International Civil Aviation Organization

Aeronautical Telecommunication Network/Internet Protocol Suite Working Group

Fifth Meeting (ATN/IPS WG/5)
(Cairo, Egypt, 11-13 March 2013)

Agenda Item 4: Review and update of MID ATN Plans and Implementation issues

EGYPT ATN PROGRESS OVERVIEW

(Presented by Egypt)

SUMMARY

This paper provides information on the latest Egypt ATN PROGRESS OVERVIEW and Egypt IP BASED INTERNATIONAL LINKS.

Action by the meeting is at paragraph 3.

1. INTRODUCTION

1.1 Egypt ATN network provide Aeronautical Telecommunication for Inter and Intra Points to transfer voice and data information based on Internet Protocol as proposed in ICAO 9896 Doc and MID IPS documents.

1.2 ATN/IPS provides High availability and much more flexibility of IP technology based on IPV4&IPV6. more reliable and lower cost communication path with the internal and external points.

1.3 In accordance with the MID ATN plans and based on the implementation work program, Egypt is expected to follow-up the agenda items for ATN plans.

Definition of ATN

1.4 The Aeronautical Telecommunication Network (ATN) is defined within the International Civil Aviation Organization (ICAO) as a digital data communications network for the aeronautical community.

1.5 ATN routers will link the diverse networks and technologies within the aeronautical environment into an internetwork.

1.6 Routers provide intelligence to select the best communications path for each pair of users.

ATN Communication

1.7 The ATN supports communication between:

a) Airline systems and ATS systems
b) ATS and aircraft systems
c) Ground ATS systems and airline systems.

2. DISCUSSION

ATN Infrastructure Developments and Action Plans

2.1 Egypt ATN upgraded **6** of its old analogue communication lines to the IP based links and they are operational for integrated voice and data communications.

2.2 Installed, commissioning and integration of an automated AHMS system since 2008 and the first AMHS Link establish and operational since 2010 on basis the high Technology and operating on dual stack protocols. (IPv4 & IPv6).

2.3 Existing AFTN and CIDIN Link used together with AMHS Link that gives New ATN facilities and certain ground-ground applications.

Egypt AHMS implementation plan in brief

AMSC Center	Installation Date	Operational Date	MTA Name	AFTN AMHS Gateway	ATS Service level	Protocol Support	Address Type
Cairo	2008	2010	HECA	Yes	Extended	IPv4,IPV6	CASS,XF

Egypt AMSC overview

2.4 Egypt AMSC Centre is responsible for relay on the basis of its AFTN/CIDIN/AMHS system and connecting to its neighbouring international centers.

2.5 AMSC switching center shown in first page of **Appendix A** to this working paper ; and is operating on 85 international, domestic and airline channels as follows:

- 12 international channels
  - 4 channels IP Based:
    2 AMHS (Amman and Jeddah)
    1 CIDIN (Athens)
    1 AFTN (Tripoli)
  - 3 AFTN channels High speed digital communication
    (Damascus – Tunis – Ben Groin)
  - 5 channels analog communication
    4 NAFI SAT (Khartoum – Asmara – Nairobi-Tripoli)
    1 CIDIN (Beirut)

- 67 Local domestic AFTN channels (analog communication 1200-2400 baud)

  - 45 NAVSAT via NANSC dedicated satellite system
  - 22 via analog modem V.24

- 6 airlines operating agencies channels(analog communication)

Conclusion

2.6 Egypt has been trying to move and Upgrading from old analogue communication aeronautical telecommunication infrastructure to the new IP based infrastructures which provides a lower cost, more Reliable, and high performance network that can be used for both voice and data simultaneously.

2.7 Transitioning from old AFTN to the new enhanced AHMS applications not only requires replacing old AFTN applications with the new ones both in server and client sides but also requires upgrading all old 1200, 2400, 9600 bps lines to the new 64Kbps channels.

