INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FOURTH MEETING OF MIDANPIRG MIDAMC STEERING GROUP

(MIDAMC STG/4)

(Cairo, Egypt 18 March 2019)

The views expressed in this Report should be taken as those of the MIDANPIRG MIDAMC Steering Group and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be published in due course as a Supplement to the Report.

Approved by the Meeting
and published by authority of the Secretary General

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PART I – HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Fourth meeting of the MID ATS Message Management Center Steering Group (MIDAMC STG/4) was held at the ICAO Middle East Regional Office in Cairo, Egypt, 18 March 2019.

2. OPENING

2.1 The meeting was opened by Ms. Muna ALNADAF, RO/CNS, ICAO Middle East Office, who welcomed the participants to Cairo. Mrs. ALNADAF highlighted that the meeting will address several AFS issues; like SITA Type X integration in the MID Region and the missing messages, to expedite the transition process and reach an agreement on the way forward. Also, she stated that the meeting will be receive an update about the CRV Project, status, acceptance tests, benefits and discuss the challenges related to the implementation in the MID Region.

2.2 Mr. ALNADAF indicated that the meeting will address also the Voice over IP implementation over CRV and the security issues.

2.3 In closing, Ms. ALNADAF thanked the participants for their presence and wished the meeting every success in its deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of thirty five (35) participants, from nine (9) States (Bahrain, Egypt, Iraq, Jordan, Libya, Oman, Saudi Arabia, United Arab Emirates and United States of America) and two (2) Organizations (IATA and SITA). The list of participants is at the **Attachment A**.

4. OFFICERS AND SECRETARIAT

1.2 The meeting was chaired Mr. Yaseen Hasan Al Sayed, A\Director Air Navigation Systems, Civil Aviation Affairs (CAA), Bahrain.

4.1 Mrs. Muna ALNADAF, RO/CNS was the Secretary of the meeting.

5. LANGUAGE

5.1 The discussions were conducted in English. Documentation was issued in English.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Adoption of the Provisional Agenda and Election of Chairperson

Agenda Item 2: Follow-up on MIDANPIRG/16 and MSG/6 Conclusions and Decisions relevant to MIDAMC STG

Agenda Item 3: AFS Issues

Agenda Item 4: Establishment of the MID IP Network

Agenda Item 5: Future Work Programme

Agenda Item 6: Any other business

7. CONCLUSIONS AND DECISIONS - DEFINITIONS

7.1 All MIDANPIRG Sub-Groups and Task Forces record their actions in the form of Conclusions and Decisions with the following significance:

a) **Conclusions** deal with the matters which, in accordance with the Group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and

b) **Decisions** deal with matters of concern only to the MIDANPIRG and its contributory bodies.

8. LIST OF DRAFT CONCLUSIONS AND DRAFT DECISIONS

DRAFT CONCLUSION 4/1: SITA INTEGRATION IN THE MID REGION

DRAFT CONCLUSION 4/2: PFA TO THE MID ANP VOLUME II-CNS

DRAFT CONCLUSION 4/3: AFTN/CIDIN/AMHS ROUTING TABLES

DRAFT DECISION 4/4: TERMS OF REFERENCE OF THE MIDAMC STG

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF CHAIRPERSON

1.1 The subject was addressed in WP/1 presented by the Secretariat. The meeting reviewed the Agenda and agreed to delete Agenda Item 5. The meeting adopted the Agenda as at paragraph 6.1 of the History of the Meeting.

1.2 The meeting unanimously elected Mr. Yaseen Hasan Al Sayed, A\Director Air Navigation Systems, Civil Aviation Affairs (CAA), Bahrain as the Chairperson of the MIDAMC STG.

REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG/16 AND MSG/6 CONCLUSIONS AND DECISIONS RELEVANT TO MIDAMC STG

2.1 The subject was addressed in WP/2 presented by the Secretariat. The meeting noted the status of the MIDANPIRG/16 and MSG/6 Conclusions and Decisions relevant to MIDAMC STG and the follow-up actions taken by concerned parties as at **Appendix 2A and 2B** respectively.

REPORT ON AGENDA ITEM 3: AFS ISSUES

SITA Integration in the MID Region

3.1 The subject was addressed in WP/3, WP/4, WP/5 and WP/6 presented by the Secretariat, Egypt, Saudi Arabia and SITA respectively, and PPT/1 presented by the Secretariat. The meeting noted that SITA Integration is a pre-requisite to any AMHS Inter-regional connection, in order to keep efficient and regular messages exchange. ICAO APAC, EUR/NAT and SAM Regions have completed the integration successfully; and the AFI Region is also progressing well.

3.2 The meeting recalled that the CNS SG/8 meeting developed SITA Type X Transition Action Plan. The transition date has been postponed several times and the transition could not be completed. The meeting underlined that lagging in SITA Integration may isolate the MID Region and keep operating the old obsolete AFTN protocol. Moreover, the meeting highlighted the operational and safety consequences of not having SITA Type X Integrated in the Region.

3.3 The meeting was apprised of the outcome of the special coordination meeting between Egypt, EUROCONTROL, ICAO MID and SITA held on 18 December 2018 to resolve the pending issues. The meeting noted that it was proposed to do the cutover on 28 February 2019 pending Egypt's confirmation; however, the transition could not be implemented.

3.4 The meeting noted the concern raised by the ICAO EUR/NAT AFSG meeting (held in Paris from 5 to 8 March 2019) regarding the lack of SITA AMHS Gateway into the MID Region, which may affect the exchange of ATS messages between the ICAO EUR and MID Regions, as well as inside the respective COM Centres of both Regions.

3.5 The meeting agreed that AMHS technical transition should not be impacted by bilateral specific issues to avoid any community impact. Accordingly, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 4/1: SITA INTEGRATION IN THE MID REGION

That, in order to finalize SITA Type X integration in the MID Region, and to ensure seamless and efficient messages exchange within the MID Region and with other ICAO Regions, States are urged to:

a) implement necessary measures to enable SITA integration in the MID Region as soon as possible;
b) inform ICAO MID Office by 28 March 2019 about State's readiness to integrate SITA Type X;
*c) be informed by ICAO MID Office about States that are not ready for SITA Type X Integration (if any) by **1 April 2019**;*
d) take necessary actions to avoid relaying messages through non-complied States;
*e) use new routing tables published by MIDAMC by **10 April 2019**; and*
*f) complete SITA Type X Integration by **25 April 2019**.*

3.6 The meeting supported Saudi Arabia's request to establish additional Regional Type X connection in the MID Region, in order to improve the reliability and the availability of AMHS/SITA interconnection. SITAstated that the proposal will be discussed internally within SITA and report back by 31 March 2019.

3.7 The meeting raised a concern about validating SITA Users addressee in the MID Region, and the challenges faced by States when dealing with Airlines addresses. It was agreed that SITA supports States to identify SITA Users addresses when requested.

IWXXM Implementation and ROC connectivity

3.8 The subject was addressed in WP/7 presented by the Secretariat. The meeting recalled that the thirteen ICAO Air Navigation Conference (AN-Conf/13), through Recommendation 2.3/2, urged States to provide ICAO with their ICAO Meteorological Information Exchange Model (IWXXM) implementation plans before 2020, and requested ICAO to ensure that the IWXXM format is the only standard exchange format by 2026.

3.9 The meeting reviewed and updated the AMHS plan of the MID ROC connectivity plan at **Appendix 3A**, to enable the exchange of OPMET data in the new format between the MID and EUR Regions.

3.10 The meeting noted that most of the AMHS systems in the MID Region are capable to run the extended services and in particular the File Transfer Body Part (FTBP).

3.11 The meeting recalled MSG/6 Conclusions to enable exchange IWXXM messages:

MSG CONCLUSION 6/29: IMPLEMENTATION OF FILE TRANSFER BODY PART (FTBP)

That, States are urged to:

a) implement FTBP capability at National COM Centres (AMHS is a prerequisite);
b) implement P3/P7 with FTBP capability at the National OPMET Centre (NOC); and
C) set the maximum overall AMHS Message size to 4 MB.

MSG CONCLUSION 6/30: THE COMMUNICATION NETWORK FOR IWXXM DATA EXCHANGE

That, the Main and Backup Regional OPMET Centres (Bahrain and Saudi Arabia) and the Main COM Centres in the MID Region be urged to join the CRV Project in order to enable the exchange of OPMET information in IWXXM format.

3.12 The meeting was apprised of the development of Appendix H of the EUR AMHS Manual; the FTBP implementation guidance and testing documents; that contains the AMHS Profile for OPMET IWXXM data exchange as well as guidance material for conducting conformance testing of the involved implementations. In the same vein, the meeting recalled that MIDANPIRG/16 endorsed the first Edition of the FTBP Testing Document.

