mechanism called "White list" which allows traffic from registered users in the User Address Table to pass the gateway from SITA to AFS network and block others. Therefore, some airlines had difficulties managing this issue. MIDAMC and concerned States are managing the change of the addresses with SITA.

File Transfer Body Part (FTBP) Trial

2.6 The meeting may wish to recall that the World Metrological Organization (WMO) initially decided to migrate from alphanumeric codes to BUFR for the representation of Meteorological data; therefore, ATS Extended Service was introduced to meet the metrological requirement. At a later stage, the WMO decided to use XML.

2.7 Most of the AHMS systems in the MID Region can run the extended services and especially File Transfer Body Part (FTBP), and these services can provide significant operational improvements. Accordingly, the MIDANPIRG/15 meeting agreed that trials be conducted for the use of extended services.

2.8 Based on the above, trials were conducted between Jordan and Egypt. The MSG/5 meeting noted the MIDAMC STG/3 meeting initiatives to develop the testing document for the File Transfer Body Part (FTBP) and urged States to participate in the trials. The CNS SG/7 meeting further reviewed and updated the document as at **Appendix C**. The meeting is invited to endorse the following Draft Conclusion:

Why	Support States to perform FTPB tests
What	To endorse the FTBP Testing Document and post on website
Who	MIDANPIRG/16
When	Feb 2017

DRAFT CONCLUSION 16/X: FTBP TESTING DOCUMENT

That, the First Edition of File Transfer Body Part (FTBP) Testing Document at Appendix C is endorsed.

Terms of References of MIDAMC STG

2.9 The CNS SG/7 meeting noted that the MAEP Board/2 and MSG/5 tasked the MIDAMC STG to follow-up the IP Network Project and to act as the MID CRV-OG (Common aeRonautical VPN – Operational Group). Accordingly, the meeting reviewed and updated the TOR for the MIDAMC STG as at **Appendix D** and agreed to the following Draft Decision:

Why	Add the additional tasks to the MIDAMC STG
What	Terms Of Reference Of The MIDAMC STG
Who	MIDANPIRG/16
When	Feb 2017

DRAFT DECISION 16/X: TERMS OF REFERENCE OF THE MIDAMC STG

*That, the Terms of Reference and Work Programme of the MIDAMC STG be updated as at **Appendix D**.*

AFS Contingency measures for the MID Region

2.10 The CNS SG/7 meeting discussed the AFS Contingency Plan for the MID Region and developed requirement that could be implemented for the MID AFS contingency, among them were the email/AFTN Gateways that are available in Bahrain and Lebanon. Both States expressed their readiness to provide services for other MID States during contingency cases. Furthermore, Bahrain reconfirmed their offer for the use of the Gateway for all MID States and requested for the conduct of the trials.

2.11 The meeting may wish to note that Jordan and Lebanon conducted email/AFTN Gateway trials that were successful and the email Gateway proved to be an efficient alternative mean in contingency cases with degraded level of service; when the AFS network is totally out.

2.12 The CNS SG/7 meeting reviewed MID AFS contingency arrangements documents and, through Draft Conclusion 7/3, requested Bahrain and Lebanon to provide official letter to the ICAO MID Regional Office for their offer expressing their readiness to provide email/AFTN Gateways services for all MID States during contingency cases.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) agree on the proposed Draft Conclusions and Decision; and
- b) urge States:
 - i. that have SITA gateway connection to complete the necessary actions in order to make the gateways operational;
 - ii. to join the trials for the FTBP testing; and
 - iii. to conduct the AFS contingency tests.

