



# INTERNATIONAL CIVIL AVIATION ORGANIZATION Regional Workshop on ATS Message Handling System (AMHS)

*Dakar, 28-29 May 2013*

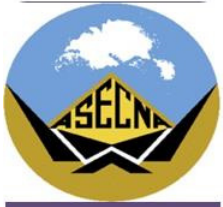
## Item5 : AMHS implementation status in ASECNA

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Presented by ASECNA

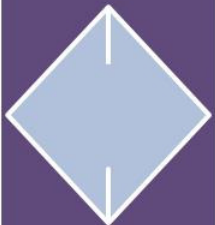


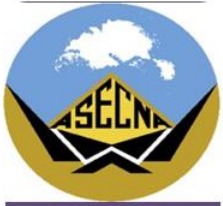
# SUMMARY

- Introduction
- ASECNA AMHS Implementation Project
- Architecture Overview
- AFI Network Harmonization
- Challenges for AMHS Operational Implementation within the AFI Region
- Conclusion

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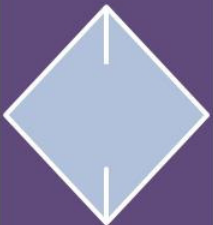
## INTRODUCTION

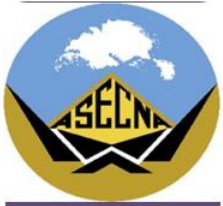
The APIRG 17<sup>th</sup> meeting adopted the conclusion 17/16 :  
“That, when implementing AMHS as part of Aeronautical Telecommunication Network (ATN), AFI States and Organizations adopt a cooperative approach based on a regional coordination to ensure the continuity of AFS during the transition period between AFTN and full AMHS Operation”

This presentation provides the meeting with the AMHS implementation status in ASECNA.

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## ASECNA AMHS Project (1)

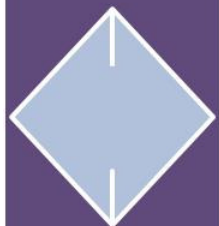
ASECNA is implementing the ATS message server with AFTN/AMHS Gateway fully compliant to ICAO Doc 9880 Part II ATN SARPs,  
Full support of IP-Based networks (AMHS, AFTN)  
Full conventional AFTN message switch (Annex 10)

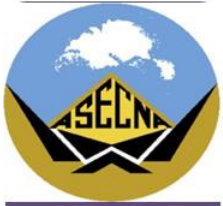
Type of the System : Basic and Extended AMHS capable.  
Implemented AMHS Services: Message Server (MTA and MS) and Gateway (MTA and MTCU) combined.

Level of system Integration: Notam and OPMET database

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## ASECNA AMHS Project (2)

**Phase 1** : Antanarivo, Bamako, **Brazzaville**, Cotonou, **Dakar**, EAMAC, Lomé, N'Djamena, **Niamey**, Nouakchott and Ouagadougou.

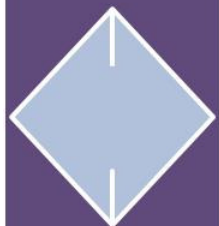
A training system will be implemented in EAMAC in Niamey,

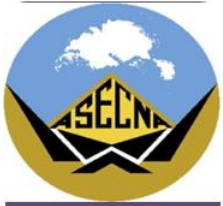
SAT: is planned from december 2013 to april 2014

**Phase 2** : Abidjan, Bangui, Bissau, Douala, Libreville, Malabo, Moroni planned in next Investesment Plan (PSE 2014-2016).