3.13 The meeting agreed to monitor the FTBP capability through FICE Module Table in the ANP Vol III. The meeting agreed also to monitor the implementation of required communication infrastructure for the exchange of the XML-based messages (IWXXM, FIXM, AIXM,.,etc.) over AMHS **as at Appendix 3B.**

3.14 It was highlighted that the current communication systems used in States (AMHS) has the required capabilities to meet the performance requirements of exchanging XML-based messages in the MID Region. Furthermore, joining the CRV Network will reduce the complexity of the current mixed communication environment (AFTN/AMHS/CIDIN).

AMHS Capability in Iraq

3.15 The meeting was apprised of the status of AMHS implementation in Iraq, the system consists of MTA, P3/P7 User Agent, Message store, AFTN Gateway and email Gateway, and can supports AFTN over Telex, RS232, TCP/IP and X.25. with dual stack MTA (OSI and IPS protocols). Baghdad COM center is currently connected to Kuwait, Syria and Iran using AFTN, and planning to implement AMHS with Jordan, Kuwait, Turkey, Beirut, Tehran and Bahrain.

The Inter-Regional Connections and Missing Messages

3.16 The subject was addressed in WP/8 presented by the Secretariat. The meeting recalled MIDANPIRG/15 Conclusion 15/30 regarding migration to AMHS:

CONCLUSION 15/30: AFTN/CIDIN AFS CONNECTIVITY AND AMHS IMPLEMENTATION

That, States be urged to:

a) refrain from establishing new AFTN and CIDIN connections at the International level;
b) gradually phase out the current connections based on AFTN or CIDIN standards; and
c) expedite their AMHS implementation.

3.17 The meeting noted that all CIDIN connections have been removed within the MID Region and there is only one connection remaining between Bahrain and UAE. The meeting was apprised of the progress being done by Bahrain and UAE to migrate to AMHS. The other CIDIN links are the Inter-regional connections with Athens and Nicosia pending SITA integration in the MID Region.

3.18 IATA raised a concern about the current performance of the Inter-regional connections between EUR and MID, and underlined the need to improve the Inter-regional connections to accommodate the increasing traffic.

3.19 In this context, the meeting reviewed the AFTN plan in the MID Air Navigation Plan (MID ANP) VOL II, and noted that the entry/exit points with adjacent Regions are as follow:

1) Bahrain, Iran, and Oman are the entry/exit points with ASIA/PAC Region
2) Egypt and Saudi Arabia are the entry/exit points with AFI Region
3) Egypt, Kuwait and Lebanon are the entry/exit points with EUR Region

3.20 The meeting was apprised of Sudan's request to consider Khartoum COM Centre as a Main COM Centre and third gateway with the AFI Region, which could offer more channel for the Inter-regional communications.

3.21 The meeting agreed that the MID Air Navigation Plan (MID ANP) VOL II table CNS-II should be updated to reflect the Conclusion 15/30 and fulfil the current needs. Accordingly, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 4/2: PFA TO THE MID ANP VOLUME II-CNS

That, a Proposal for Amendment to the MID ANP Volume II – Table CNS II-1 related to the Aeronautical Fixed Telecommunication Network Plan as at ***Appendix 3C*** *be processed in accordance with the standard procedure.*

3.22 The meeting discussed the issues related to missing messages, and noted that the following actions have been taken by the ICAO MID Office:

a) requested the ICAO EUR/NAT Office to consider the establishment of new European Gateway (Rome) with the MID Region;
b) invited Egypt and Lebanon to establish AMHS Inter-regional connection with the current European gateways (Athens and Cyprus);
c) coordinated with ICAO ESAF Office to establish new Inter-regional AMHS connection between Cairo and South Africa;
d) invited Bahrain – UAE to migrate their bilateral CIDIN connection to AMHS;
e) requested all States in the MID Region to migrate to AMHS; and
f) initiated communication with adjacent ICAO Regions (APAC and AFI) to review the performance of the inter-regional connections.

3.23 The meeting underlined that States should notify the airspace users and ATS Units in case of communication failure and no Communication routes are available. It was agreed to form a team from IATA, ICAO MID and the MIDAMC to coordinate and investigate missing messages once reported. The meeting recommended to investigate from origination to the destination to identify the source and reasons of the missing message(s) (whether they are operational or technical issues). States were requested to cooperate and support the investigation once initiated, as appropriate.

3.24 The meeting was apprised of the coordination taking place between Lebanon and Cyprus to migrate AMHS. It was noted that the work cannot be completed unless SITA Type X is integrated in the MID Region.

3.25 The meeting recalled the rationalised AFTN routing table document, and was informed that the AFTN/CIDIN/AMHS routing tables are managed centrally by the MIDAMC Web application. Therefore, the meeting urged States to keep the routing tables up-to-date and to implement these routing tables. Accordingly, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 4/3: AFTN/CIDIN/AMHS ROUTING TABLES

That, in order to eliminate the messages loop problem within the MID Region:

b) States be urged to update the AFTN/CIDIN/AMHS Routing Tables; and

c) ICAO publish the updated rationale MID AFTN/CIDIN/AMHS Routing Tables.

3.26 The meeting was apprised of the review of the Inter-regional connections performance with the APAC Region that has been done during the CRV OG/5 (Hong Kong, 23-25 January 2019). Among reported cases, causes were due to communication failures, unavailability of alternative routes, and delay in AFTN failure detection.

3.27 The meeting was informed that after conducting an investigation for the missing messages between Kuwait and Karachi, appropriate changes to the existing routing directory at Kuwait and Karachi COM Centres have been done, and the problem is resolved now.

REPORT ON AGENDA ITEM 4: ESTABLISHMENT OF THE MID IP NETWORK

CRV Project

4.1 The subject was addressed in WP/9, WP/10 and PPT/2 presented by the the Secretariat, Oman and FAA. The meeting noted that States selected different packages for the same connections. In order to request price revision from CRV service provider. The Secretariat prepared consolidated proposal with unified package for all MID States. Furthermore, the meeting recalled the MSG/6, through Conclusion 6/28, agreed that States should complete their CRV Network Requirements:

MSG CONCLUSION 6/28: MIDCRV REQUIREMENTS

That, in order to request price revision from the CRV's Service provider (PCCW Global) for the MID Region, States that have not done so, are urged to complete the MID CRV requirements at Appendix 5.3P, not later than 15 February 2019.

4.2 The meeting was informed that CRV service provider (PCCW) offered a bundle discount with around 10-15% less, if Six (6) States place order in the same period. However, CRV overall cost could be reduced if a high number of States join the project.

4.3 The meeting was apprised of the successful result of tests from the CRV Pilot Project, which was conducted through Pilot Project; and proved the concept of the CRV network against the 10 points of test plan established at CRV OG/2 meeting. Furthermore, it was highlighted that it is not necessary for other States to duplicate a similar testing.

4.4 The meeting noted that the establishment of such a common network within specific Region would require careful consideration of all issues involved, as well as the evaluation of common network proposal, as compared to the current point-to-point configuration. Several issues need to be considered including, but not limited to, the following factors:

a) Technical requirements
b) Cost, including arrangement for division/allocation of cost
c) Process for contract award
d) Responsibility for network administration
e) Handling of network service issues
f) Performance specifications
g) Network security issues
h) Network redundancy issues
i) Capacity for growth and expansion
j) Required lead time for implementation
k) Performance management, measurement, monitoring, reporting and control
l) Missing message issue faced by Bahrain, Kuwait and Oman.

4.5 Based on the above, the meeting agreed to conduct a special meeting on CRV project with Subject Matter Expert (SME), in the short term, to investigate the issues described above, study the appropriate CRV framework for the MID IP Network and develop detailed proposal for appropriate CRV Packages for States, System Design Document (SDD) and Implementation Plan.. Therefore, the meeting agreed to conduct the MIDAMC STG/5 meeting in the fourth quarter of 2019. The meeting will address only CRV project and will involve CRV service provider (PCCW Global).

4.6 The meeting was apprised of CRV Implementation in FAA. FAA has Package A (Hot Standby for voice service over CRV and Package C at separated Locations for AMHS Network). FAA can revert to International Dial Direct (IDD), when needed.