APPENDIX B

AMHS Plan for ROC in Jeddah and Bahrain					
	Task	Timeframe	Assigned to	Champion	Status
<i>AMHS Intra-regional Trunk Connections</i>					
1	Establish Jeddah – Beirut IP Network.	Jul 2015	Saudi Lebanon	IM MS	Completed
2	Establish Bahrain – Beirut IP Network.	Feb 2016	Bahrain Lebanon	YH MS	Completed
3	Establish Cairo – Beirut IP Network.	July 2016	Egypt Lebanon	AF//MR MS	COMPLETED
4	Establish Bahrain – Jeddah IP Network.	Mar 2016	Bahrain Saudi	IM YH	
5	Perform the Interoperability test between Jeddah and Beirut COM Centers.	July 2015	Saudi Lebanon	IB MS	Completed
6	Perform the Interoperability test between Bahrain and Beirut COM Centers.	July 2016	Bahrain Lebanon	MS YH	COMPLETED
7	Perform the Interoperability test between Cairo and Beirut COM Centers	July 2016	Egypt Lebanon	AF/TZ/MR MS/EK	Depends on IP network availability ONGOING
8	Perform the Interoperability test between Bahrain and Jeddah COM Centers.	July 2016	Bahrain Saudi	YH IM	
9	Perform the Pre-operational test between Jeddah and Beirut COM Centers.	July 2015	Saudi Lebanon	IM MS	Completed
10	Perform the Pre-operational test between Bahrain and Beirut COM Centers.	July 2016	Bahrain Lebanon	YH MS	COMPLETED
11	Perform the Pre-operational test between Cairo and Beirut COM Centers.	July 2016 March 2017	Egypt Lebanon	AF/ /MR MS/EK	planned
12	Perform the Pre-operational test between Bahrain and Saudi COM Centers.	July 2016	Bahrain Saudi	YH IM	
13	Place the AMHS link into operation between Jeddah and Beirut COM centers, and updating the Routing tables.	July 2015	Saudi Lebanon MID AMC	IM MS/EK MN	Completed July, 2015
14	Place the AMHS link into operation between Bahrain and Beirut COM centers, and updating the Routing tables.	July 2016	Bahrain Lebanon MID AMC	YH MS/EK MN	COMPLETED On 3/5/2016
15	Place the AMHS link into operation between Cairo and Beirut COM centers, and updating the Routing tables.	Aug 2016 April 2017	Egypt Lebanon MID AMC	AF/TZ/MR MS/EK MN	planned
16	Evaluate the Trunks connections bandwidth and increase it if required between (Bahrain, Beirut, Cairo and Jeddah	July 2016	Bahrain Beirut Cairo Jeddah	YH MS/EK AF/TZ IM	Depends on testing of digital data exchanged Beirut and Cairo

	Jeddah).				increased the bandwidth to 128 kbps
<i>The AMHS Interconnection with EUR Region Depends on Nicosia and Athens</i>					
17	Establish Cairo – Tunis IP Network.	<i>March 2016 July 2016</i>		AF/TZ/MR IB/MA	Both Egypt and Tunisia Ready Coordination in process to implement COMPLETED
18	Establish Nicosia – Beirut IP Network.	<i>Awaiting reply from EUR</i>		MS/EK	Lebanon ready Ongoing
19	Establish Nicosia – Jeddah IP Network.	Dec 2016		IM	Saudi Arabia ready
20	Establish Bahrain – Nicosia IP Network.	Dec 2016		YH	
21	Establish Cairo – Athens IP Network.	Dec 2016		AF/TZ/MR	Egypt Ready Link is ready as same CIDIN link will be used
22	Perform the Interoperability test between Cairo and Tunis COM Centers.	<i>April 2016 August 2016</i>		AF/ /MR IB/MA	Both Egypt and Tunisia Ready Coordination in process to implement COMPLETED
23	Perform the pre operational test between Cairo and Tunis COM Centers.	<i>Q3 2016</i>		AF/ /MR IB/MA	Both Egypt and Tunisia Ready Coordination in process to implement COMPLETED
24	Place the AMHS link into operation between Cairo and Tunis COM Centers, and updating the Routing tables.	<i>Aug 2016</i>		AF/ /MR IB/MA	Both Egypt and Tunisia Ready Coordination in process to implement COMPLETED THYE LINK IN OPERATION SINCE
25	Perform the Interoperability test between Athens and Cairo COM Centers.	Mar 2017		AF/TZ/MR IB/MA	Athens advised that their system will be installed by Dec. 2016
26	Perform the Interoperability test between Bahrain and Nicosia COM Centers.	Q1 2017		YH	
27	Perform the Interoperability test between Nicosia and Jeddah COM Centers.	Q1 2017		IM	

28	Perform the Interoperability test between Nicosia and Beirut COM Centers.	Q1 2017		MS/EK	Nicosia in tender process
29	Perform the Pre-operational test between Athens and Cairo COM Centers.	Mar 2017		AF/TZ/MR	Athens advised that their system will be installed by Dec 2016
30	Perform the Pre-operational test between Bahrain and Nicosia COM Centers.	Q1 2017		YH	
31	Perform the Pre-operational test between Nicosia and Beirut COM Centers.	Q1 2017		MS/EK	
32	Perform the Pre-operational test between Nicosia and Jeddah COM Centers.	Q1 2017		IM	
33	Place the AMHS link into operation between Athens and Cairo COM Centers, and updating the Routing tables.	Q1 2017		MIDAMC AF/ /MR	same
34	Place the AMHS link into operation between Bahrain and Nicosia COM Centers, and updating the Routing tables.	Q1 2017		MID AMC YH	
35	Place the AMHS link into operation between Nicosia and Jeddah COM Centers, and updating the Routing tables.	Q1 2017		MID AMC IM	
36	Place the AMHS link into operation between Nicosia and Beirut COM Centers, and updating the Routing tables.	Q1 2017		MS/EK	
37	Evaluate the inter-region connections bandwidth and increase it if required.	Q1 2017		MID AMC	
38	Transition of all regional AFTN/CIDIN Connections to AMHS.	Q2 2017	All MID States		Beirut and Cairo removed all Regional CIDIN connections

