DATA LINK OPERATIONS
Piarco FIR

TRINIDAD AND TOBAGO

CURRENT POSITION
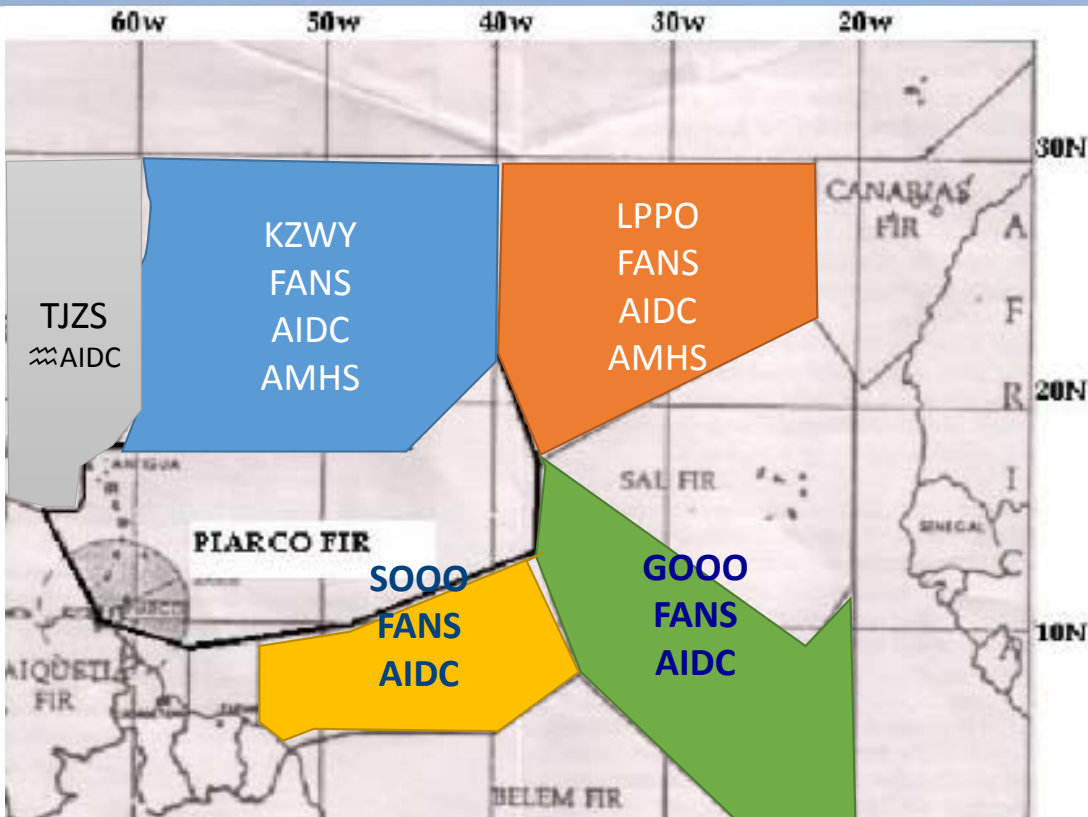
SINT MAARTEN, 18 - 21 April 2016