4.7 The meeting noted the following recommendations/lessons learnt from APAC experience on CRV Project:

- Change States/Administrations to join CRV to "ANSPs", as States/Administrations' term is not specific and will delay approval process. The CRV is designed to primarily support time sensitive ATC voice and AFTN/AMHS.
- Maintain the AMHS routing and expand routing with coordination to all impacted ANSPs.
- IWXXM traffic will be distributed by AMHS as adopted by ICAO. IWXMM traffic should be evaluated regularly to ensure CRV can provide support.
- SWIM over CRV should be regularly evaluated to ensure CRV bandwidth can be used efficiently.
- MID Region States to negotiate the price as a team in order to get better offer.
- ANSP should deploy their own security measures like security Gateway.

4.8 The meeting noted that CRV package can support both legacy voice and VOIP, however, the legacy Voice is limited to four lines. For additional voice channels, a voice gateway is required which can be supplied by CRV Service provider (PCCW).

4.9 The meeting agreed that States need to protect and secure their own internal networks by implementing proper security measures. The meeting highlighted the need to address the CRV security measures in relevant future ICAO events.

REPORT ON AGENDA ITEM 5: FUTURE WORK PROGRAMME

5.1 The subject was addressed in WP/11 presented by the Secretariat. The meeting reviewed and updated the MIDAMC STG Terms of References (TORs) as at **Appendix 5A**. Accordingly, the meeting agreed to the following Draft Decision:

DRAFT DECISION 4/4: TERMS OF REFERENCE OF THE MIDAMC STG

*That, the Terms of Reference and Work Programme of the MIDAMC STG be updated as at **Appendix 5A**.*

5.2 Accordingly, the meeting agreed that the MIDAMC STG/5 be tentatively scheduled in the Fourth quarter of 2020. The venue will be the ICAO MID Regional Office in Cairo, unless a State is willing to host the meeting.

REPORT ON AGENDA ITEM 6: ANY OTHER BUSINESS

6.1 Nothing has been discussed under this Agenda Item.

APPENDICES

APPENDIX 2A

FOLLOW-UP ACTION PLAN ON MIDANPIRG/16 CONCLUSIONS AND DECISIONS

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
CONCLUSION 16/15: MID IP NETWORK PROJECT (CRV) That, a) States that have already committed to join CRV, are invited to engage with the recommended supplier to establish individual service contracts; and b) States that have not yet done so, are urged to carry out a comprehensive CBA related to the implementation of an IP Network under the CRV framework; and inform the ICAO MID Office, as soon as possible, about their decision related to the joining of CRV.	To establish MID IP Network in the MID Region	State Letter Engage with the recommended supplier	ICAO States	May 2017 Dec 2017	**Actioned** SL Ref.: AN 6/31.4-17/160 dated 29 May 2017 (Egypt)
DECISION 16/25: TERMS OF REFERENCE OF THE MIDAMC STG That, the Terms of Reference and Work Programme of the MIDAMC STG be updated as at **Appendix 5.2.2O**.	To add task to manage CRV project	MIDAMC STG TORs	MIDANPIRG/16	Feb 2017	**Completed**

APPENDIX 2B

FOLLOW-UP ACTION PLAN ON MSG/6 CONCLUSIONS AND DECISIONS

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
MSG CONCLUSION 6/28: MID CRV REQUIREMENT That, in order to request price revision from the CRV's Service provider (PCCW Global) for the MID Region, States that have not done so, are urged to complete the MID CRV requirements at Appendix 5.3P, not later than 15 February 2019.	To request price revision from CRV supplier (PCCW)	consolidated Network requirements	States	15 February 2019	**Actioned** SL Ref. AN 6/31.4 – 18/412 dated 19 December 2019 Replies received from Iran
MSG CONCLUSION 6/29: IMPLEMENTATION OF FILE TRANSFER BODY PART (FTBP) That, States are urged to: a) implement FTBP capability at National COM Centres (AMHS is a pre-requisite); b) implement P3/P7 with FTBP capability at the National OPMET Centre (NOC); and c) set the maximum overall AMHS Message size to 4 MB.	To enable IWXXM implementation	FTBP implemented	States	November 2020	**Actioned /Ongoing** SL Ref. AN 7/31 – 18/413 dated 19 December
MSG CONCLUSION 6/30: THE COMMUNICATION NETWORK FOR IWXXM DATA EXCHANGE That, the Main and Backup Regional OPMET Centres (Bahrain and Saudi Arabia) and the Main COM Centres in the MID Region be urged to join the CRV Project in order to enable the exchange of OPMET information in IWXXM format.	To reduce the network complexity	Main and Backup Regional OPMT Centres join CRV	Bahrain and Saudi Arabia	November 2020	**Actioned/ Ongoing** SL Ref. AN 7/31 – 18/413 dated 19 December
MSG CONCLUSION 6/34: CYBER SECURITY AND RESILIENCE SEMINAR That, in order to enrich the cyber security awareness and strengthen the cyber resilience in the MID Region, ICAO organise a Cyber Security and Resilience Seminar in 2019 jointly with ACAO.	To build capacity on Cyber security and resilience in the MID Region	Organize Cyber Security & resilience Symposium	ICAO MID Office	October 2019	**Ongoing**

CONCLUSIONS AND DECISIONS	CONCERNS/ CHALLENGES (RATIONALE)	DELIVERABLE/ TO BE INITIATED BY		TARGET DATE	STATUS/REMARKS
DRAFT CONCLUSION 6/2: KHARTOUM COM CENTRE That, in order to establish a third Gateway to the AFI Region, Khartoum COM Centre be changed to a main Centre.	To improve the data communication between AFI and MID Regions			April 2019	**Ongoing**

APPENDIX 3A

AMHS Plan for ROC in Jeddah and Bahrain

	Task	Timeframe	Assigned to	Champion	Status
	AMHS Intra-regional Trunk Connections				
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.	July2015	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 increased the bandwidth to 128 kbps
	The AMHS Interconnection with EUR Region Depends on Nicosia and Athens				
17	Establish Cairo – Tunis IP Network.	*March2016 July 2016*		AF/TZ/MR IB/MA	Both Egypt and Tunisia Ready Coordination in process to implement Completed
18	Establish Nicosia – Beirut IP Network.	*Awaiting reply from EUR*		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.	*April 2016 August 2016*		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.	*Q3 2016*		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.	*Aug 2016*		AF/ /MR IB/MA	Both Egypt and Tunisia Ready Coordination in process to implement 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)

APPENDIX 3B

EUR Doc 020

EUR AMHS Manual

Appendix H

Application/Service oriented AMHS Profiles	
Document Reference:	EUR AMHS Manual, Appendix H
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Edition	Date	Comments	section/pages affected
0.1	25/11/2016	Initial version	all
0.2	15/02/2017	Incorporation of provided comments by PG	all
0.3	23/02/2017	Incorporation of comments provided during PG66	all
1.0	23/03/2017	Final version for presentation to AFSG/21 as attachment to CP-AMHSM-16-012	all
12.0	28/04/2017	Adopted version (AFSG/21)	

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References

[1] ICAO EUR Doc 033, Guidelines for the Implementation of OPMET Data Exchange using IWXXM in the EUR Region, Second Edition, 2016

[2] ICAO EUR DOC 020, EUR AMHS Manual, latest version

[3] EUR ATS Messaging Service Profile, EUR AMHS Manual Appendix B, latest version

[4] ISO/IEC International Standardized Profile ISP 12062-2 (2003): AMH21 – IPM Content

[5] (Advance Release) ICAO Doc 9880-AN/466, 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 Messaging Handling Services (ATSMHS), Second Edition, 2016

[6] ISO/IEC 10021-7 (2003) / ITU-T X.420 (1999): Information technology – Message Handling Systems (MHS) – Interpersonal Messaging System

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1. Introduction

1.1 Purpose of the Document

1.1.1 This document defines specific AMHS profiles for the support of given applications/services, acting in limited environments, using ATS Message Handling Service. Such profiles provide detailed specification of X.400 and AMHS parameters to be adopted depending on the needs of each identified application/service. The profiles are explicitly and exclusively applicable to the application/service which they have been defined to serve.

1.2 Structure of the Document

1.2.1 The first chapter describes the purpose and the structure of the document.

1.2.2 The second chapter provides an overview concerning profiling in general and it presents the rationale for defining specific application/service oriented AMHS profiles.

1.2.3 The third chapter includes the detailed specification of these profiles. Currently it contains the AMHS Profile for OPMET IWXXM data exchange as well as guidance material for conducting conformance testing of the involved implementations.

1.2.4 Upon identification of similar profiling tasks for other applications/services chapter 3 will be updated accordingly.