Champions:

Bahrain: (YH: Yaseen Hasan)

Egypt: (AF:Ahmed Farghally/TZ:Tarek Zaki/MR: Mohamed Ramzi/Essam Helmi: EH)

Lebanon: (MS: Mohamad Saad / EK: Elias El-Khoury)

Saudi Arabia: (IM: Mr. Ibraheem Mohamed Basheikh)

Tunis: (IB: Issam Bouzid / MA: Mr. Mohamed Ali)

MID AMC/Jordan: (MN: Muna Ribhi Alnadaf)



**ATS Extended Services Trial
File Transfer Body Part (FTBP) Testing Document**

Author: MIDAMC STG
Date: 5/1/2017
Version: 0.1 (First Version)

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References

- [1] ICAO Annex 10 – Aeronautical Telecommunication; Vol.II, Communication Procedure
- [2] ICAO doc 9880- Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols, Part II – Ground-Ground Applications - Air Traffic Services Message Handling Services (ATSMHS), First Edition – 2010
- [3] EUR Doc 020 – AMHS Manual

Acronyms

<i>ADMD</i>	<i>Administrative Management Domain</i>
<i>AFTN</i>	<i>Aeronautical Fixed Telecommunication Network</i>
<i>AMHS</i>	<i>ATS Message Handling Services</i>
<i>ASST</i>	<i>ATS Extended Services Trial Team</i>
<i>ATS</i>	<i>Air Traffic Services</i>
<i>DIR</i>	<i>Directory Service</i>
<i>DL</i>	<i>Distribution List</i>
<i>DR</i>	<i>Delivery Report</i>
<i>FTBP</i>	<i>File Transfer Body Part</i>
<i>IHE</i>	<i>IPM Heading extensions</i>
<i>IP</i>	<i>Internet Protocol</i>
<i>IPM</i>	<i>Interpersonal Message</i>
<i>IPN</i>	<i>Interpersonal Notification</i>
<i>MIDAMC</i>	<i>ATS Messages Management Center in the MID Region</i>
<i>MTA</i>	<i>Message Transfer Agent</i>
<i>MTCU</i>	<i>Message Transfer & Control Unit</i>
<i>NDR</i>	<i>Non Delivery Report</i>
<i>NRN</i>	<i>Non Receipt Notification</i>
<i>OR-address</i>	<i>Originator- recipient address</i>
<i>PRMD</i>	<i>Private Management Domain</i>
<i>RN</i>	<i>Receipt Notification</i>
<i>SEC</i>	<i>Security (X.500)</i>
<i>UA</i>	<i>User Agent</i>

1. Introduction

The Message Handling service provided in the ATN is called the ATS Message Handling Service (ATSMHS). This service is specified using X.400 standards. There are two levels of ATSMHS service: Basic ATS Message Service and Extended ATS Message Service.

The Basic ATS Message Service provides a nominal capability equivalent from a user perspective to those provided by AFTN. And Extended ATS Message Service provides enhanced features such as supporting transfer of more complex message structures (body parts), use of the directory service, and support for security. The Extended Service is a technical and functional superset of the Basic ATS service.

The MID Region has decided to implement the Basic ATS service as a first step. SARPS has defined various AMHS subset, the AMHS capabilities in MID states are elaborated in table (1).

The World Metrological Organization (WMO) initially decided to migrate from alphanumeric codes to BUFR for the representation of Metrological data, therefore, ATS Extended services was introduced to meet the Metrological requirement. However, most of ATS systems in the MID can run extended services and specially File Transfer body Part (FTBP). The MIDAMC STG has defined possible use of the FTBP in the MID such as:

a) Exchanging messages related to Flight Permission messages

When Airliner need to get overflying/landing permissions to/over an Aerodrome, they/ or the agent send a flight permission Request to the designated Authority, few messages exchanged to complete this process and it may include the need to send some document. In Current AFS Network, the Flight permission request and related messages are exchanged via AFTN/CIDIN, and other documents should be sent via FAX or email. Introduction of a User Agent at the originator side can make use of the FTBP service to exchange messages with attachment and any further enhancement.

b) Distribution of the Aeronautical Information Publications (AIP) amendments and supplements

The Aeronautical Information Services office distributes the updated AIP document via email, CD, or internet. Introduction of a

User Agent with FTBP can make it possible to deliver updated data to a group of users at once.

