



International Civil Aviation Organization

MID ATS Messaging Management Centre Steering Group

Fourth Meeting (MIDAMC STG/4)
(Cairo, Egypt, 18 – 19 March 2019)

Agenda Item 4: Establishment of the MID IP Network (CRV Project)

CRV PROJECT IMPLEMENTATION

(Presented by Oman)

SUMMARY

This paper presents issues need to be considered for the CRV implementation in the MID Region and proposes the way forward.

Action by the meeting is at paragraph 3.

REFERENCES

- CRV OG/5 Meeting
- Summary of discussion of the MID CRV Workshop
- MSG/6 Meeting

1. INTRODUCTION

1.1 Currently, Aeronautical Ground-Ground Communications in the ICAO MID Region, particularly, Aeronautical Fixed Telecommunication Network (AFTN) and AMHS services, operate over point-to-point international leased circuits. Such bilateral point-to-point circuit would not be able to support dynamic routing for AMHS or true System Wide Information System (SWIM) environment.

1.2 As AMHS continues to replace AFTN, a more advanced and cost-effective method of providing network services to the region should be considered.

1.3 Ground-ground communications network configuration exhibits a number of limitations, including (but not limited to):

- a) cost limitations: high costs per connection;
- b) a marked obsolescence threat due to ageing technologies and protocols (IPL, X25 etc.);
- c) a need for telecommunication backup or diversity, although the current reliability is assessed as rather satisfactory;
- d) problems experienced with change management;

- e) Need for separate requisition process for each new connection, generally a time-consuming and cumbersome process;
- f) Limited flexibility for increase in bandwidth;
- g) Limited flexibility for expansion to other end-points;
- h) Need to deal with half circuit vs. full circuit arrangements, depending upon policies of ANSPs involved;
- i) A design that is not adapted to the current and new needs;
- j) Potential duplication of network services as bandwidth for other types of data are generally obtained separately;
- k) the inability to switch to new protocols like VoIP or SWIM with an efficient network design; and
- l) Heterogeneous practices as to performance requirements and monitoring.

1.4 CRV as a dedicated common communication network for states in specific region, is a cross-border, cost-effective, provided by service provider and as an approach means to be considered to replace the AFTN and AMHS current configuration.

1.5 It enables or facilitates a number of ASBU modules, including B1-SWIM, B1-FICE, B1-DATM, B1-NOPS and B1-AMET, and solves current limitations (obsolescence, lack of standardization, poor escalation processes) and aeronautical communication deficiencies.

1.6 Common Communication Network had successfully been deployed in some other ICAO regions (e.g. PENS in EUR Region, FTI for North American Region, MEVA for South America and CAR region, and CRV for APAC region).

2. DISCUSSION

2.1 Nevertheless, 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.

2.2 Issues to be considered include, but are 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.

2.3 A number of steps proposed to be taken to further pursue above mentioned issues. These steps include:

- a) Follow up on recommendation/action of CRV Workshop held in Cairo, Egypt, 1 March 2018 and Fifth Meeting of the Common Aeronautical VPN Operations Group (CRV OG/5) held in Hong Kong, China, 23-25 January 2019.

- b) Conduct a meeting on CRV project with Subject Matter Expert (SME) to investigate the issues described above, study the appropriate CRV framework for MID IP Network and develop detailed proposal for appropriate CRV Packages for states, System Design Document (SDD) and Implementation Plan, in effective manner in the short term.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) review the contents of this working paper; and
- b) consider the Proposed steps in Section 2 above.

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