2. Profiles and Requirement Lists

2.1 Overview

2.1.1 A number of standards have been established by ISO for Message Handling Systems. In order to describe which standards or group of standards, together with options and parameters, are needed to accomplish a function, it is necessary to specify a profile. Such profiles have been standardized by ISO and are known as International Standardized Profiles (ISPs). Profiles standardize the use of options and other variations in the base standards and deal primarily with the use of implemented capabilities in order to meet requirements for interoperability and efficient interworking.

2.1.2 ICAO Doc 9880, Part II (ref. [5]) contains the detailed technical specifications for ATSMHS based on a number of international standards and ISPs, complemented by additional requirements. The basic and the extended ATSMHS services meet the basic requirements of the respective ISPs but additional features and supplementary functions are incorporated as necessary in ICAO Doc 9880, Part II. In order to express conformance requirements, i.e. static capability, ICAO Doc 9880, Part II uses the classification defined in the ISPs to include different levels of support (mandatory, optional, etc.). These requirements, applying to the related parameters or elements are specified in the form of Profile requirement lists (PRLs). In a limited number of cases, the PRLs may also include dynamic behaviour requirements, using another classification also defined in the ISPs.

2.1.3 In the same spirit, Appendix B of the EUR AMHS Manual describes the 'European ATS Messaging Service Profile'. Its purpose is to provide a single, relatively short specification of protocols and system capabilities and it is intended to ensure end-to-end message transfer between International COM Centres over AMHS.

2.2 Relation between AMHS specification and ISO/IEC ISPs

2.2.1 It is noted that the classification of a feature as mandatory in the ISPs corresponds to a requirement regarding static capability, i.e. the ability to generate and/or receive, encode and/or decode a specific parameter, but not to use this parameter in every message sent or received. The same logic is applicable to ICAO Doc 9880, Part II and the EUR AMHS Manual.

2.2.2 Furthermore, it is recalled that in ICAO Doc 9880, Part II, for the Basic ATS Message Handling Service, the interface between the ATS Message User Agent and the ATS Message Server has been left open, since this is often an implementation matter local to each AMHS Management Domain. Conversely, for the Extended ATS Message Handling Service, implementation of a P2/P3 or P2/P7 profile compliant with the relevant MHS ISP (among ISP AMH23 to AMH26) is mandated. The main reason for this requirement was to enable reference to the Functional Group (FG) Security S0 defined in these ISPs, SEC S0 being the agreed solution for AMHS security.

2.2.3 The question of compliance with a P2/P3 or P2/P7 ISP for AMHS conformance has never been addressed in the context of an implementation making use of some functionalities

part of the Extended Service, but not of the whole of it. In particular, it is not specified whether a partial Extended Service implementation which does not include AMHS Security requires conformance with one of the AMH23 to AMH26 profiles or not.

2.3 Profiling per application/service

2.3.1 The European ATS Messaging Service Profile specifies a number of AMHS protocols and system capabilities for exchanging ATS messages between users through international Message Transfer Agents. It applies to Message Transfer Agents, Message Stores and User Agents. Dedicated sections of Appendix B include the requirements of each of the above mentioned AMHS System components.

2.3.2 The message categories handled by the AFS are defined by Annex 10, Volume II. The users of these message categories are the ATS as well as the AIS, ATFM, MET and SAR Services. Several ATM applications such as Digital NOTAM and Digital Flight Plan deploy new data requirements and information exchange models. These common information exchange models, i.e. AIXM and FIXM, are specifications designed to enable the encoding and the distribution of information in digital format, ensuring at the same time interoperability. These information exchange models make use of the Extensible Markup Language (XML) for encoding, representation and exchange of information. Similarly, ICAO Annex 3 foresees the exchange of OPMET data not only in the Traditional Alphanumeric Code format but also in the format defined by the ICAO Meteorological Information Exchange Model (IWXXM).

2.3.3 The ATS Message Handling Service already provides appropriate means for exchanging such data types. Furthermore, proper refinement of the specification has been foreseen and incorporated in Appendix B of this Manual, suitable for conveyance of known binary data formats.

2.3.4 However, it is obvious that a user agent in support of one of the above mentioned applications will not necessarily have to support the same set of features like a user agent in support of another application. On the contrary, implementing all of the requirements specified for UAs by ICAO Doc 9880, Part II, and Appendix B of the EUR AMHS Manual, independently of the served application/service and the type of the user agent, could be considered as an over-specification. For example it is not likely that a host user, which is a computer application running on ATN end systems and interacts with the ATS message service by means of APIs, would need to generate and submit probes.

2.3.5 Furthermore user agents may be implemented exclusively for the support of a specific application/service. Such dedicated user agents may not need to implement all the features defined by ICAO Doc 9880, Part II, and Appendix B of the EUR AMHS Manual. For example, dedicated user agents implemented for the exchange of OPMET data formatted based on the IWXXM model are not supposed to generate messages with SS priority. Similarly these user agents are not expected to receive messages with SS priority, although this could happen at the reception direction, at least by mistake.

2.3.6 Mandating implementation of features which are not required by the application/service served by certain user agents may generate additional complexity and impose implementation delay, effort and cost, without any operational benefit. In order to

eliminate such impediments and facilitate the adoption of the ATS Message Handling Service by end users, the need of defining application/service oriented AMHS profiles, which clarify requirements and may relax some of them by mandating less features than the current AMHS specification, has been recognized. These profiles are applicable to explicit, limited environments, e.g. submission of OPMET data, taking into consideration which features are useless for the specific application/service. The relaxed requirements concern message submission only.

2.3.7 Implementations complying with an application/service oriented AMHS profile are accepted for connection to the AMHS, although possibly not fully compliant from a formal standpoint, provided that conformance to the profile is verified. For this purpose, UA conformance testing, as specified in Appendix D-UA, needs to be tailored according to the given profile specification.

3. Application/Service oriented AMHS Profiles

3.1 General

3.1.1 The following sections present the AMHS profiles specified for implementations, for which support of all features mandated by ICAO Doc 9880 (ref. [5]) and Appendix B of the EUR AMHS Manual (ref. [3]) is not required.

3.1.2 The exchange of OPMET data based on IWXXM has been identified as the first application using AMHS, for which the definition of a profile would accommodate the implementation deployment.

3.1.3 This section needs to be updated each time a similar need appears for other applications/services.

3.2 AMHS Profile for OPMET IWXXM data exchange

3.2.1 Introduction

3.2.1.1 It has been commonly agreed by the MET and AFS ICAO EUR communities that AMHS is the intended communication means for MET IWXXM data exchanges in the EUR Region. More specifically, FTBP is to be used for IWXXM data. This agreement is reflected in the EUR Doc033 (ref. [1]).

3.2.1.2 UAs complying with ICAO Doc 9880, Part II, Draft Second Edition (ref. [5]) and with the additional provisions of the EUR AMHS Manual (ref. [2]) and of the European ATS Messaging Service Profile (ref. [3]) are capable to originate and receive AMHS messages containing such data. The support by UAs of IPM Heading Extensions (IHE), defined in ICAO Doc 9880, Part II as part of the Extended ATS Message Handling Service, is additionally required but represents a minor upgrade already available in several UA implementations.

3.2.1.3 However, to ensure unambiguous interpretation of messages upon reception, and to facilitate their origination, it is necessary to establish a detailed specification of X.400 and AMHS parameters to be adopted for conveyance of such messages, including those associated with the AMHS file-transfer-body-parts (FTBP). This task is a typical profiling activity, which is preferably performed before implementation deployment is started.

3.2.2 Scope of the profile

3.2.2.1 This profile specification is established for application by AMHS UAs submitting and/or receiving OPMET data in IWXXM format through a P2/P3 or a P2/P7 interface, implemented as part of the following centres or systems (as defined in EUR Doc033 [1], section 2):

- National OPMET Centre (NOC)
- Regional OPMET Centre (ROC)

- Interregional OPMET Gateway (IROG)
- Regional OPMET Databank (RODB)
- any terminal or system receiving or requesting OPMET data in IWXXM format from one of the above centres/systems

3.2.2.2 This specification is based on the following assumptions, which identify topics out of scope of the AMHS profile, which are addressed in the MET domain:

- The MET domain may add further data types to the IWXXM without affecting the AMHS profile. It is assumed that irrespective of the data format (bulletin or report), the MET domain will always pass an unstructured binary file with a defined file-name to the AMHS.
- Data compression will always be performed in the MET domain. The AMHS will not perform compression.
- The MET Domain will define procedures for the submission of RQX messages to RODBs.

