Dominican Republic AIDC Implementation Progress

CAR/SAM Seminar/Workshop on Implementation of Advanced Surveillance and Automated Systems
Panama City, Panama, 22 to 25 September 2015

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Radar Systems Manager

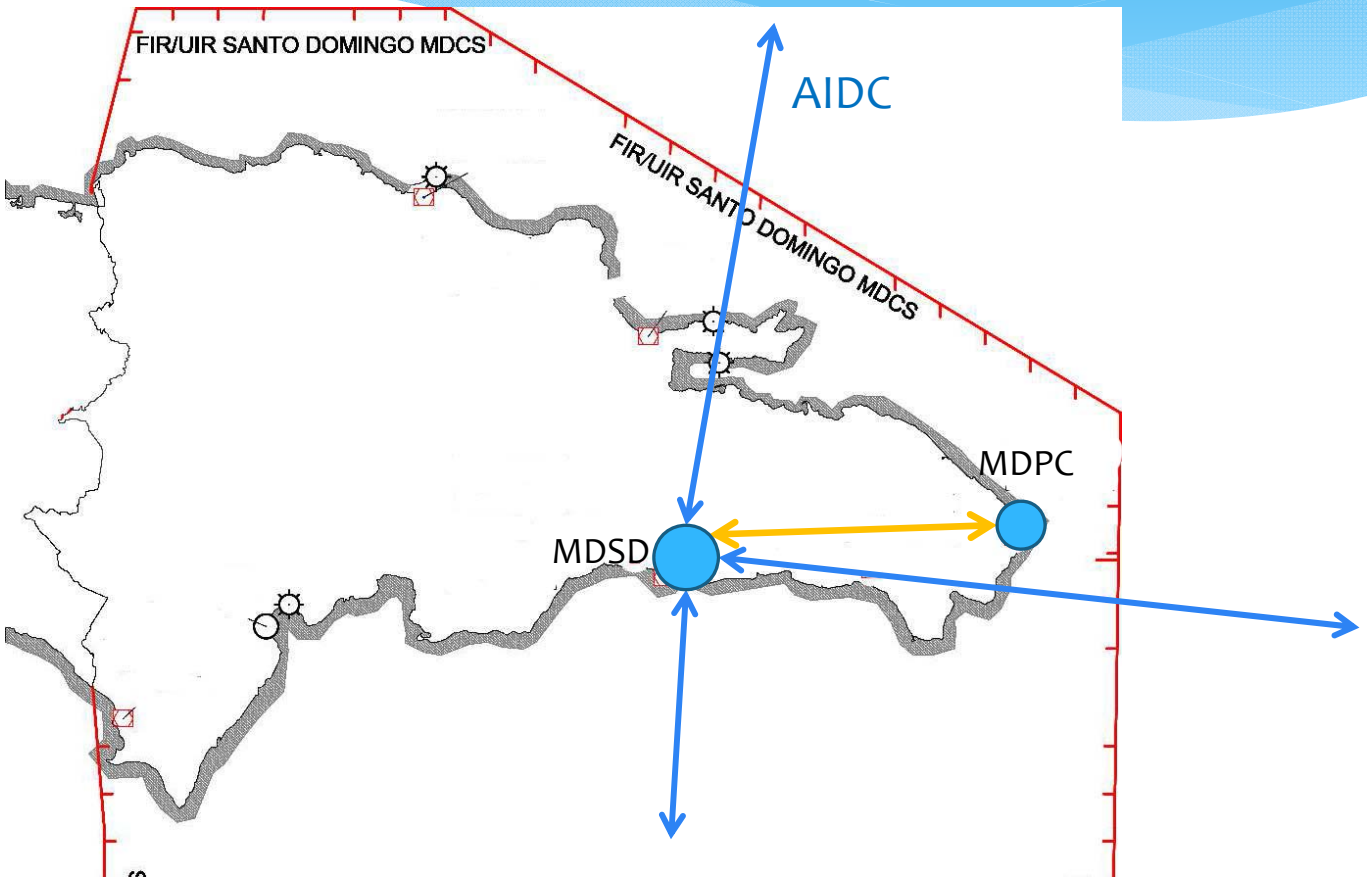
Outline

- AIDC
  - Need for AIDC
  - Implementation Status
  - Go Team mission in Dominican Republic
  - Latest accomplishments
- Surveillance
  - Background
  - Overview of surveillance systems
  - ADS-B Implementation