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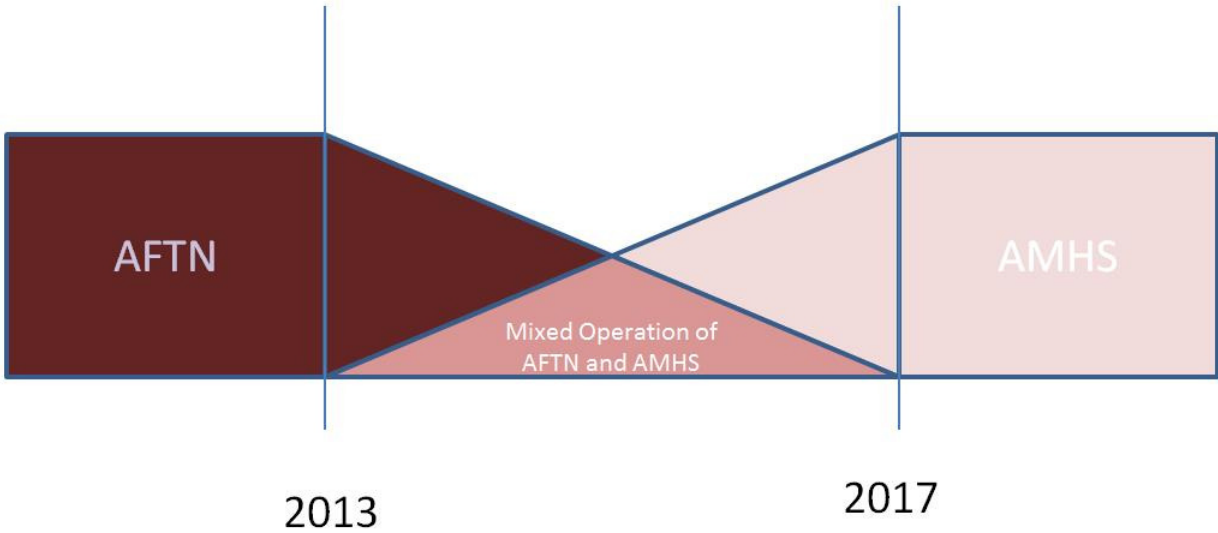
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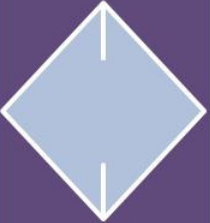


# ASECNA AMHS Project (3)

Roadmap: Internal level (between ASECNA Centres)