3.2.3 Definition of the profile

3.2.3.1 Level of service

3.2.3.1.1 A profile based on the exclusive use of the Extended Service shall be used. As a result the IPM-Heading-extensions (IHE) need to be used to carry the ATS priority, Filing time and Optional Heading Information. However, only some of the functional groups which are part of the Extended Service are needed for the profile, namely FTBP and IHE. More specifically, the profile does not require support of AMHS security.

3.2.3.2 Number of body parts

3.2.3.2.1 The IPM body shall contain exactly one body-part which is an FTBP. This is compliant with the following text (EUR AMHS Manual, Appendix B, ref. [3], section 3.3.2, para 2):

> "In case of one body-part only, the IPM contains either:
>
> […]
>
> c) a single file-transfer body part in support of binary data exchange."

3.2.3.2.2 The body part selection shall be as represented using the following tabular description.

Table 1: Body part selection for the IWXXM profile
(derived from ICAO Doc 9880 Part II Tables 3-1 and 3-2)

Ref	*Element*	*Doc 9880 static support (Extended Service) Orig/Rec*	*Doc 9880 reference*	*Dynamic action upon generation of IWXXM message*	*Value and/or comments*
Part 2: AMH21/A.1.3 IPM body					
1	ia5-text	O/M		X	
1.2	data	M/M	3.3.3	X	
10	bilaterally-defined	O/M	3.3.5	X	
Part 3: AMH21/A.1.3.1 Extended body part support					
1	ia5-text-body-part	O/M		X	
9	bilaterally-defined-body-part	O/M	3.3.5.1	X	
11	general-text-body-part	M/M	3.3.3 and Part 4, Table 3-1	X	
12	file-transfer-body-part	M/M	3.3.5.1 and 3.3.5.2	G	AMH21/ A.1.3.3
M = mandatory support (static support) O = optional support (static support) or optionally generated (dynamic behaviour) G = generated X = not used					

3.2.3.3 Selection of IPM heading parameters and parameter values

3.2.3.3.1 The IPM Heading parameter selection and values are listed in Table 2 below.

Table 2: IPM Heading parameters for the IWXXM profile (derived from ICAO Doc 9880 Part II Table 3-2)

Ref	*Element*	*Doc 9880 static support (Extended Service) Orig/Rec*	*Doc 9880 reference*	*Dynamic action upon generation of IWXXM message*	*Value and/or comments*
Part 1: AMH21/A.1.2 IPM heading fields					
1	this-IPM	M/M	3.1.2.2.1, 3.1.4.2.1 (AMH21 support)	G	
2	originator	M/M		G	Address of the originating OPMET system (MET switch)
3	authorizing-users	O/M		X	
4	primary-recipients	M/M		G	Recipient addresses are populated by the MET switch based on its routing table (EUR Doc 033, ref. [1] section 4.1.4)
5	copy-recipients	M/M		X	
6	blind-copy-recipients	O/M		X	
7	replied-to-IPM	M/M		X	
8	obsoleted-IPMs	O/M		X	

Ref	*Element*	*Doc 9880 static support (Extended Service) Orig/Rec*	*Doc 9880 reference*	*Dynamic action upon generation of IWXXM message*	*Value and/or comments*
9	related-IPMs	O/M		X	
10	subject	M/M		G	This field shall carry the TTAAiiCCCCYYGGggBBB part of the filename of FTBP. It is assumed that the subject field is easier to access for human operators in case of retrieval or analysis of transferred messages
11	expiry-time	O/M		X	
12	reply-time	O/M		X	
13	reply-recipients	O/M		X	
14	importance	O/M		X	The receiving UA shall assume that this field takes its default value (“normal”)
15	sensitivity	O/M		X	
16	auto-forwarded	O/M		X	
17	extensions	M/M	3.3.4.1	G	
17.6	authorization-time	M/M	3.3.4.2	G	Equivalent to filing time
17.12	originators-reference	M/M	3.3.4.3	X	To avoid confusion with the use of this field in the IHE context (where it is carrying data converted to/from AFTN OHI)
17.13	precedence-policy-identifier	M/M	3.3.4.5, 3.3.4.6 and 3.3.4.7	G	OID value {iso(1) identified-organisation (3) icao (27) atn-amhs (8) parameters (0) amhs-precedence-policy (0)} (see Doc 9880, ref. [5], 3.3.4.7)
Part 4: AMH21/A.1.5 common data types					
1	RecipientSpecifier				
1.2	notification-requests	M/M	3.3.6	X	
1.2.1	rn	M/M	3.3.6	X	IWXXM never use priority SS
1.2.2	nrn	M/M		X	Doc 9880 does not foresee the presence of nrn-request
1.4	recipient-extensions	M/M	3.3.4.1	G	
1.4.3	precedence	M/M	3.3.4.8	G	Equivalent to priority GG: precedence value = 28 (TAF, METAR/SPECI, and also in case of AMD, COR or RTD reports/bulletins) Equivalent to priority FF: precedence value = 57 (AIRMET, SIGMET, VAA, TCA)
2	ORDescriptor				
2.1	formal-name	M1/M1		G	used for originator-address and recipient-addresses
M = mandatory support (static support) M1 = mandatory O/R name minimal support (static support) O = optional support (static support) or optionally generated (dynamic behaviour)					

Ref	*Element*	*Doc 9880 static support (Extended Service) Orig/Rec*	*Doc 9880 reference*	*Dynamic action upon generation of IWXXM message*	*Value and/or comments*
G = generated X = not used					

3.2.3.4 Content of body parts

3.2.3.4.1 The parameters composing the FTBP shall be in line with the specification of EUR ATS Messaging Profile, Appendix B to EUR AMHS Manual (ref. [3]), section A.2.4.2, and complemented with the details provided in Table 3 below.

Table 3: File Transfer parameters for the IWXXM profile (derived from European ATS Messaging Service Profile, section A.2.4.2)

Ref	*Element*	*European ATS Messaging Service Profile - static support Orig/Rec*	*European ATS Messaging Service Profile - reference*	*Dynamic action upon generation of IWXXM message*	*Value and/or comments*
1	related-stored-file	-			
2	contents-type				
2.1	document-type				
2.1.1	document-type-name	M/M	A.2.4.2.1	G	default OID value: 1.0.8571.5.3 {iso(1) standard(0) 8571(8571) document-type(5) unstructured-binary(3)}
3	environment				
3.1	application-reference				
3.1.1	registered-identifier	O/M	A.2.4.2.2 and A.2.4.2.6	G	OID value: 1.3.27.8.1.2 {iso(1) identified-organisation (3) icao (27) atn-amhs (8) application (1) digital-met (2)}
3.4	user-visible-string	O/M	A.2.4.2.6	G	“Digital MET”
4	compression	-			See para 3.2.3.4.2 below
5	file-attributes				
5.1	pathname				
5.1.1	incomplete-pathname	O/M	A.2.4.2.3	G	bulletin file name as specified in EUR Doc 033, ref. [1], section 5.1.4
5.5	date-and-time-of-last-modification	O/M	A.2.4.2.4	O	

Ref	*Element*	*European ATS Messaging Service Profile - static support* *Orig/Rec*	*European ATS Messaging Service Profile - reference*	*Dynamic action upon generation of IWXXM message*	*Value and/or comments*
5.13	object-size				
5.13.2	actual-values	O/M	A.2.4.2.5	O	
6	extensions	-			
M = mandatory support (static support) O = optional support (static support) or optionally generated (dynamic behaviour) G = generated X = not used					

3.2.3.4.2 Compression of the data to be transferred, if needed, shall be performed in the MET domain before creating the FTBP, as assumed in section 3.2.2.2 above. This avoids using the "compression" field of FTBP, reduces the UA complexity and limits the FTBP functionality to message exchange mechanisms.

3.2.3.4.3 The IWXXM data itself shall be included in the FileTransferData element of the file-transfer-body-part. It should be noted that ISO/IEC 10021-7 / ITU-T X.420 (section 7.4.12) specifies the ASN.1 encoding to be used, and that ISO/IEC ISP 12062-2 (section A.1.3.1) expresses additional recommendations regarding this encoding, which should be "octet-aligned EXTERNAL". Only one EXTERNAL component should be used.

3.2.3.5 Selection of used P3/P1 envelope parameter values

3.2.3.5.1 The mapping of P2 parameters onto P3 envelope parameters shall be as specified in ICAO Doc 9880 (ref. [5]) and X.420 (ref. [6]).

3.2.3.5.2 IPMs with a precedence value of 28 shall use the priority abstract-value "non-urgent". IPMs with a precedence value of 57 shall use the priority abstract-value "normal".