2.8 Egypt is planning to implement a new IP based infrastructure by using fiber technology in the near future.

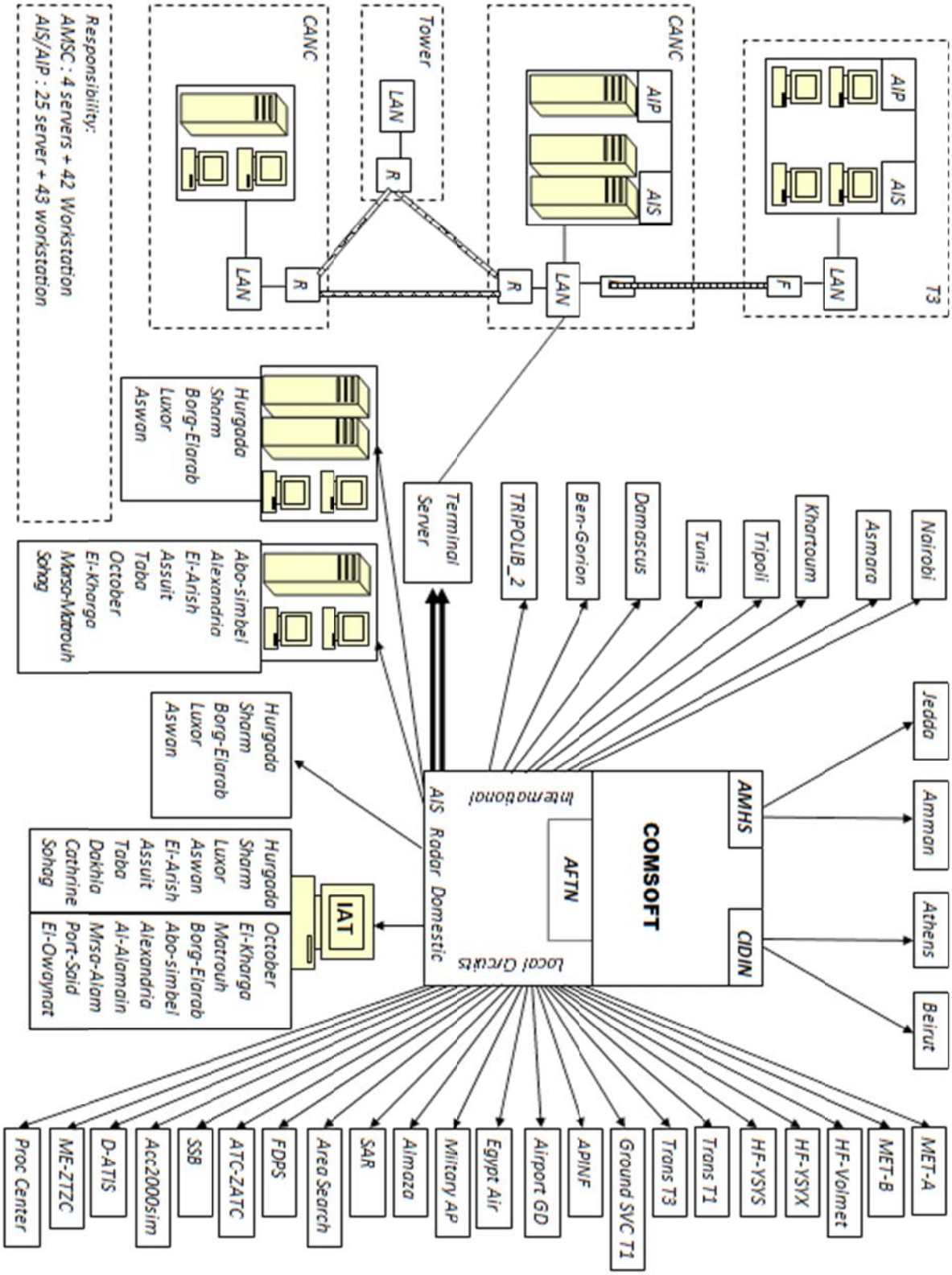
3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in the paper and the following **Appendix A** to this working paper; and

b) to upgrade the circuits implementing AMHS technology.

APPENDIX A


T3
AIP
AIS
LAN
F
CANC
AIP
AIS
LAN
R
Tower
LAN
R
CANC
LAN
R
Responsibility:
AMSC : 4 servers + 42 Workstation
AIS/AIP : 25 server + 43 workstation
Hurgada
Sharm
Borg-Elarab
Luxor
Aswan
Abo-simbel
Alexandria
El-Arish
Assuit
Taba
October
El-Kharga
Marsa-Matrouh
Sohag
Terminal Server
TRIPOLIB_2
Ben-Gorion
Damascus
Tunis
Tripoli
Khartoum
Asmara
Nairobi
Jedda
Amman
Athens
Beirut
COMSOFT
AMHS
AFTN
CIDIN
International
AIS Radar Domestic
Local Circuits
IAT
Hurgada
Sharm
Luxor
Aswan
El-Arish
Assuit
Taba
Dakhla
Cathrine
Sohag
October
El-Kharga
Matrouh
Borg-Elarab
Abo-simbel
Alexandria
Al-Alamain
Mrsa-Alam
Port-Said
El-Owaynat
MET-A
MET-B
HF-Volmet
HF-YSYX
HF-YSYS
Trans T1
Trans T3
Ground SVC T1
AFINF
Airport GD
Egypt Air
Military AP
Almaza
SAR
Area Search
FDPS
ATC-ZATC
SSB
Acc2000sim
D-ATIS
ME-ZTZC
Proc Center

EGYPT IP BASED INTERNATIONAL LINKS

Link	State Destination	Bandwidth	Protocol Support	Applications in use	Status
1	Amman	64k	IPv4	AMHS, Voice	operational
2	Athens	64k	IPv4	Voice only	operational
3	Athens	64k	IPv4	CIDIN, Voice	operational
4	Jeddah	64k	IPv4	Voice, OLDI, Radar	operational
5	Jeddah	128k	IPv4	AMHS, Voice	operational
6	Riyadh	64k	IPv4	Voice	operational
7	Tripoli	64k	IPv4	AFTN	Backup

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