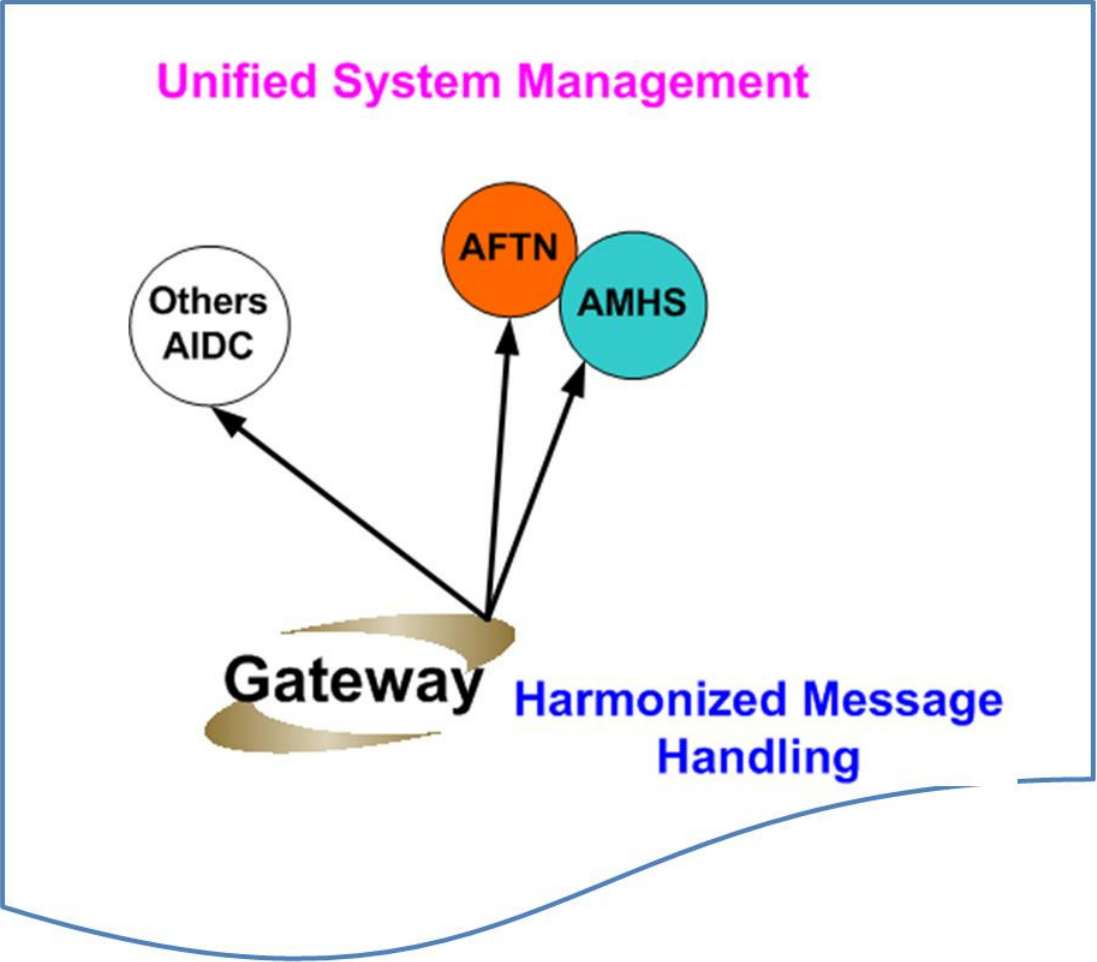


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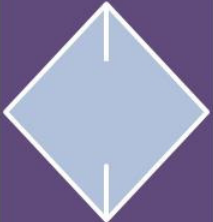




# ASECNA AMHS Project (4)



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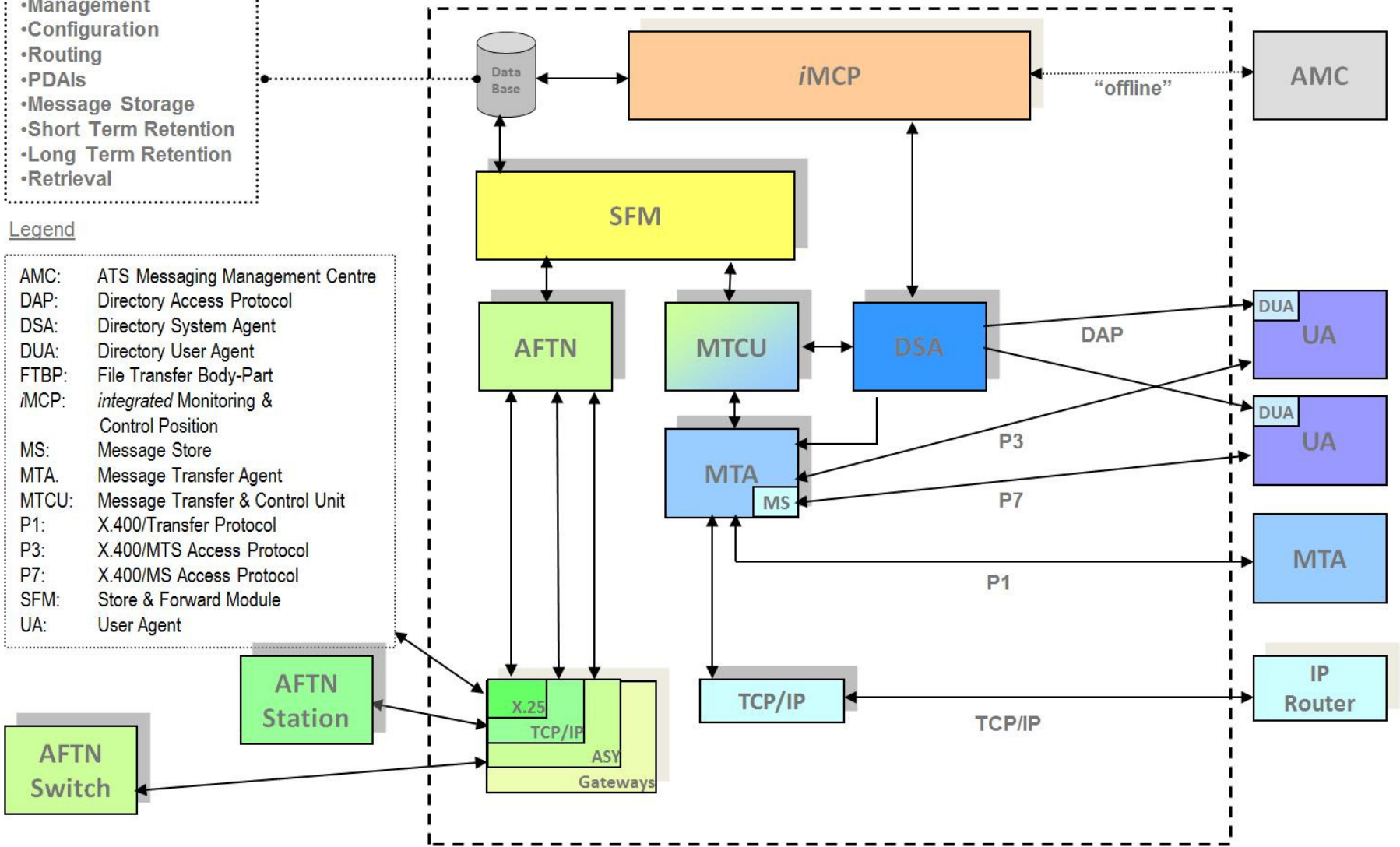
Integration of AFTN and AMHS in one system  
Gateway function for all kind of messages