3.2.3.5.3 The encoded-information-types in the P3 submission-envelope shall be limited to the OID value specified for FTBP (see ITU-T X.420:1999 7.4.12.8, 20.4.c and Annex C), i.e. OID {joint-iso-itu-t(2) mhs(6) ipms(1) eit(12) file-transfer(0)}.

3.2.3.6 Relaxed requirements from complete AMHS specification

3.2.3.6.1 Implementers must be aware that due to the "relaxed" status of the requirements above, any of these requirements may be reverted back to a "mandatory" status in a future profile version, as soon as the need for the corresponding missing feature(s) appears operationally. Conformance with the profile implies a commitment to support such evolutions in the profile, which may be considered as "return-to-normal" in terms of AMHS conformance.

3.2.4 Proposed Conformance Tests

3.2.4.1 General description

3.2.4.1.1 This section proposes a list of functional tests that allows verification of conformance of UA implementations dedicated for OPMET IWXXM data exchange. UA conformance testing, as specified in Appendix D-UA, for such implementations needs to be adapted based on the profile specification defined in section 3.2.3.

3.2.4.1.2 The proposed conformance tests are divided to three categories:

- profile specific submission tests;
- profile specific delivery tests; and
- submission and delivery tests according to Appendix D-UA.

3.2.4.1.3 The scope of the profile specific submission and delivery tests is to ensure conformance of UA implementations specifically deployed for the conveyance of OPMET IWXXM data to the respective profile. A test identification scheme of the form WXMxnn has been used, where x=1 is used for submission tests and x=2 for delivery tests. Wherever applicable, reference to the respective Appendix D-UA test is made.

3.2.4.1.4 Reference to specific UA conformance tests as specified in Appendix D-UA is included in section 3.2.4.4, especially for the reception direction. The scope of these tests is to ensure that UA implementations dedicated for OPMET IWXXM data exchange will not malfunction upon reception of a field or element not defined by the specific profile, but classified as mandatory in the ISPs and thus also mandatory in AMHS.

3.2.4.2 Profile specific submission tests

WXM101	**Submission of an IPM including a bulletin consisting of METAR**
Test criteria	The test is successful if the UA submits an IPM including a bulletin consisting of METAR according to the profile defined in section 3.2.3.
Scenario description	Submit from the UA under test an IPM including a bulletin consisting of METAR. Check that: - the P3 submission-envelope includes the following parameters with the correct values: o *originator-name*: OR-name of the originator o *recipient-name*: OR-name of each recipient of the message o *content-type*: 22 o *encoded-information-types*: OID 2.6.1.12.0 o *priority*: non urgent - the following IPM heading fields are present with the correct values: o *originator*: address of the originating OPMET system (MET switch) o *primary-recipients*: recipient addresses as populated by the MET switch o *subject*: TTAAiiCCCCYYGGggBBB part of the filename of FTBP

	o *importance*: normal, if present o *authorization-time* of the IPM heading extensions field: equivalent to filing time o *precedence-policy-identifier* of the IPM heading extensions field: OID 1.3.27.8.0.0 o *originators-reference* of the IPM heading extensions field: absent - the following elements in the common data types are present with the corresponding values: o *precedence*: 28 o *formal-name*: originator address and recipient addresses - the elements *rn* and *nrn* in the common data types are absent - the message has exactly one file-transfer-body-part - the parameters composing FTBP are according to section A.2.4.2 of the EUR AMHS Manual Appendix B and the following elements are present with the correct values: o *document-type-name*: OID 1.0.8571.5.3 o *registered-identifier*: OID 1.3.27.8.1.2 o *user-visible-string*: 'Digital MET' o *incomplete-pathname*: bulletin file name as specified in section 5.1.4 of EUR Doc 033, for example: A_LAFR31LFPW171500_C_LFPW_20151117150010.xml.[compression_suffix] o If generated, check the element *date-and-time-of-last-modification* o If generated, check the element *actual-values*, the value of which represents the size of the Attachment data in bytes - the elements *related-stored-file*, *compression* and *extensions* of the FTBP parameters are absent - The IWXXM data itself are included in the FileTransferData element of the file-transfer-body-part; the octet-aligned encoding should be used.
Appendix D-UA ref:	CTUA1501, FTBP Capability

WXM102	**Submission of IPMs including bulletins of different file size consisting of METAR**
Test criteria	The test is successful if the UA submits several IPMs including bulletins of different file size consisting of METAR according to the profile defined in section 3.2.3.
Scenario description	Submit from the UA under test a sequence of several IPMs including each time a bulletin of different file size consisting of METAR. The size of the message should not exceed the limit defined in Appendix B, F.2.4.3 Check all parameters listed in test case WXM101, with the corresponding values. If the element *actual-values* is generated check each time the respective value, which represents the size of the Attachment data in bytes.
Appendix D-UA ref:	CTUA1501, FTBP Capability with different body-part size

WXM103	Submission of an IPM including a bulletin consisting of SPECI or TAF
Test criteria	The test is successful if the UA submits an IPM including a bulletin consisting of SPECI or TAF according to the profile defined in section 3.2.3.
Scenario description	Submit from the UA under test an IPM including a bulletin consisting of SPECI. Check that all parameters and their respective values are in accordance to test case WXM101, except that the value of the element *incomplete-pathname* is according to the bulletin file name as specified in section 5.1.4 of EUR Doc 033. The test is repeated with the submission of an IPM including bulletin consisting of TAF.
Appendix D-UA ref:	CTUA1501, FTBP Capability

WXM104	Submission of an IPM including a bulletin consisting of AIRMET
Test criteria	The test is successful if the UA submits an IPM including a bulletin consisting of AIRMET according to the profile defined in section 3.2.3.
Scenario description	Submit from the UA under test an IPM including a bulletin consisting of AIRMET. Check that all parameters and their respective values are in accordance to test case WXM101, except that: - the *priority* abstract value of the P3 submission-envelope is normal - the value of the element *precedence* is 57 - the value of the element *incomplete-pathname* is according to the bulletin file name as specified in section 5.1.4 of EUR Doc 033.
Appendix D-UA ref:	CTUA1501, FTBP Capability

WXM105	Submission of an IPM including a bulletin consisting of SIGMET or VAA or TCA
Test criteria	The test is successful if the UA submits an IPM including bulletin consisting of SIGMET or VAA or TCA according to the profile defined in section 3.2.3.
Scenario description	Submit from the UA under test an IPM including a bulletin consisting of SIGMET. Check that all parameters and their respective values are in accordance to test case WXM101, except that: - the *priority* abstract value of the P3 submission-envelope is normal - the value of the element *precedence* is 57 - the value of the element *incomplete-pathname* is according to the bulletin file name as specified in section 5.1.4 of EUR Doc 033. The test is repeated with the submission of an IPM including bulletin consisting of VAA.

	The test is repeated with the submission of an IPM including bulletin consisting of TCA.
Appendix D-UA ref:	CTUA1501, FTBP Capability

3.2.4.3 Profile specific delivery tests

WXM201	**Delivery of an IPM including a bulletin consisting of METAR**
Test criteria	The test is successful if an IPM, including a bulletin consisting of METAR, sent by an MTA is received by the UA under test and the parameters specified by the profile defined in section 3.2.3 are properly received.
Scenario description	The MTA sends an IPM including a bulletin consisting of METAR. Check that the UA under test receives the IPM with the following parameters: - the message delivery envelope includes the following parameters with the correct values: o *originator-name*: OR-name of the originator o *this-recipient-name*: OR-name of the recipient to whom the message is delivered o *content-type*: 22 o *encoded-information-types*: OID 2.6.1.12.0 o *priority*: non urgent o *message-delivery-identifier*: it shall have the same value as the message-submission-identifier supplied to the originator of the message when the message was submitted (X.411, section 8.3.1.1.1.1) o *message-delivery-time*: it contains the time at which delivery occurs and at which the MTS is relinquishing responsibility for the message (X.411, section 8.3.1.1.1.2) - the following IPM heading fields are present with the correct values: o *originator* o *primary-recipients* o *subject*: TTAAiiCCCCYYGGggBBB part of the filename of FTBP o *importance*: normal, if present o *authorization-time* of the IPM heading extensions field: equivalent to filing time o *precedence-policy-identifier* of the IPM heading extensions field: OID 1.3.27.8.0.0 o *originators-reference* of the IPM heading extensions field: absent - the following parameters in the common data types are present with the corresponding values: o *precedence*: 28 - the elements *rn* and *nrn* in the common data types are absent - the message has exactly one file-transfer-body-part - the parameters composing the FTBP are according to section A.2.4.2 of the EUR AMHS Manual Appendix B and the following elements are present with the correct values: o *document-type-name*: OID 1.0.8571.5.3