State	Basic ATS Message Service	Enhancement with the Extended ATS Message Services			
		FTBP	IHE	DIR	SEC
Bahrain	✓				
Egypt	✓	✓			
Iran	✓	✓			
Iraq	✓				
Jordan	✓	✓		✓	
Kuwait	✓				
Lebanon	✓	✓			
Libya					
Oman	✓				
Saudi Arabia	✓	✓			
Sudan	✓	✓			
Syria					
Qatar	✓				
UAE	✓				
Yemen					

Table (1) AMHS Implementation Profile in the MID

2. Scope of Document

The purpose of this document is to define the functional tests for ATS Extended Service handling specially File Transfer body part (FTBP) in order to ensure the end- to-end capability of AMHS systems and network to exchange this type of messages. These tests are performed after the successful operation of AMHS basic services, through which the compliance of all systems to the AMHS technical specifications has been demonstrated and proved.

3. Test Environment

Both test systems should have operational AMHS link, and P1 connection setup. Two User Agents should be used to exchange traffic with File Transfer Body Part capability. The testing environment is as shown in the figure (1)

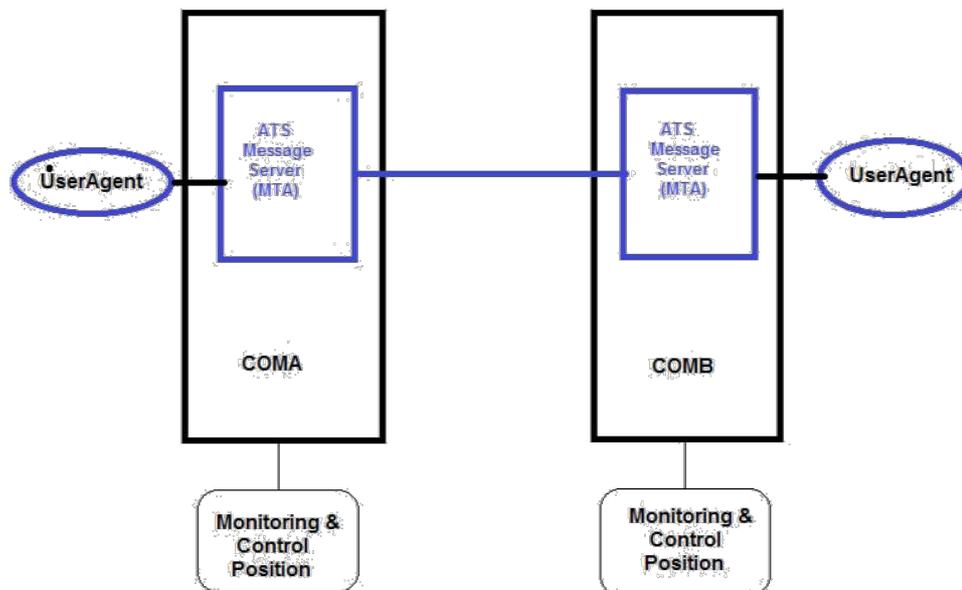


Figure (1) Testing Infrastructure

The test can be performed in AMHS Network and unnecessary to have direct AMHS link between the two COM centers, the traffic can be exchanged via intermediary(ies) COM center(s), which should be involved in the test activities.

The User Agent address at COM A could be "COMAASTT", and at COM B "COMBASTT". The User Agent can be either P3 or P7 User Agent.

Network Analysis software can be used to monitor X.400 traffic and its effect on network Bandwidth. The software can be agreed on prior the test.

The exchange of binary files will have significant impact on the switches' storage, which should be monitored during the test. Several commands can display the memory status such as *top*, *free*, */proc/meminfo*, *vmstat*, ...,etc, however, the memory monitoring tools varies depends on the operating system types and versions.

4. Test Procedure

Before the tests, the test partners should coordinate and document the type of body part used in IPMs submitted by their User Agents when submitting text messages, either as:

- IPMs containing a basic ia5-text body part, or
- IPMs containing an extended ia5-text body part, or
- IPMs containing a general-text body part with ISO646 repertoire.