Need for AIDC

- → Increasing traffic between adjacent FIRs
- → Verbal coordination between centers is error-prone and time consuming.

Need for AIDC – Planned Funcionality



Implementation status – ATC system

- Thales TopSky System
- AIDC capability
  - OLDI
  - AIDC (NAT/APAC)
  - NAM
- Test environment

Implementation Status – AMHS system

- Ubitech/IDS system
- System capabilities
  - Funcional gateway with the U.S.
  - Functional interconnection with TopSky system
- AMHS address defined for TopSky system (operational/test environment)

Implementation status – Connectivity

- Part of MEVA III network
- 64k V.35 link to network
- Using TCP/IP internally and to outside world

Go Team Mission Dominican Republic

- 9 – 12 September, 2014
- Overview of State's implementation status
- Technical analysis / Gap analysis
- Developing action plan
- Recommendations and report

Go Team Mission Dominican Republic

- Notable items
  - System preparedness: TopSky ATC system has NAM ICD messages ready, but not in classes
  - Operational issues: AIDC viewed as mostly a technical project, many operational issues not formally addressed
  - Importance of test environment
  - Scenarios: analysis of possible coordination cases
  - Training

Latest Accomplishments

- LOA draft with Miami FIR including automation interface
- Coordination for preliminary testing October 5th.

Background

- 1994: Installation of first radars
  - Santo Domingo
  - Puerto Plata
  - Barahona (not operational)
- 2004: Installation of additional radar
  - Punta Cana
- Upgrades in 2007 (Punta Cana) and 2011 (Santo Domingo); upcoming upgrade for Punta Cana.