# ASECNA AMHS Project (5)

- Management
- Configuration
- Routing
- PDAIs
- Message Storage
- Short Term Retention
- Long Term Retention
- Retrieval

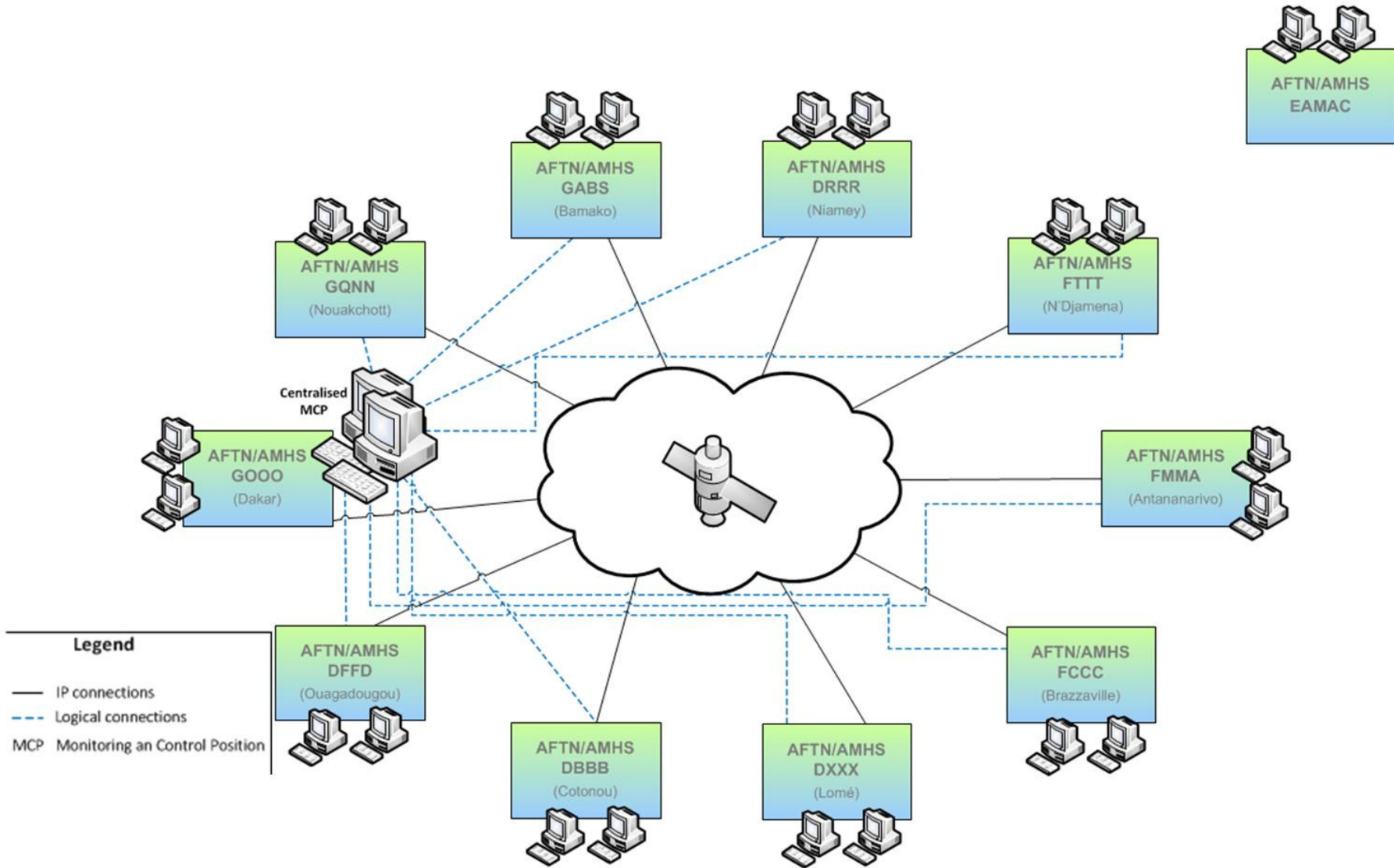
Legend

- AMC: ATS Messaging Management Centre
- DAP: Directory Access Protocol
- DSA: Directory System Agent
- DUA: Directory User Agent
- FTBP: File Transfer Body-Part
- iMCP: *integrated* Monitoring & Control Position
- MS: Message Store
- MTA: Message Transfer Agent
- MTCU: Message Transfer & Control Unit
- P1: X.400/Transfer Protocol
- P3: X.400/MTS Access Protocol
- P7: X.400/MS Access Protocol
- SFM: Store & Forward Module
- UA: User Agent