	○ *registered-identifier*: OID 1.3.27.8.1.2 ○ *user-visible-string*: 'Digital MET' ○ *incomplete-pathname*: bulletin file name as specified in section 5.1.4 IWXXM Guidelines, for example: A_LAFR31LFPW171500_C_LFPW_ 20151117150010.xml.[compression_suffix] ○ If generated, check the element *date-and-time-of-last-modification* ○ If generated, check the element *actual-values*, the value of which represents the size of the Attachment data in bytes - the elements *related-stored-file*, *compression* and *extensions* of the FTBP parameters are absent - The IWXXM data itself are included in the FileTransferData element of the file-transfer-body-part; the octet-aligned encoding should be used.
Appendix D-UA ref:	CTUA1601, FTBP Capability

WXM202	**Delivery of IPMs including bulletins of different file size consisting of METAR**
Test criteria	The test is successful if several IPMs, including bulletins of different file size consisting of METAR, sent by an MTA are received by the UA under test and the parameters specified by the profile defined in section 3.2.3 are properly received.
Scenario description	The MTA sends a sequence of several IPMs including each time a bulletin of different file size consisting of METAR. Check that the UA under test receives all IPMs and that the parameters described in test case WXM201 are received with the corresponding values. If the element *actual-values* is present check each time the respective value, which represents the size of the Attachment data in bytes.
Appendix D-UA ref:	CTUA1601, FTBP Capability with different body-part size

WXM203	**Delivery of an IPM including a bulletin consisting of SPECI or TAF**
Test criteria	The test is successful if an IPM, including a bulletin consisting of SPECI or TAF, sent by an MTA is received by the UA under test and the parameters specified by the profile defined in section 3.2.3 are properly received.
Scenario description	The MTA sends an IPM including a bulletin consisting of SPECI. Check that the UA under test receives the IPM and the parameters described in test case WXM201 are received with the corresponding values, except the element *incomplete-pathname* which value is according to the bulletin file name as specified in section 5.1.4 of EUR Doc 033. The test is repeated with the delivery of an IPM including a bulletin consisting of TAF.
Appendix D-UA ref:	CTUA1601, FTBP Capability

WXM204	Delivery of an IPM including a bulletin consisting of AIRMET
Test criteria	The test is successful if an IPM, including a bulletin consisting of AIRMET, sent by an MTA is received by the UA under test and the parameters specified by the profile defined in section 3.2.3 are properly received.
Scenario description	The MTA sends an IPM including a bulletin consisting of AIRMET. Check that the UA under test receives the IPM and the parameters described in test case WXM201 are received with the corresponding values, except that: - the *priority* abstract value of the P3 submission-envelope is normal - the value of the element *precedence* is 57 - the value of the element incomplete-pathname is according to the bulletin file name as specified in section 5.1.4 of EUR Doc 033.
Appendix D-UA ref:	CTUA1601, FTBP Capability

WXM205	Delivery of an IPM including a bulletin consisting of SIGMET or VAA or TCA
Test criteria	The test is successful if an IPM, including a bulletin consisting of SIGMET or VAA or TAF, sent by an MTA is received by the UA under test and the parameters specified by the profile defined in section 3.2.3 are properly received.
Scenario description	The MTA sends an IPM including a bulletin consisting of SIGMET. Check that the UA under test receives the IPM and the parameters described in test case WXM201 are received with the corresponding values, except that: - the *priority* abstract value of the P3 submission-envelope is normal - the value of the element *precedence* is 57 - the value of the element incomplete-pathname is according to the bulletin file name as specified in section 5.1.4 of EUR Doc 033. The test is repeated with the delivery of an IPM including a bulletin consisting of VAA. The test is repeated with the delivery of an IPM including a bulletin consisting of TCA.
Appendix D-UA ref:	CTUA1601, FTBP Capability

3.2.4.4 Submission and delivery tests according to Appendix D-UA

3.2.4.4.1 The scope of the tests included in the following list is to ensure that UAs implemented for the sake of the exchange of OPMET IWXXM data will not malfunction upon reception of AMHS messages, fields or elements according to the standards but not defined by the profile specified in section 3.2.3. The main objective is to realize the behaviour of these specific UA implementations upon reception of such messages, fields or elements.

3.2.4.4.2 The execution of the delivery tests defined in Appendix D-UA is encouraged. However if this is not possible the following test list is suggested.

Basic Delivery Operations (A2)	
CTUA201	**Deliver an IPM to the IUT – basic capability (A2)**
CTUA203	**Deliver an IPM containing optional-heading-information in the ATS-message-header**
CTUA204	**Deliver an IPM containing different kinds of recipient addresses**
CTUA206	**Deliver an IPM with invalid originator address similar to CAAS**
CTUA207	**Deliver an IPM with invalid originator address similar to XF**

Specific Delivery Operations	
CTUA401	**Deliver a non-delivery report (NDR) to an AMHS user**

Enhanced Delivery UA Capability	
CTUA601	**Deliver an IPM with the implemented capability of one body-part**
CTUA602	**Deliver an IPM with the implemented capability of two body-parts**

Delivery Operations (A2-IHE)	
CTUA1201	**Deliver an IPM with IHE to the IUT – basic capability (A2-IHE)**
CTUA1203	**Deliver an IPM with IHE, containing optional heading information**
CTUA1204	**Deliver an IPM with IHE, containing different kinds of recipient address**

Specific Submission Operations with IHE	
CTUA1303	**Checking of default envelope elements (flag setting) in submitted IPMs with IHE**

Specific Delivery Operations with IHE	
CTUA1401	**Deliver a non-delivery report (NDR) to an AMHS user**

Enhanced Delivery UA Capability with IHE	
CTUA1602	**Deliver an IPM with IHE with the implemented capability of two body-parts**

End of Appendix H

APPENDIX 3C

TABLE CNS II-1 - AERONAUTICAL FIXED TELECOMMUNICATIONS NETWORK (AFTN) PLAN

EXPLANATION OF THE TABLE

Column

1 The AFTN Centres/Stations of each State are listed alphabetically. Each circuit appears twice in the table. The categories of these facilities are as follows:
M - Main AFTN COM Centre
T - Tributary AFTN COM Centre
S - AFTN Station

2 Category of circuit:
M - Main trunk circuit connecting Main AFTN communication centres.
T - Tributary circuit connecting Main AFTN communication centre and Tributary AFTN Communications Centre.
S - AFTN circuit connecting an AFTN Station to an AFTN Communication Centre.

3 Type of circuit provided:
LTT/a - Landline teletypewriter, analogue (e.g. cable, microwave)
LTT/d - Landline teletypewriter, digital (e.g. cable, microwave)
LDD/a - Landline data circuit, analogue (e.g. cable, microwave)
LDD/d - Landline data circuit, digital (e.g. cable, microwave)
SAT/a/d - Satellite link, with /a for analogue or /d for digital

4 Circuit signalling speed in bits/s.

5 Circuit protocols

6 Data transfer code (syntax):
ITA-2 - International Telegraph Alphabet No. 2 (5-unit code).
IA-5 - International Alphabet No. 5 (ICAO 7-unit code).
CBI - Code and Byte Independency (ATN compliant).

7 Remarks

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
BAHRAIN						
BAHRAIN						
ABU DHABI	M		64 ~~9.6Kbps~~	~~CIDIN~~	IA-5	
ANKARA	M		64Kbps	~~AFTN~~	IA-5	
BEIRUT	M		64 ~~9.6~~Kbps	AMHS	IA-5	All: AMHS by 2017
DOHA	T		64 ~~9.6~~Kbps	AMHS	IA-5	
JEDDAH	M		64 ~~9.6~~Kbps	AMHS	IA-5	
KUWAIT	M		64 ~~9.6~~Kbps	~~CIDIN~~	IA-5	
MUSCAT	M		64 ~~9.6~~Kbps	~~None~~	IA-5	
NICOSIA	M		~~64~~9.6Kbps	~~CIDIN~~	IA-5	
SINGAPORE	M		64 ~~9.6~~Kbps	~~None~~	IA-5	
TEHRAN	M		64 ~~9.6~~Kbps	~~None~~	IA-5	