DATA LINK SERVICES PIARCO

➢**CPDLC/ADS-C – being operationalized**

➢**AIDC – off line testing in progress**
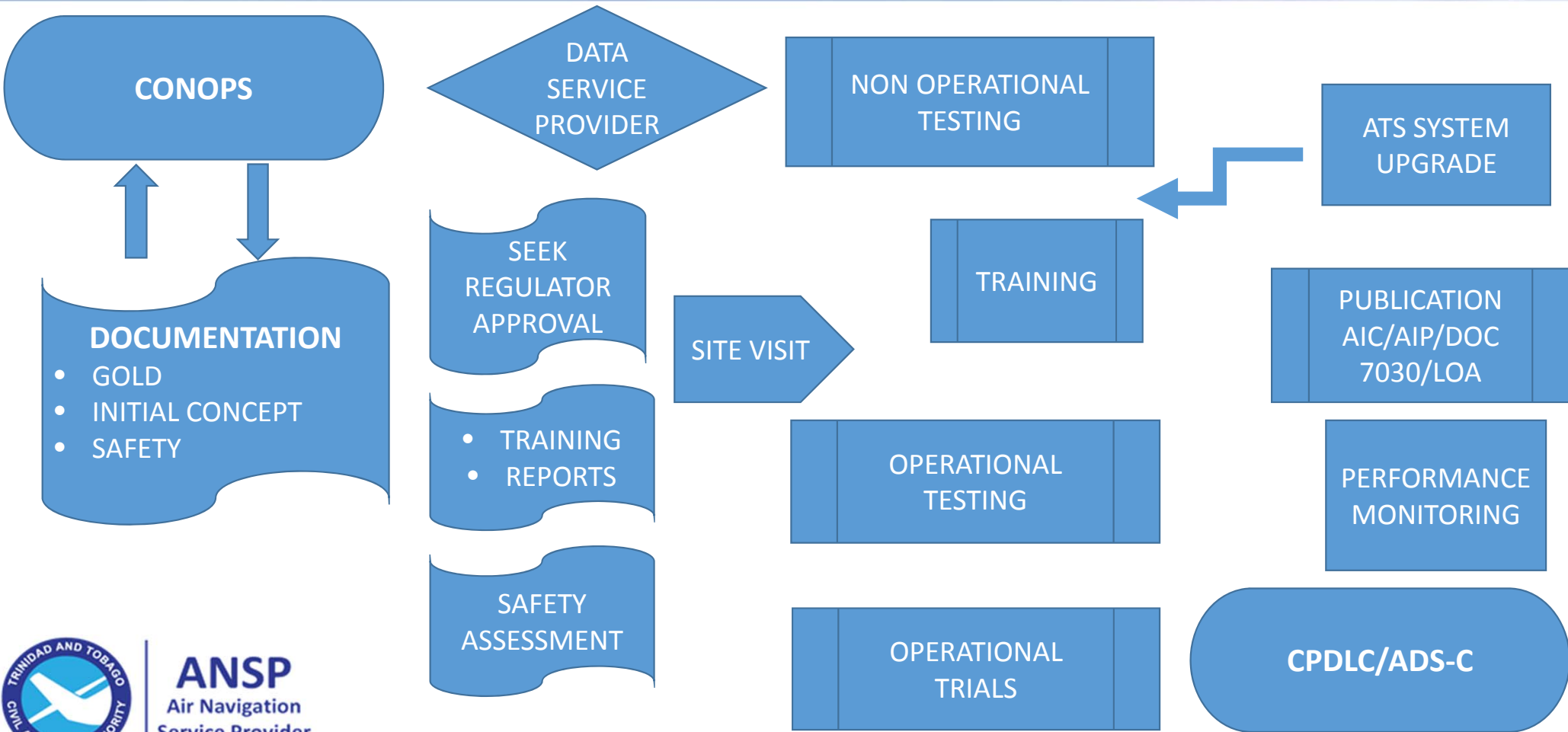
➢**AMHS – testing towards operationalization**

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Air Navigation
Service Provider

PIARCO FIR

- ❏ **KZWY**
  - ✓ **CPDLC/ADS-C**
  - ✓ **AIDC**
  - ✓ **AMHS**
- ❏ **LPPO**
  - ✓ **CPDLC/ADS-C**
  - ✓ **AIDC**
  - ✓ **AMHS**
- ❏ **GOOO**
  - ✓ **FANS**
  - ✓ **AIDC**
- ❏ **SOOO**
  - ✓ **FANS**
  - ✓ **AIDC**