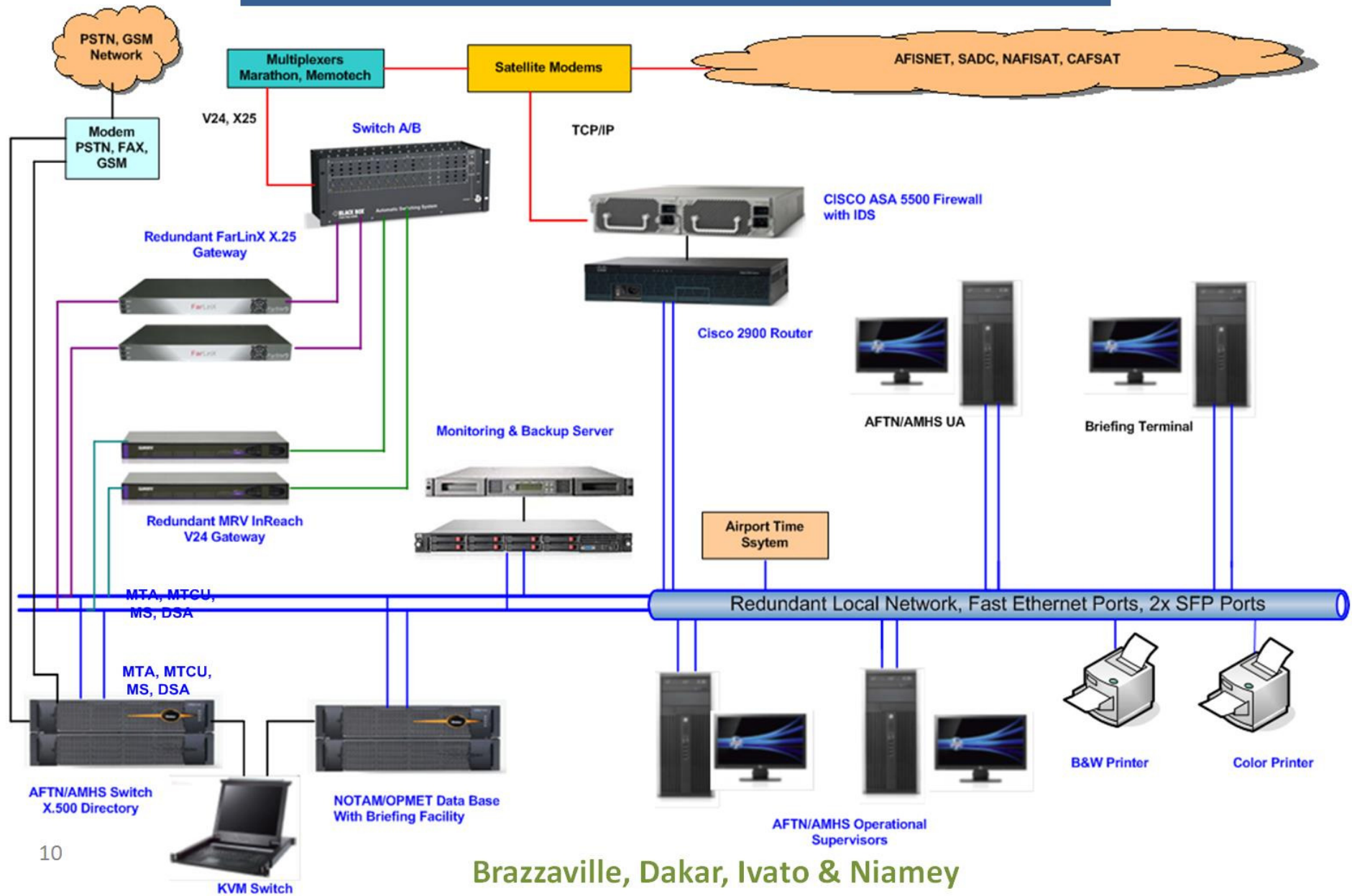




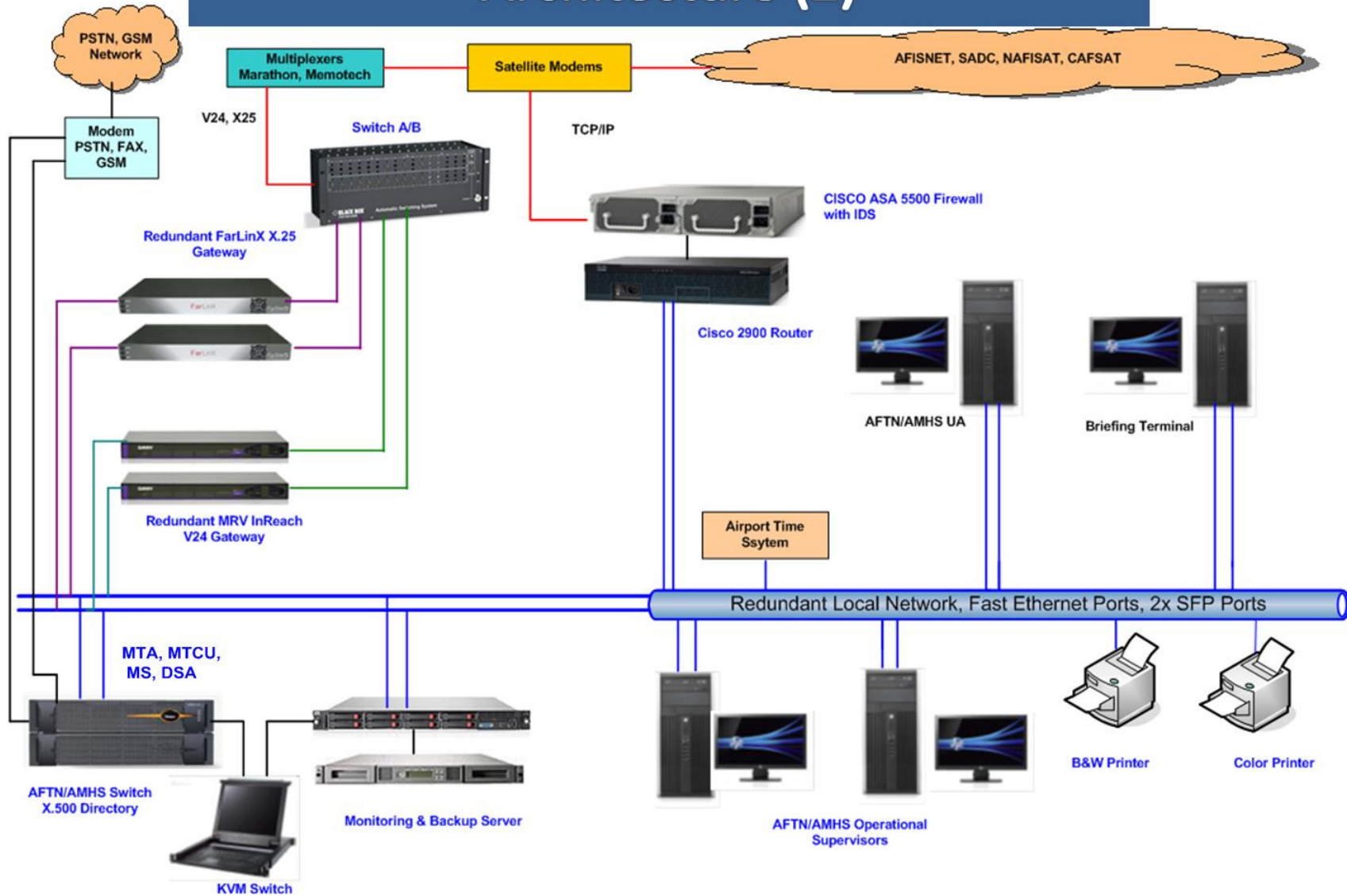
# AMHS Network Overview