Overview of Surveillance Systems

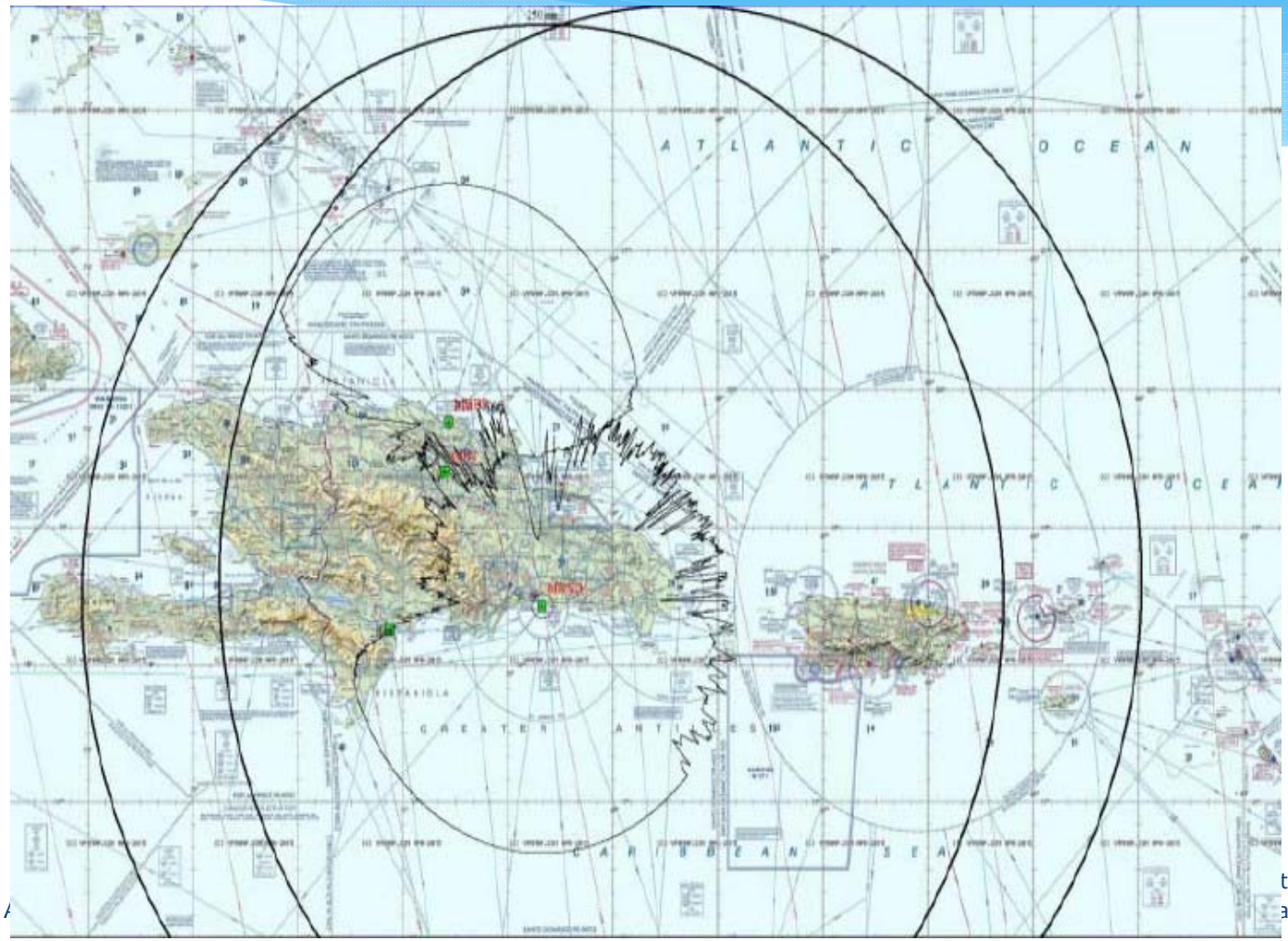
TA10MTD
PSR

Dominican Republic

STAR2000/RSM970S
PSR/SSR

STAR2000/RSM970S SIRIUS
PSR/SSR

Overview of Surveillance Systems
Current Radar Coverage

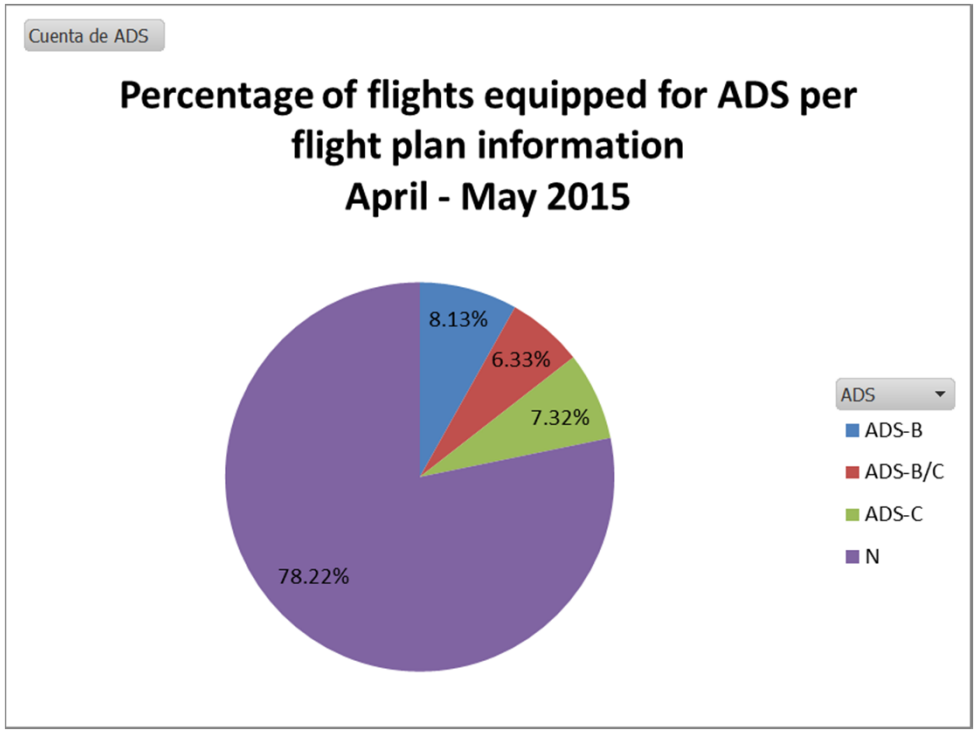