FANS PROCESS MAP

CONOPS

DATA SERVICE PROVIDER

NON OPERATIONAL TESTING

ATS SYSTEM UPGRADE

DOCUMENTATION
- GOLD
- INITIAL CONCEPT
- SAFETY

SEEK REGULATOR APPROVAL

SITE VISIT

TRAINING

PUBLICATION AIC/AIP/DOC 7030/LOA

- TRAINING
- REPORTS

OPERATIONAL TESTING

PERFORMANCE MONITORING

SAFETY ASSESSMENT

OPERATIONAL TRIALS

CPDLC/ADS-C

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ESSENTIAL GUIDANCE
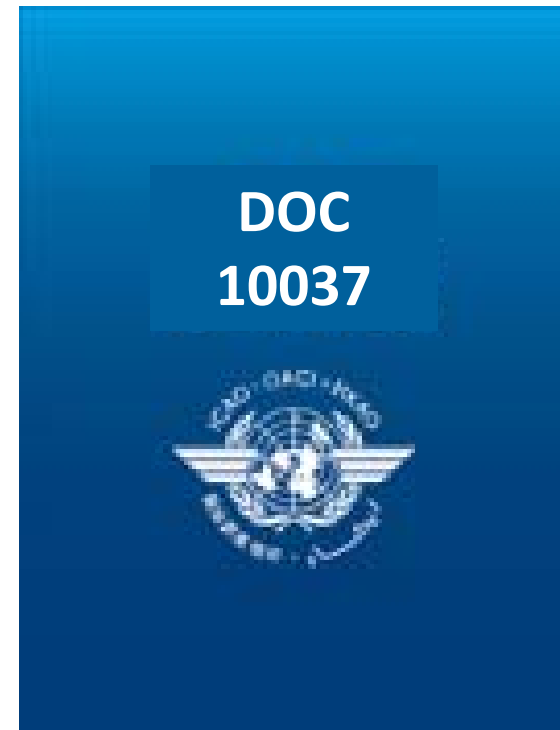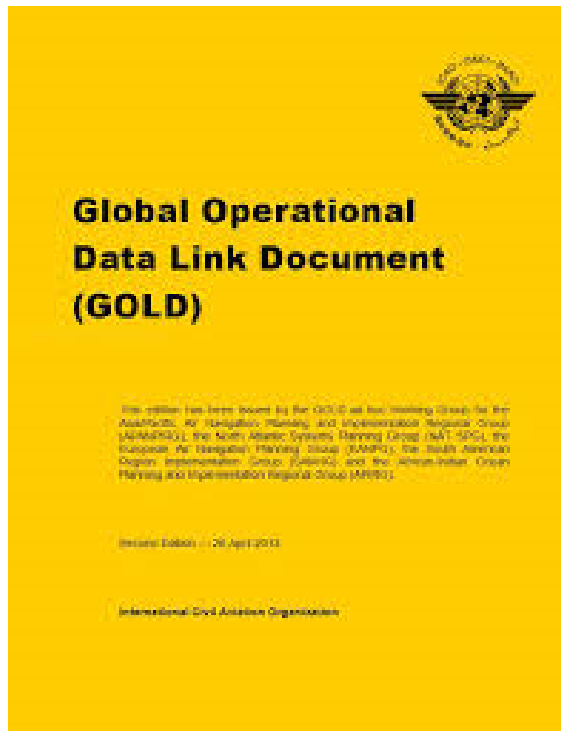
FANS PROCESS MAP

- Assemble a multi-sectorial task force

- Formulate an initial Concept of Operations (CONOPS)

- Adopt GOLD as the guidance

- Perform a preliminary Safety Assessment

- Training Plans and data collection

- Testing plans and documentation

- Collation of Test results ✈ collaboration with ATM supplier for improvements

- Determine the UL/DL message that can be supported

- Letters of Agreement

- Testing/Trials/Training

- Implementation

- On-going Performance monitoring

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CPDLC Challenges Encountered

- Automatic CPDLC disconnect after first successful DL message

- Route field in pre-set message inadequate

- Aircraft connecting for ADS-C but not CPDLC

- Repeated transmission of "On Demand" contact at short time interval

- Message that were unclear: "Logon refused due to Flight Plan Mismatch" or "Double Logon"

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CPDLC / ADS-C EXPECTATION

GOAL

- Communication Method in Piarco Oceanic Sector by July 2016

- 30% Start-up Target Already Achieved

- Training for All ACC ATCOs

- CPDLC/ADS-C Part of Ab-initio ATC Training

ATS Inter-facility Data Communication -AIDC

- AIDC Network Configuration for testing with the FAA
- ATM test bed configured to replicate the live system.
  - Signal Data Processor (SDP).
  - Flight Data Processor (FDP).
  - Controller Working Position (CWP).
  - Flight Data Operator Position (FDO).
- AIDC Simulator.
- AFTN/AMHS connection
- ECAR Network
- Test circuit to the FAA Technical Centre in Atlantic City.