The Delivery report (DR) is an enhancement feature of the AMHS, the default operation is to send non delivery report (NDR) when the delivery fails, to inform the originator. However, in this trial, the delivery report should always be requested with each message.

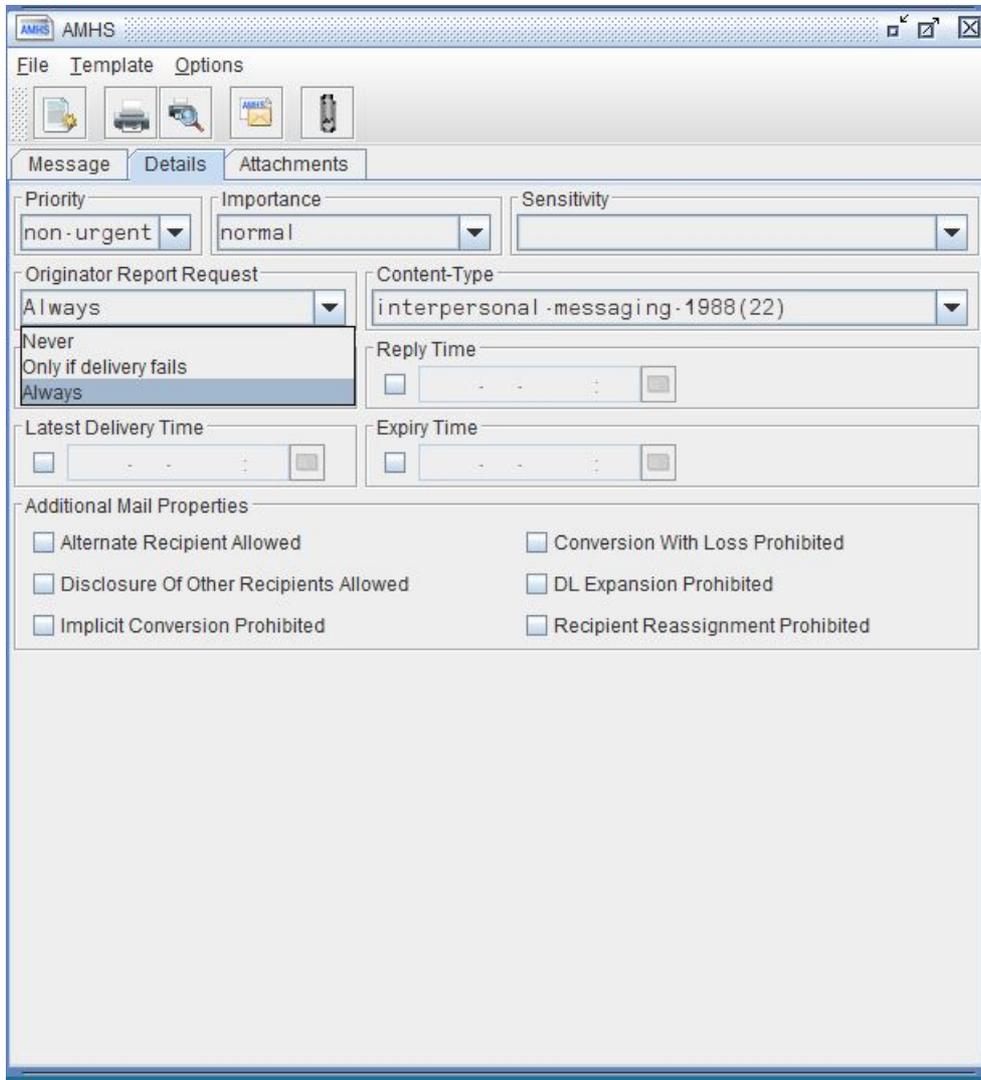


Figure (2) the option to request Report

4.1 Submission, Transfer and Delivery of a message including Binary file from UserAgent to UserAgent.

Test01	Submission of Binary file	
Test Criteria	The Test is successful if COMB receive the message with binary file attached with text message from COMA	
Test Scenario	<p>From COMA send two ATS Messages (IPMs) to COMB (COMBASST)</p> <ul style="list-style-type: none"> • Message 1 (Test11) shall have ATS priority non-urgent and binary file attached • Message 2 (Test12) shall have ATS priority normal and binary file attached <p>Verify the messages received by the remote UA. In particular, verify:</p> <ul style="list-style-type: none"> •ATS-message-priority, •ATS-message-filing-time, •ATS-message-text. •The Binary file •The message size <p>Verify that COMA receives a Delivery report.</p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Test02	Submission of Binary file	
Test Criteria	The Test is successful if COMA receive the message with binary file attached with text message from COMB	
Test Scenario	<p>From COMB send two ATS Messages (IPMs) to COMA (COMAASST)</p> <ul style="list-style-type: none"> • Message 1 (Test21) shall have ATS priority non-urgent and binary file attached • Message 2 (Test22) shall have ATS priority normal and binary file attached <p>Verify the messages received by the remote UA. In particular, verify:</p> <ul style="list-style-type: none"> •ATS-message-priority, •ATS-message-filing-time, •ATS-message-text. •The Binary file •The message size <p>Verify that COMB receives a Delivery report.</p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Example of DR

Reported Recipients:

OJTMHSA	
Delivered:	2017-01-25 09:47:17
User type:	Private User Agent
Conv. encoding:	
Intended Recipient:	
Suppl. Information:	

Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
Arrival Time:	2017-01-25 09:47:17
Routing Action:	relayed

Internal Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
MTA Name:	MTA-OJAM-1
Arrival Time:	2017-01-25 09:47:17
Routing Action:	relayed

Figure (3) DR

Test031	Submission of Binary file	
Test Criteria	The Test is successful if COMA receive the SS ACK after sending urgent message with binary file attached from COMB	