ADS-B Implementation

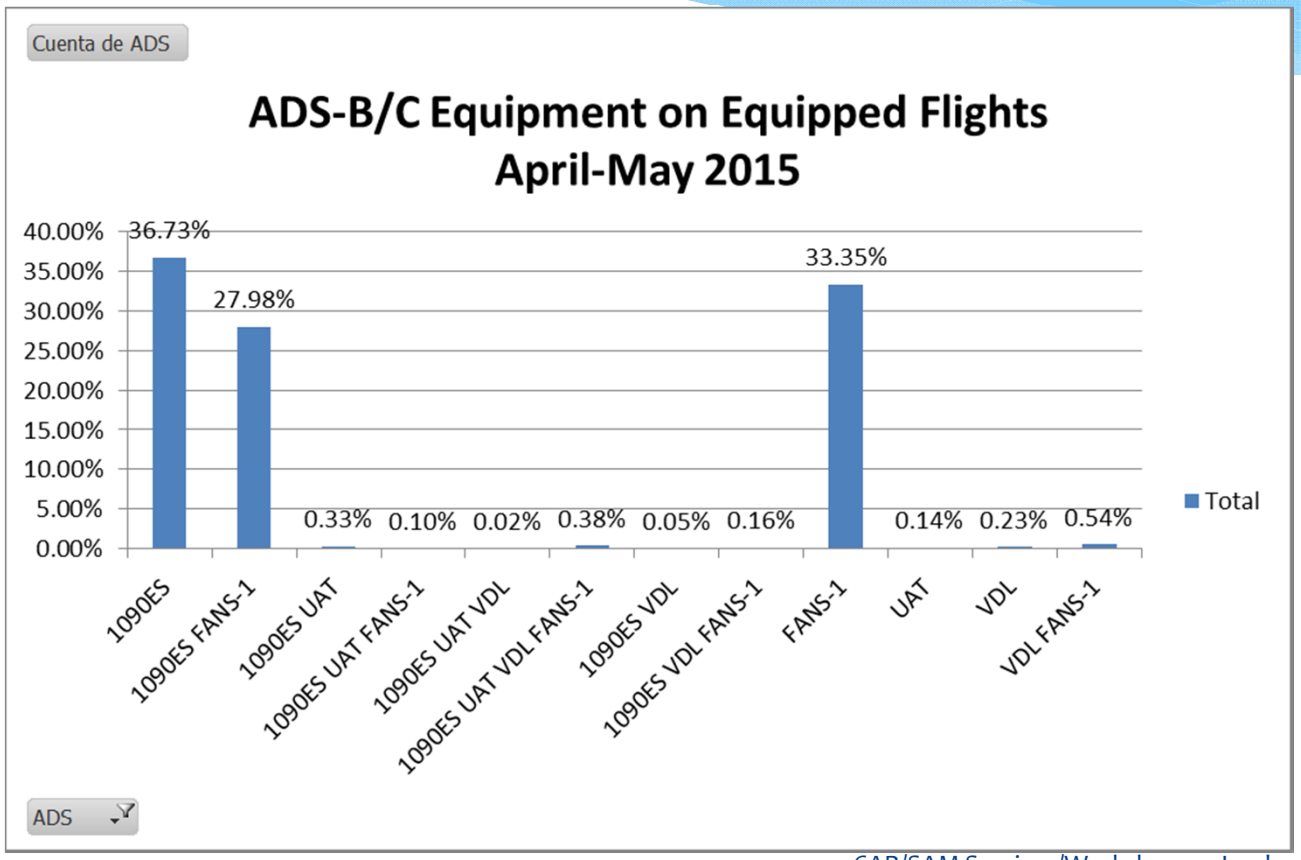
- Need for ADS-B implementation
  - Complete surveillance coverage in lower levels of the north and southwest zones.
  - Serve as a backup in the event of radar signal loss