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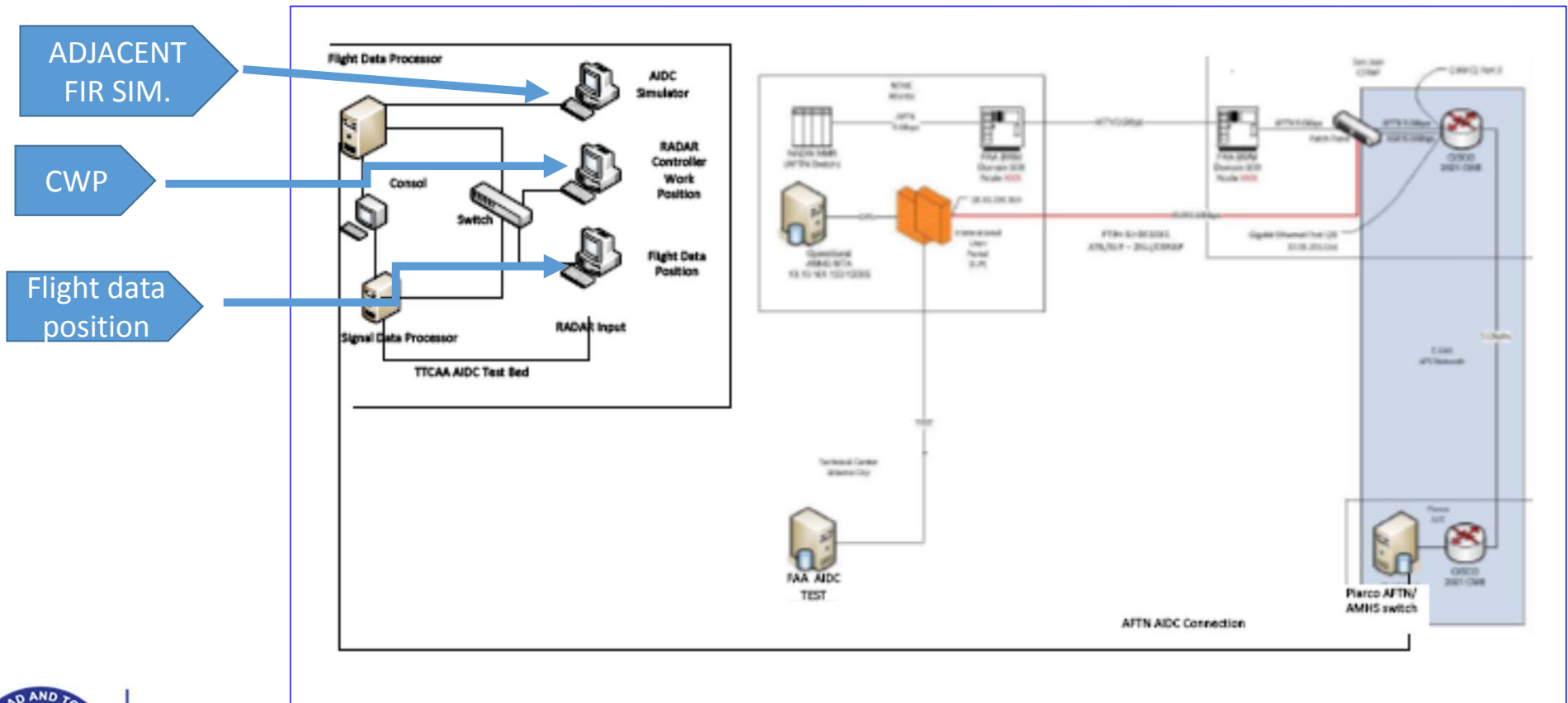Service Provider