# Architecture (1)

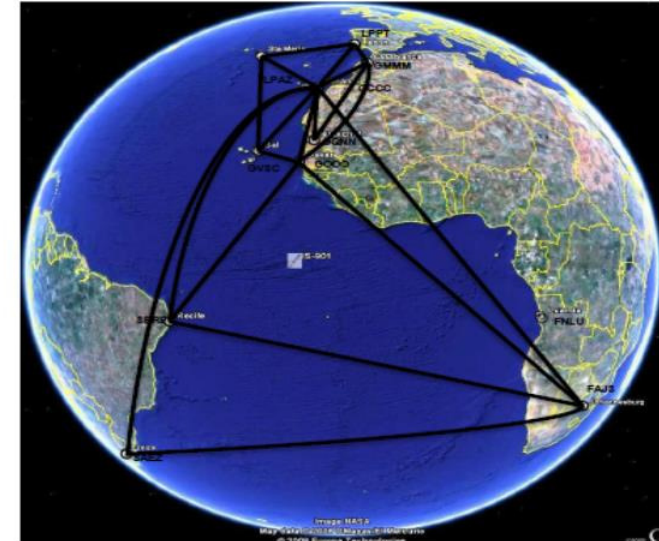
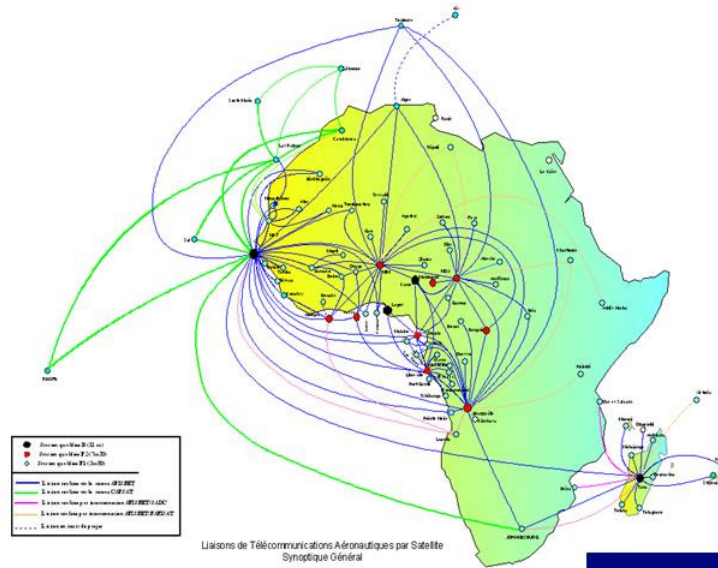