ADS-B Implementation
Planned ADS-B Sensor Coverage

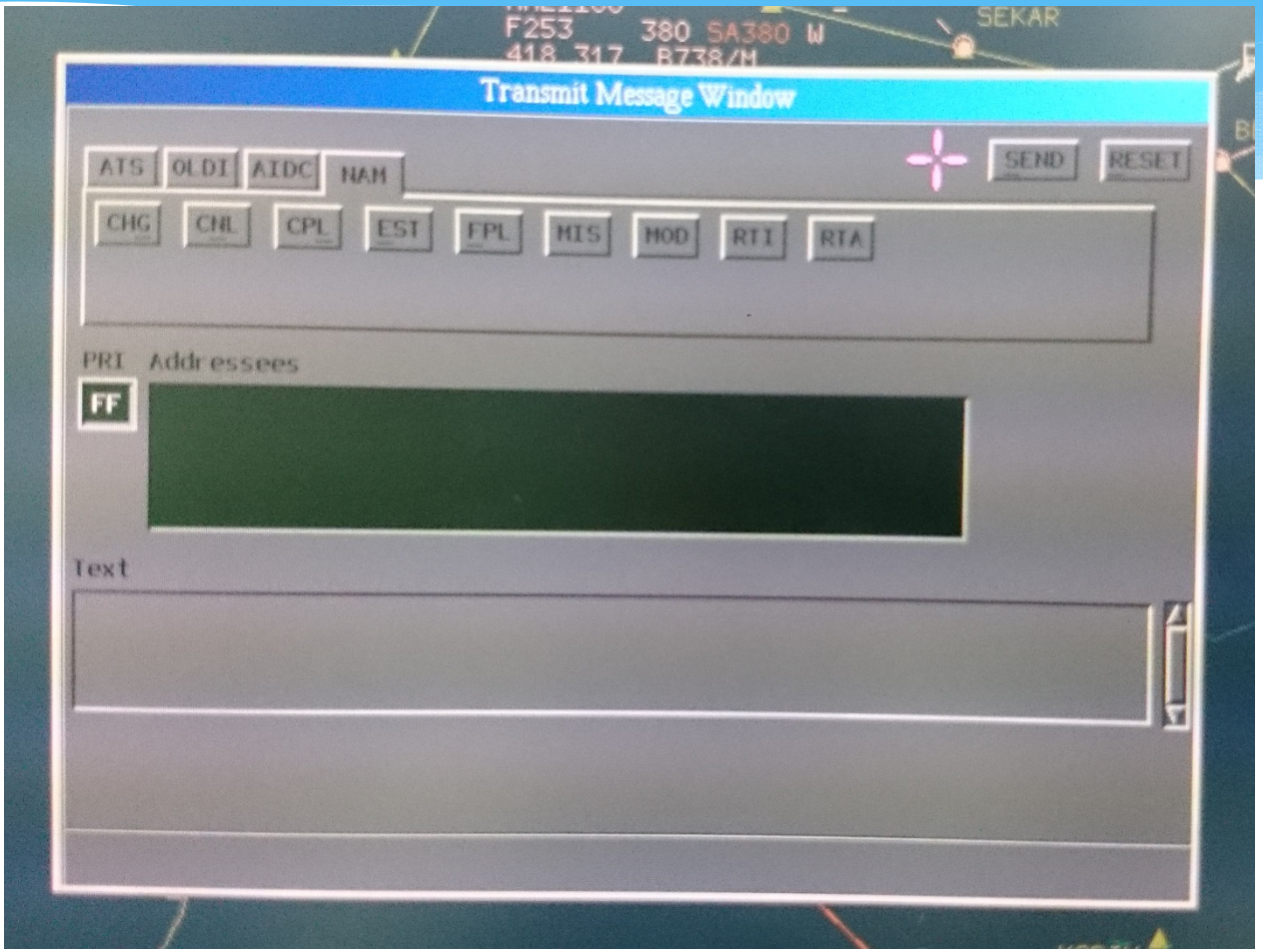