AIDC Planning

- Assemble a multi-sectorial Task force

- Decide on CONOPS

- Testing
  - Non –operational offline
  - Non-operational
  - Operational

- Safety Assessment
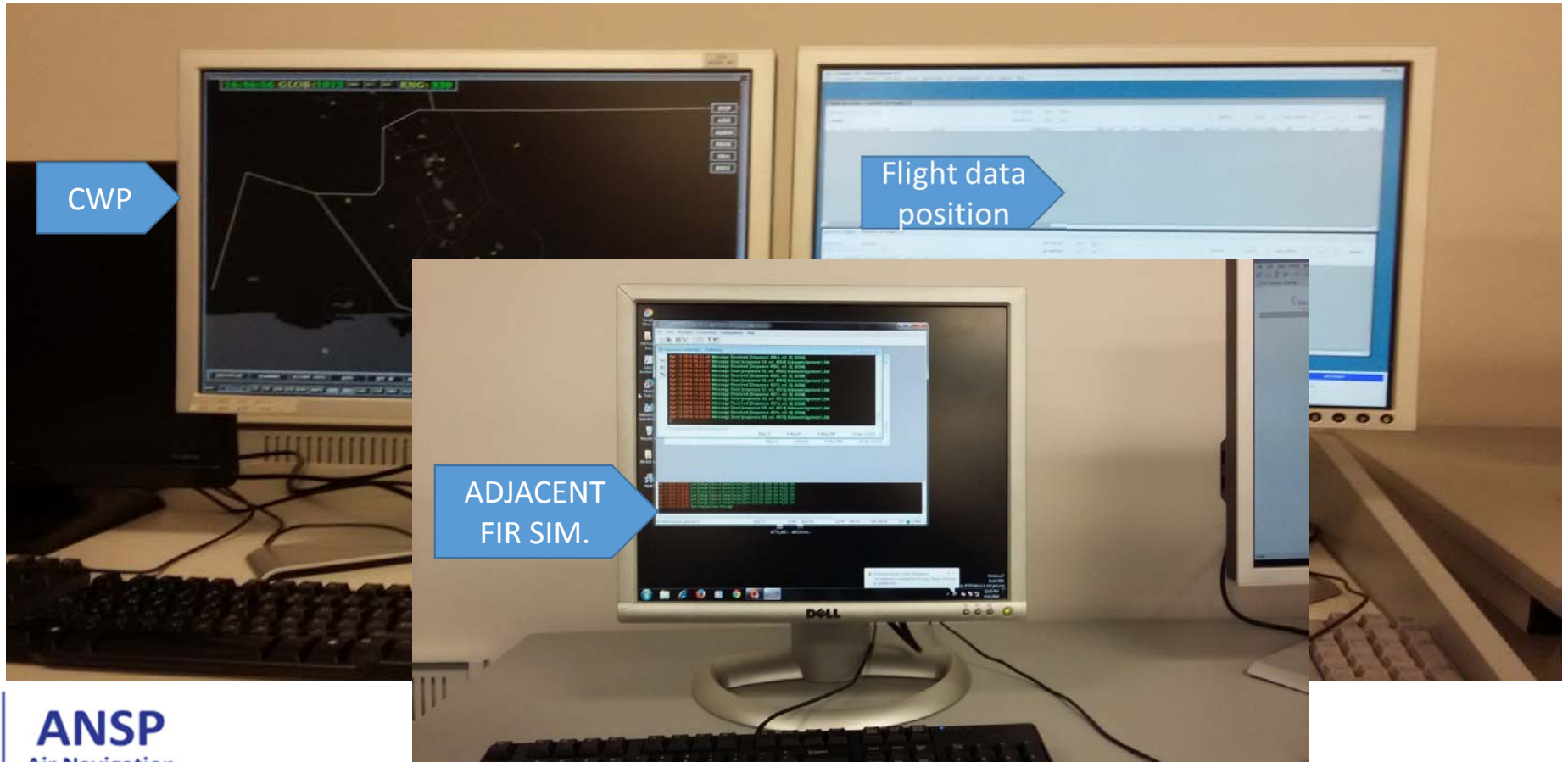
- Documentation- LOA; Records;

- Training

AIDC PLANNING

AIDC TEST BED

AIDC MESSAGES

- ABI – Advance Boundary Information
- CPL – Current Flight Plan
- ACP – Acceptance
- CDN – Coordination
- REJ – Rejection
- LAM – Logical Acknowledgement
- LRM – Logical Rejection