# Architecture (2)



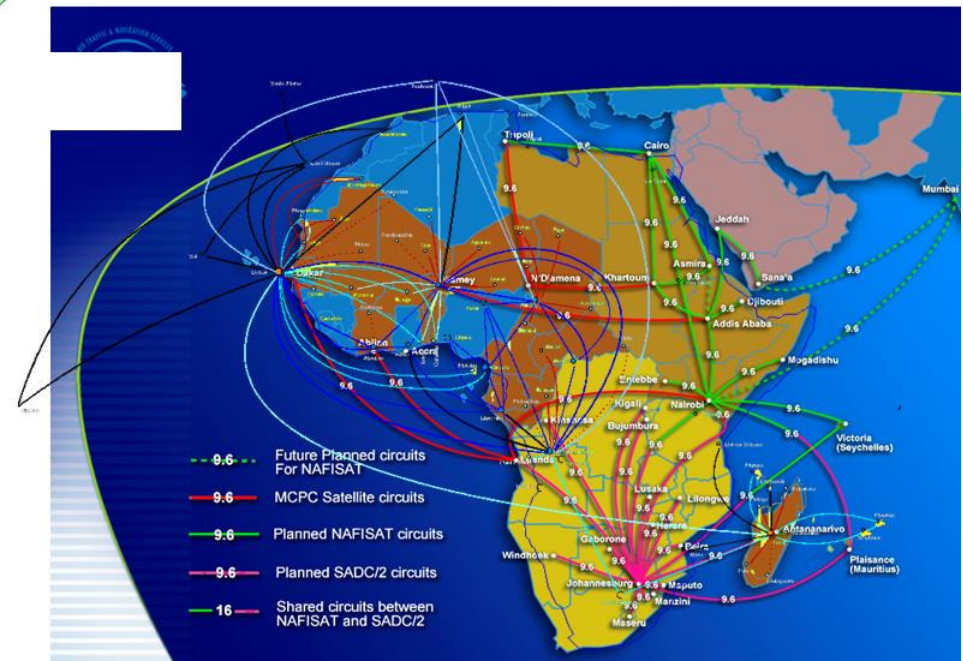
Bamako, Cotonou, Lomé, N'Djamena, Nouakchott, Ouagadougou