Estimate of equippage



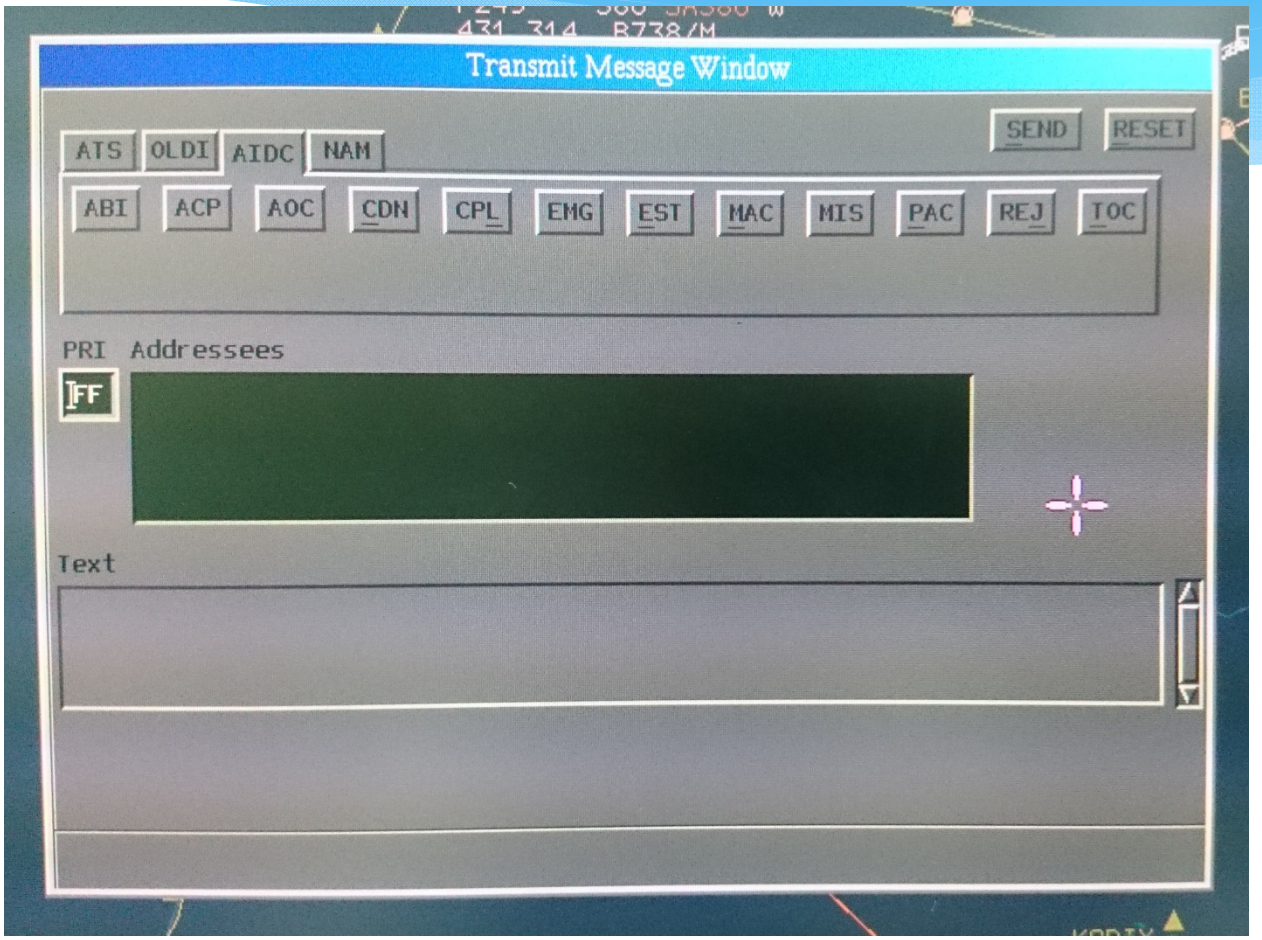
Estimate of equippage