AIDC PLANNING

❖OFF Line testing:

  ❖Following the FAA/TTCAA Test Plan

    ▪ ABI ⟶ CPL ⟶ ACP/CDN ⟶ CDN/REJ
    ⟵   ⟵   ⟵
    LAM/LRM   LAM/LRM   LAM/LRM

 ❖Test Message Sequence

    ▪ ABI-CPL-ACP
    ▪ ABI-ABI-ABI-CPL-ACP
    ▪ ABI-CPL-CDN-ACP
    ▪ ABI-CPL-CDN-CDN-ACP
    ▪ ABI-CPL-ACP-CDN-REJ
    ▪ ABI-CPL-ACP-CDN-ACP

AIDC Challenges

- AIDC was not activated in the original ATM build

- Only off-line testing possible thus far, configuration required

- There is no "GOLD" document for AIDC

- States are negotiating AIDC V2 we are still to get started on V1

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AIDC EXPECTATION ATC

CPL

CDN
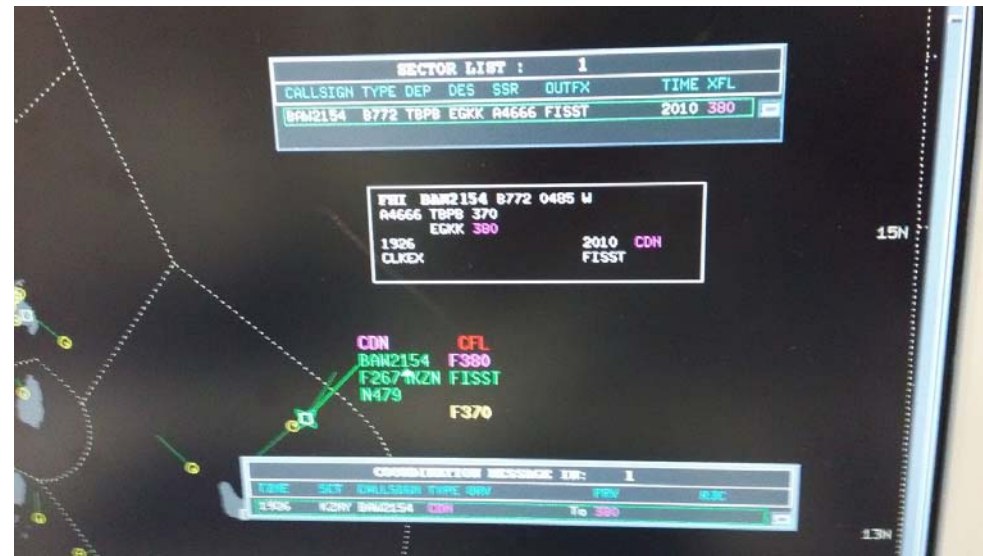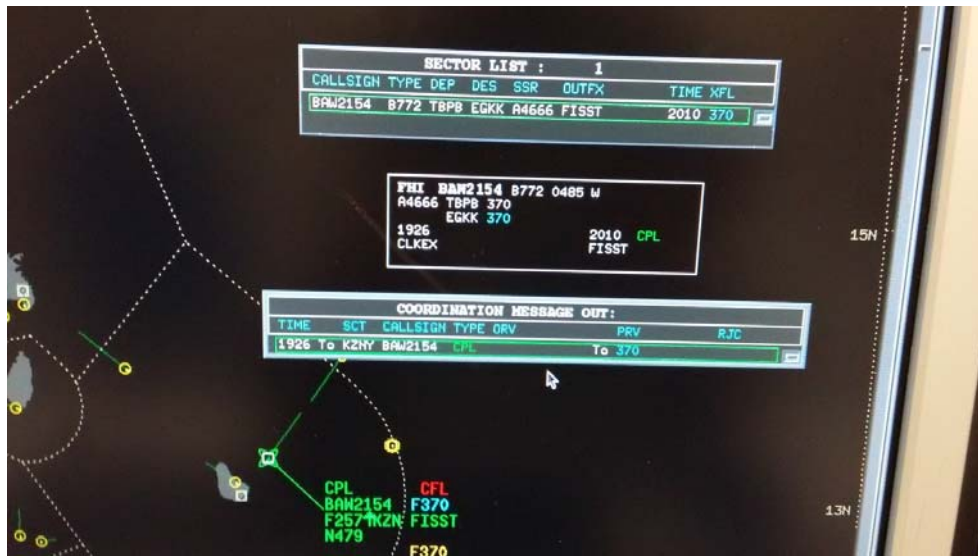
Aeronautical Message Handling System - AMHS