# AFI Network Harmonization (1)



Four Aeronautical VSAT networks operating in C-Band to be upgraded and to converge and support :

- ATN
- TCP/IP protocols
- IP connectivity between COM Centres



## AFI Network Harmonization (2)

The AFI RAN meeting held in Durban, South Africa from 24 to 29 November 2008 formulated Conclusion 6/19:

**Planning, implementation and operation of very small aperture terminal (VSAT) networks in the AFI Region:**

*That*

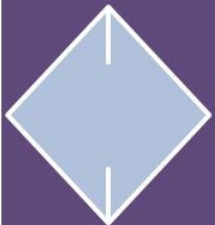
*all entities involved with planning, implementation and operation of very small aperture Terminal (VSAT) networks in the AFI Region hold regular joint meetings under the auspices of ICAO regional offices for the purpose of harmonization and eventual realization of a seamless AFI communication network supporting all present and future communications, navigation, and Surveillance (CNS) Systems*

# **CHALLENGES FOR AMHS OPERATIONAL IMPLEMENTATION IN THE AFI REGION**



## Challenges for AMHS Implementation within the AFI Region

- ✓ AMHS addresses Coordination;
- ✓ AMHS Training , including basic, technical and operational training;
- ✓ **IP Network Infrastructure Tests**
- ✓ AMHS Conformances tests;
- ✓ AMHS interoperability tests;
- ✓ AMHS pre-operational tests ;
- ✓ AMHS operational cut-over,





## Challenges for AMHS Implementation within the AFI Region

- ✓ AMHS Training , including basic, technical and operational **ICAO**
- ✓ AMHS addresses Coordination;

**ICAO EUR Doc 026 – AMHS COM Centre Training Guidelines**

- ✓ **IP Network Infrastructure Tests**

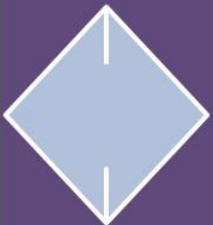
**ICAO EUR Doc 027 – IP Infrastructure Test Guidelines for EUR AMHS**

- ✓ AMHS Conformances tests;

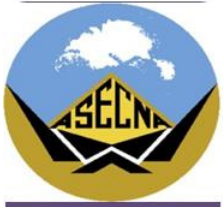
**ICAO EUR Doc 020 – EUR AMHS Manual, Appendix D**

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## Challenges for AMHS Implementation within the AFI Region

- ✓ AMHS interoperability tests;

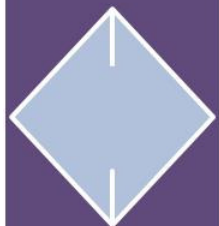
**ICAO EUR Doc 020 – EUR AMHS Manual, Appendix E**

- ✓ AMHS pre-operational tests ;

**ICAO EUR Doc 020 – EUR AMHS Manual, Appendix F**

- ✓ AMHS operational cut-over,

**Appropriate and harmonized coordination and planning among the  
AFI-ANSP**





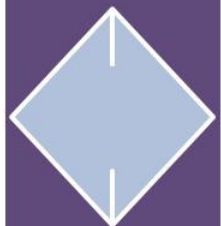
## CONCLUSION – ACTIONS TO BE TAKEN

That

- That the AFI States/Organisations expedite the implementation of the integrated regional telecommunication Infrastructure for the benefit of the AMHS operational implementation ;
- The AFI-Region develop and adopt the documents required to perform the various test necessary for the operational implementation of AMHS ;
- The ANSP that have already implemented AMHS take the necessary measure to perform the tests for the operational implementation of AMHS;
- That the AFI States/Organisations provide and expedite the necessary training in order to insure the full operational implementation of AMHS in the AFI-Region.

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END