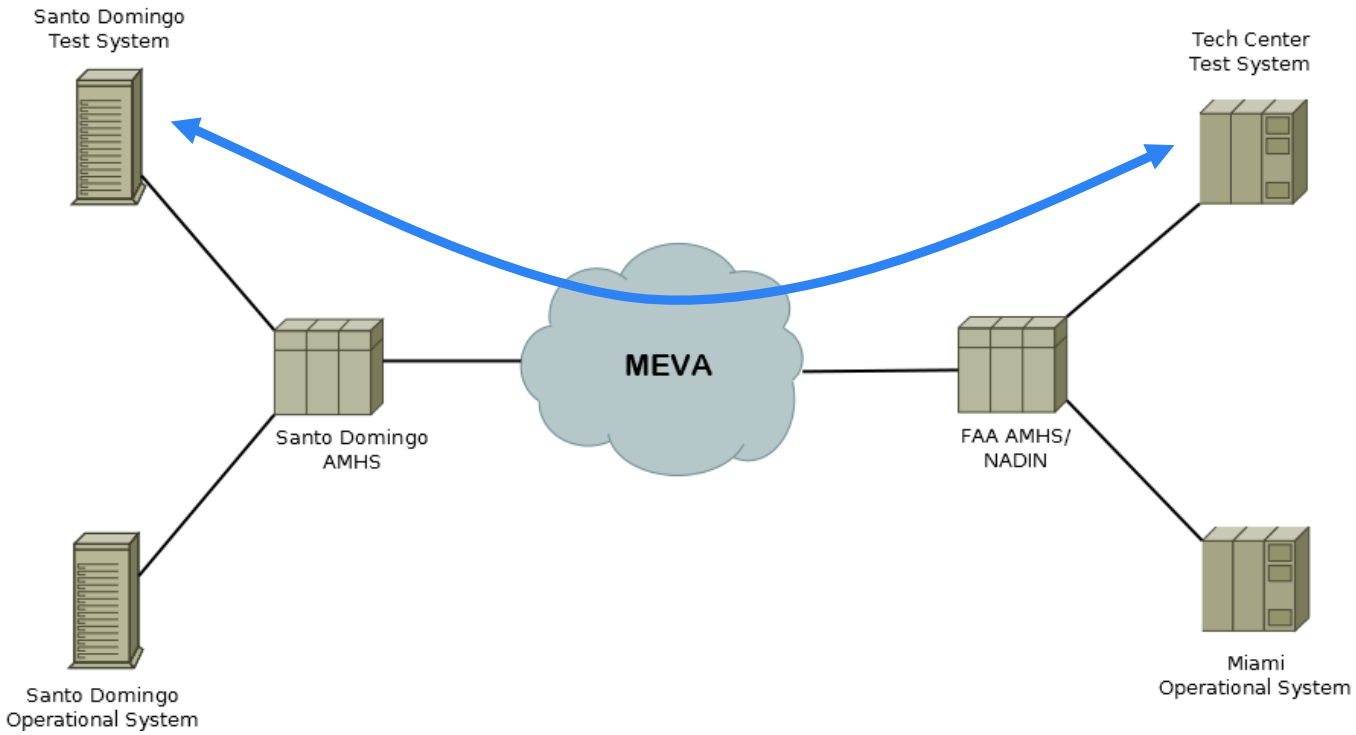
System Preparedness
NAM messages