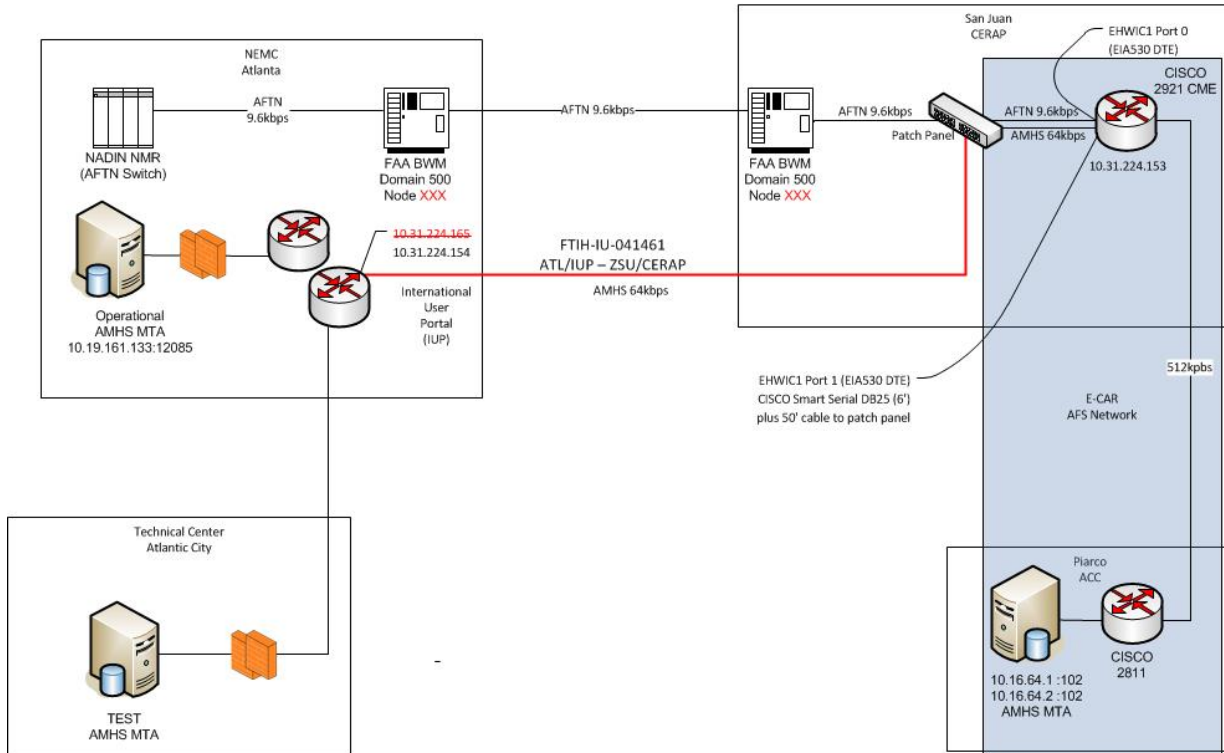
AMHS

Multi Media Based
- Images
- Video
- Text

AFTN   Text Based

AMHS TTCAA – FAA Circuit

AMHS Testing with the FAA

- AMHS configuration of AIM switch.

- Configuring ECAR Network.

- Setting up a test circuit to FAA Technical Centre in Atlantic City.

- Agreement on a test procedure

ECAR Region Transition to AMHS

AMHS configuration of the switch for each state.

AMHS EXPECTATION

- Improved robustness due to addressing capabilities ✈ more secure network

- Ability do exchange messages with multimedia attachments ✈ no limit on message size

- Improve data transfer speed

- Reduction in loss of DATA

- Facilitate the implementation SWIM

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Thanks for your attention.