Test Scenario	<p>From COMA send Urgent ATS Messages (IPMs) to COMB (COMBASST)</p> <ul style="list-style-type: none"> • Message 1 (Test31) shall have ATS priority urgent and binary file attached <p>Verify the messages received by the remote UA.</p> <p>In particular, verify:</p> <ul style="list-style-type: none"> •ATS-message-priority, •ATS-message-filing-time, •ATS-message-text. •The Binary file •The message size <p>COMA may receive SS ACK or RN depends on system configuration.</p> <p>Option 1 : SS Ack Option 2: RN</p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed
	Option :	

Test032	Submission of Binary file	
Test Criteria	The Test is successful if COMB receive the SS ACK after sending urgent message with binary file attached from COMA	
Test Scenario	<p>From COMB send Urgent ATS Messages (IPMs) to COMA (COMAASST)</p> <ul style="list-style-type: none"> • Message 1 (Test32) shall have ATS priority urgent and binary file attached <p>Verify the messages received by the remote UA.</p> <p>In particular, verify:</p> <ul style="list-style-type: none"> •ATS-message-priority, •ATS-message-filing-time, •ATS-message-text. •The Binary file •The message size <p>COMB may receive SS ACK or RN depends on system configuration.</p> <p>Option 1 : SS Ack Option 2: RN</p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed
	Option :	

4.2 Submission, Transfer and Delivery of a message including Binary file from UserAgent to AFTN User

Test041	Submission of Binary file to AFTN User	
Test Criteria	The Test is successful if COMA receive Non Delivery report from the MTCU of the switch at COMB	
Test Scenario	<p>From COMA send ATS Messages (IPM) to AFTN User at COMB (COMBZTX)</p> <ul style="list-style-type: none"> • Message 1 (Test41) shall have ATS priority normal and binary file attached <p>Verify that the message is not received at the remote AFTN user</p> <p>Verify that COMA receive non-delivery report</p> <p>In particular, verify:</p> <ul style="list-style-type: none"> • Non-Delivery reason is <i>unable-to-transfer</i> • Diagnostics is <i>encoded-information-types-unsupported</i> • the NDR originated by the MTCU <p>For ex: MTA name: <i>HECA-MTA-MTCU</i></p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Test042	Submission of Binary file to AFTN User	
Test Criteria	The Test is successful if COMB receive Non Delivery report from the MTCU of the switch at COMA	
Test Scenario	<p>From COMB send ATS Messages (IPM) to AFTN User at COMA (COMAZTZX)</p> <ul style="list-style-type: none"> • Message 1 (Test42) shall have ATS priority normal and binary file attached <p>Verify that the message is not received at the remote AFTN user</p> <p>Verify that COMB receive non-delivery report</p> <p>In particular, verify:</p> <ul style="list-style-type: none"> • Non-Delivery reason is <i>unable-to-transfer</i> • Diagnostics is <i>encoded-information-types-unsupported</i> • the NDR originated by the MTCU <p>For ex: MTA name: <i>HECA-MTA-MTCU</i></p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Example of NDR