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
EGYPT						
CAIRO	M					
AMMAN	M		64-9.6Kbps	AMHS	IA-5	
ATHENS	M		64-9.6Kbps	AMHS~~CIDIN~~	IA-5	
BEN GURION	M		64-9.6Kbps	AMHS~~None~~	IA-5	
BEIRUT	M		9.6 Kbps	AMHS~~CIDIN~~	IA-5	
JEDDAH	M		128-9.6Kbps	AMHS	IA-5	
KHARTOUM	T		9.6Kbps	AMHS~~None~~	IA-5	
NAIROBI	M		9.6Kbps	AMHS~~None~~	IA-5	
TUNIS	M		64-9.6Kbps	AMHS	IA-5	
TRIPOLI	T		64-9.6Kbps	AMHS~~None~~	IA-5	
TRIPOLI	T		9.6Kbps	AMHS~~None~~	IA-5	STNDBY
DAMASCUS	T		64-9.6Kbps	AMHS~~None~~	IA-5	
ASMARA	T		9.6Kbps	AMHS~~None~~	IA-5	
IRAN						
TEHRAN	M					
BAHRAIN	M		64 Kbps	AMHS~~None~~	IA-5	
KUWAIT	M		64 Kbps	AMHS~~None~~	IA-5	
ABU-DHABI	M		~~9.6 Kbps~~	AMHS~~None~~	IA-5	
KARACHI	M		64Kbps	AMHS~~None~~	IA-5	
ANKARA	M		64Kbps	AMHS~~AFTN~~	IA-5	
MUSCAT	M		64Kbps	AMHS~~None~~	IA-5	
DAMASCUS	T		~~50 BD~~	AMHS~~None~~	IA-5	
BAGHDAD	T		64Kbps	AMHS~~None~~	~~ITA-2~~ IA-5	Planned
IRAQ						
BAGHDAD	T		-			
AMMAN	T		2MBps	AMHS~~None~~	IA-5	VPN
BEIRUT	T		2MBps	AMHS~~None~~	IA-5	VPN
KUWAIT	T	SAT	9.6Kbps	AMHS~~None~~	IA-5	Planed
ANKARA	T			AMHS	IA-5	

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
JORDAN						
AMMAN						
ABU DHABI	T		2MBps	AMHS	IA-5	VPN
ANKARA	M		64Kpbs	AMHS~~AFTN~~	IA-5	Land
BAGHDAD	T		2MBps	AMHS	IA-5	Line
BEIRUT	T		2MBps	AMHS	IA-5	VPN
BEN GURION	M		9.6 Kbps	AMHS~~None~~	IA-5	Planed
CAIRO	T		64 – 9.6Kbps	AMHS	IA-5	VPN
DAMASCUS	T		64 – 9.6Kbps	AMHS~~None~~	IA-5	Planed
JEDDAH	M		64Kbps	AMHS	~~X400~~	
NICOSIA	T		64Kbps	AMHS~~AFTN~~	IA-5	
KUWAIT	T					
KUWAIT	M	LDD/d	64 ~~– 9.6~~Kbps	AMHS~~None~~	IA-5	
BAHRAIN	M	LDD/a	64- ~~9.6~~ Kbps	AMHS~~None~~	IA-5	
DAMASCUS	T	LDD/a	64-~~9.6~~ Kbps	AMHS~~None~~	IA-5	
BEIRUT	T	LDD/a	64 – ~~9.6~~Kbps	AMHS~~None~~	IA-5	Back-up
DOHA	M		256Kbps	AMHS~~None~~	IA-5	
Hamad-Airport	M	LDD/d	64-~~9.6~~ Kbps	AMHS~~None~~	IA-5	
KARACHI	T	LDD/d	64 – ~~9.6~~Kbps	AMHS~~None~~	IA-5	
TEHRAN		SAT/ad	64 ~~9.6~~Kbps	AMHS~~None~~	IA-5	
BAGHDAD						
LEBANON						
BEIRUT	M					
AMMAN	M		2Mbps	AMHS	IA-5	VPN in process
BAGHDAD	T		2Mbps	AMHS~~CIDIN~~	IA-5	
BAHRAIN	M		64-~~9.6~~Kbps	AMHS~~CIDIN~~	~~A-5~~IA-5	VPN planed
CAIRO	M		64~~9.6~~Kbps	AMHS~~None~~	IA-5	
DAMASCUS	T		64~~9.6~~Kbps	AMHS~~None~~	IA-5	
JEDDAH	M		64~~9.6~~Kbps	AMHS~~None~~	IA-5	
KUWAIT	M		64-~~9.6~~Kbps	AMHS~~CIDIN~~	IA-5	
NICOSIA	M		64~~9.6~~-Kbps	AMHS	IA-5	
LIBYA						
TRIPOLI	T			AMHS	IA-5	
MALTA	T			AMHS	IA-5	
TUNIS	M		64~~9.6~~Kbps	AMHS~~None~~	IA-5	
BENGHAZI	T		64 Kpbs	AMHS	IA-5	
CAIRO	M		64~~9.6~~Kbps	AMHS~~None~~	IA-5	
KHARTOUM	T		64~~9.6~~Kbps	AMHS~~None~~	IA-5	

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
OMAN						
MUSCAT						
ABU DHABI	T		64Kbps	AMHS		
BAHRAIN	M		64Kbps	AMHS~~None~~	IA-5	
MUMBAI	M		64Kbps	AMHS~~None~~	IA-5	
JEDDAH	M		64Kbps	AMHS~~None~~	IA-5	
SANA'A	T		64 kbps~~100 BD~~	AMHS~~None~~	IA-5	
KARACHI	M		64Kbps	AMHS~~None~~	~~ITA-2~~	
TEHRAN	M		64Kbps	AMHS~~None~~	IA-5	
					IA-5	
QATAR						
DOHA						
BAHRAIN	M		2Mbps	AMHS~~AFTN~~	~~IA-5 (TCP)~~	
KUWAIT	M		2Mbps	AMHS	~~X400(TCP)~~ IA-5	
ABU DHABI	T		2Mbps	AMHS	~~X400(TCP)~~ IA-5	
SAUDI ARABIA						
JEDDAH	M					
ADDIS-ABABA	M	SAT	~~64~~9.6Kbps	AMHS~~None~~	IA-5	
BAHRAIN	M		~~64~~9.6Kbps	AMHS~~CIDIN~~	IA-5	AMHS
BEIRUT	M		~~64~~9.6Kbps	AMHS~~None~~	IA-5	(2015
CAIRO	M		128 ~~9.6~~Kbps	AMHS	~~X400~~	AMHS
MUSCAT	M		64 Kbps	AMHS~~None~~	IA-5	(2015
SANA'A	T	SAT	64 ~~9.6~~Kbps	AMHS~~None~~	IA-5	
AMMAN	M		64Kbps	AMHS	IA-5	AMHS
KHARTOUM	T		64Kbps	AMHS	IA-5	(2015
ABUDHABI	T	SAT	64Kbps	AMHS	IA-5	
NICOSIA	M		64Kbps	AMHS~~CIDIN~~	IA-5	
						AMHS EUR/ MID OPMET

State/Station	Category	Requirement				Remarks
		Type	Signalling Speed	Protocol	Code	
1	2	3	4	5	6	
SUDAN						
KHARTOUM	T					
ADDIS ABABA	M		649.6Kbps	AMHSNone	IA-5	
ASMARA	T		649.6Kbps	AMHS-None	IA-5	
CAIRO	M		649.6Kbps	AMHS-None	IA-5	
JEDDAH	M		64Kbps	AMHS	IA-5	
TRIPOLI	T		649.6Kbps	AMHSNone	IA-5	
NDJAMENA	M		649.6Kbps	AMHSNone	IA-5	
SYRIA						
DAMASCUS						
ATHENS	M		2 X 50 BD	AMHSNone	IA-5	
AMMAN	T		649.6Kbps	AMHSNone	ITA-2	
BEIRUT	M		649.6Kbps	AMHSNone	IA-5	
CAIRO	M		649.6Kbps	AMHSNone	IA-5	
KUWAIT	M		649.6Kbps	AMHSNone	IA-5	
TEHRAN	T		64 Kbps-50 BD	AMHSNone	IA-5 ITA-2	
UAE						
ABU DHABI						
BAHRAIN	M		649.6Kbps	AMHSCIDIN	IA-5	
AMMAN	T	VPN	2 Mbps	AMHS	IA-5	VPN
MUSCAT	M		64Kbps	AMHS	IA-5	
DOHA	T		128Kbps	AMHS	IA-5	
TEHRAN	M		649.6Kbps	AMHSNone	IA-5	
JEDDAH	T	SAT	64Kbps	AMHS	IA-5	
YEMEN						
SANA'A						
JEDDAH	T		649.6Kbps	AMHSNone	IA-5	
MUSCAT	T		649.6Kbps	AMHSNone	IA-5	

APPENDIX 5A

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 Reginal 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 .

ATTACHMENT A

LIST OF PARTICIPANTS

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