HECAYFYX	
Non-delivery Reason:	unable-to-transfer
Diagnostic:	encoded-information-types-unsupported
Conv. encoding:	
Intended Recipient:	
Suppl. Information:	

Trace Information	
Global Domain ID:	/PRMD=he/ADMD=icao/C=xx/
Arrival Time:	2017-01-25 09:36:02
Routing Action:	relayed

Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
Arrival Time:	2017-01-25 09:36:04
Routing Action:	relayed

Internal Trace Information	
Global Domain ID:	/PRMD=he/ADMD=icao/C=xx/
MTA Name:	HECA-MTA-MTCU
Arrival Time:	2017-01-25 09:36:02
Routing Action:	relayed

Figure (4) NDR from MTCU

4.3 Submission, Transfer and Delivery of a message including Binary file from UserAgent to Distribution list

Test051	Submission of Binary file to AFTN User and UA	
Test Criteria	The Test is successful if COMA receive Non Delivery report from the MTCU of the switch at COMB, and DR from the UA	
Test Scenario	<p>From COMA configure DL (COMADLAB) with two addresses, one for UA and one for AFTN user of the COMB: COMBFTNA, COMBMHSA.</p> <p>From COMA send ATS Messages (IPM) to the address (COMADLAB)</p> <ul style="list-style-type: none"> • Message 1 (Test51) shall have ATS priority normal and binary file attached <p>Verify that the message is not received at the remote AFTN user, and received at the useragent</p> <p>Verify that COMA receive two reports; non-delivery report from the MTCU and DR from the UA</p> <p>In particular, verify the following for the NDR:</p> <ul style="list-style-type: none"> •Non-Delivery reason is <i>unable-to-transfer</i> •Diagnostics is <i>context-syntax-error</i> •the NDR originated by the MTCU <p>For ex: MTA name: <i>HECA-MTA-MTCU</i></p> <p>And verify that the DR from the UA and the supplementary information is <i>list expanded</i></p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Example of DR after DL expanded

OJAMDLRE	
Delivered:	2017-01-25 09:56:59
User type:	Distribution List
Conv. encoding:	
Intended Recipient:	
Suppl. Information:	list expanded

Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
Arrival Time:	2017-01-25 09:56:59
Routing Action:	relayed

Internal Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
MTA Name:	MTA-OJAM-1
Arrival Time:	2017-01-25 09:56:59
Routing Action:	relayed

Figure (5) DR from UA after DL expanded

Test052	Submission of Binary file to AFTN User and UA	
Test Criteria	The Test is successful if COMB receive Non Delivery report from the MTCU of the switch at COMA, and DR from the UA	
Test Scenario	<p>From COMB configure DL (COMBDLAB) with two addresses, one for UA and one for AFTN user of the COMA: COMAFTNA, COMAMHSA.</p> <p>From COMB send ATS Messages (IPM) to the address (COMBDLAB)</p> <ul style="list-style-type: none"> • Message 1 (Test51) shall have ATS priority normal and binary file attached <p>Verify that the message is not received at the remote AFTN user, and received at the useragent</p> <p>Verify that COMB receive two reports; non-delivery report from the MTCU and DR from the UA</p> <p>In particular, verify the following for the NDR:</p> <ul style="list-style-type: none"> •Non-Delivery reason is <i>unable-to-transfer</i> •Diagnostics is <i>context-syntax-error</i> •the NDR originated by the MTCU <p>For ex: MTA name: <i>HECA-MTA-MTCU</i></p> <p>And verify that the DR from the UA and the supplementary information is <i>list expanded</i></p>	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Test61	Submission of Binary file to AFTN User and UA while DL expansion is prohibited	
Test Criteria	The Test is successful if COMA receive Non Delivery report	
Test Scenario	<p>From COMA configure DL (COMADLAB) with two addresses, one for UA and one for AFTN user of the COMB: COMBFTNA, COMBMHSA.</p> <p>From COMA send ATS Messages (IPM) to the address (COMADLAB) and select option of "DL expansion Prohibited"</p> <ul style="list-style-type: none"> • Message 1 (Test61) shall have ATS priority normal and binary file attached <p>Verify that the message is not received at the remote AFTN user and the useragent</p> <p>Verify that COMA receive a non-delivery report from the COMB</p> <p>In particular, verify the following for the NDR:</p> <ul style="list-style-type: none"> •Non-Delivery reason is <i>unable-to-transfer</i> •Diagnostics is <i>dl-expansion-prohibited</i> 	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Test62	Submission of Binary file to AFTN User and UA while DL expansion is prohibited	
Test Criteria	The Test is successful if COMB receive Non Delivery report	
Test Scenario	<p>From COMB configure DL (COMBDLAB) with two addresses, one for UA and one for AFTN user of the COMA: COMAFTNA, COMAMHSA.</p> <p>From COMB send ATS Messages (IPM) to the address (COMBDLAB) and select option of "DL expansion Prohibited"</p> <ul style="list-style-type: none"> • Message 1 (Test62) shall have ATS priority normal and binary file attached <p>Verify that the message is not received at the remote AFTN user and the useragent</p> <p>Verify that COMB receive a non-delivery report from the COMA</p> <p>In particular, verify the following for the NDR:</p> <ul style="list-style-type: none"> •Non-Delivery reason is <i>unable-to-transfer</i> •Diagnostics is <i>dl-expansion-prohibited</i> 	
Result	<input type="checkbox"/> PASS	<input type="checkbox"/> Failed

Example of NDR with diagnostics DL expansion prohibited

OJAMDLRE	
Non-delivery Reason:	unable-to-transfer
Diagnostic:	dl-expansion-prohibited
Conv. encoding:	
Intended Recipient:	
Suppl. Information:	DL expansion prohibited for this message

Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
Arrival Time:	2017-01-25 09:53:36
Routing Action:	relayed

Internal Trace Information	
Global Domain ID:	/PRMD=OJ/ADMD=ICAO/C=XX/
MTA Name:	MTA-OJAM-1
Arrival Time:	2017-01-25 09:53:36
Routing Action:	relayed

Figure (6) NDR because DL expansion prohibited

4.4 Submission, Transfer and Delivery of a message including Binary file from UserAgent larger than the maximum size of remote COM center

The com center shall send message with binary file larger than the maximum capability of the remote COM center, the sender COM center shall receive NDR with *Reason: Unable-to-transfer, reject message larger than the maximum size.*

5. Test Summary

Use the Network Analysis software to analyze the traffic overhead occurred when sending binary files with the message. Also document the message size on system hard disks. Monitor any warning message or alarm during the tests.

Stress tests can be performed, by sending 20, 50 messages repeating test Test01 and Test02. Network and system response should be carefully monitored in order not affecting the life traffic.

6. ATS Extended Services Trial Team (ASTT)

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APPENDIX D

**MIDAMC Steering Group
(MIDAMC STG)**

1. TERMS OF REFERENCE (TOR)

1.1 The Terms of Reference of the MIDAMC Steering are:

- a) to promote the efficiency and safety of aeronautical fixed services in the MID Region through the operation and management, on a sound and efficient basis, of a permanent MID Regional ATS Messaging Management Center (MIDAMC);
- b) foster the implementation of the Air traffic service Message handling service in the MID Region through provision of the guidance materials and running facilitation tools, utilizing the MIDAMC;
- c) MIDAMC Steering Group will consist of a focal point from each Participating MID State who would represent the State and acts as the Steering Group Member;
- d) MIDAMC Steering Group will be responsible for overall supervision, direction, evaluation of the MIDAMC project and will review/update the MIDAMC work plan whenever required;
- e) The MID Region is considering the establishment of Regional MID IP Network; the MIDAMC STG will drive the project which is called Common aeRonautical VPN (CRV), until the Operation Group is established; and
- f) provide regular progress reports to the CNS SG, ANSIG and MIDANPIRG concerning its work programme.

1.2 In order to meet the Terms of Reference, the MIDAMC Steering Group shall:

- a) Develop/update the accreditation procedure for all users on the MIDAMC;
- b) develop and maintain guidance materials for MIDAMC users;
- c) discuss and identify solution for operational problems may be arising;
- d) provide support/guidance to States for AMHS Implementation, and monitor the AMHS activities;
- e) assist and encourage States to conduct trial on Implementation of the ATS extended services, and identify operational requirements;
- f) identify the need for any enhancement for the MIDAMC and prepare functional and technical specifications, and define its financial implications;

- g) follow-up on ICAO standards and recommendations on the ATS messaging management;
- h) define future liabilities and new participating States and ANSPs;
- i) follow-up and review the work of similar groups in other ICAO Regions;
- j) Follow of the Reginal MID IP Network project (CRV) and act as project manager; and
- k) proposes appropriate actions for the early implementation also support the IP Network until the Operational Group is establish.

2. COMPOSITION

- a) ICAO MID Regional Office;
- b) Members appointed by the MIDANPIRG member States; and
- c) other representatives, who could contribute to the activity of the Steering Group , could be invited to participate as observers, when required .