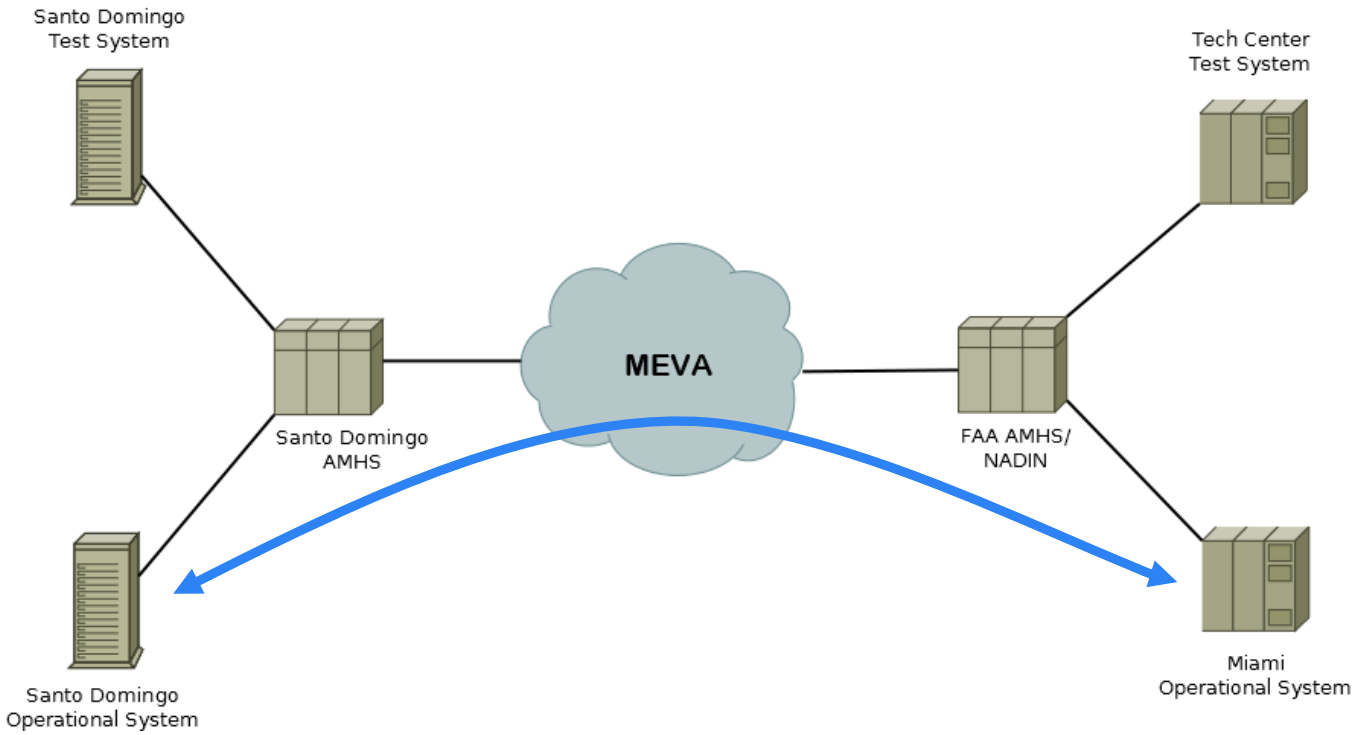
System Preparedness
AIDC (NAT/APAC) messages



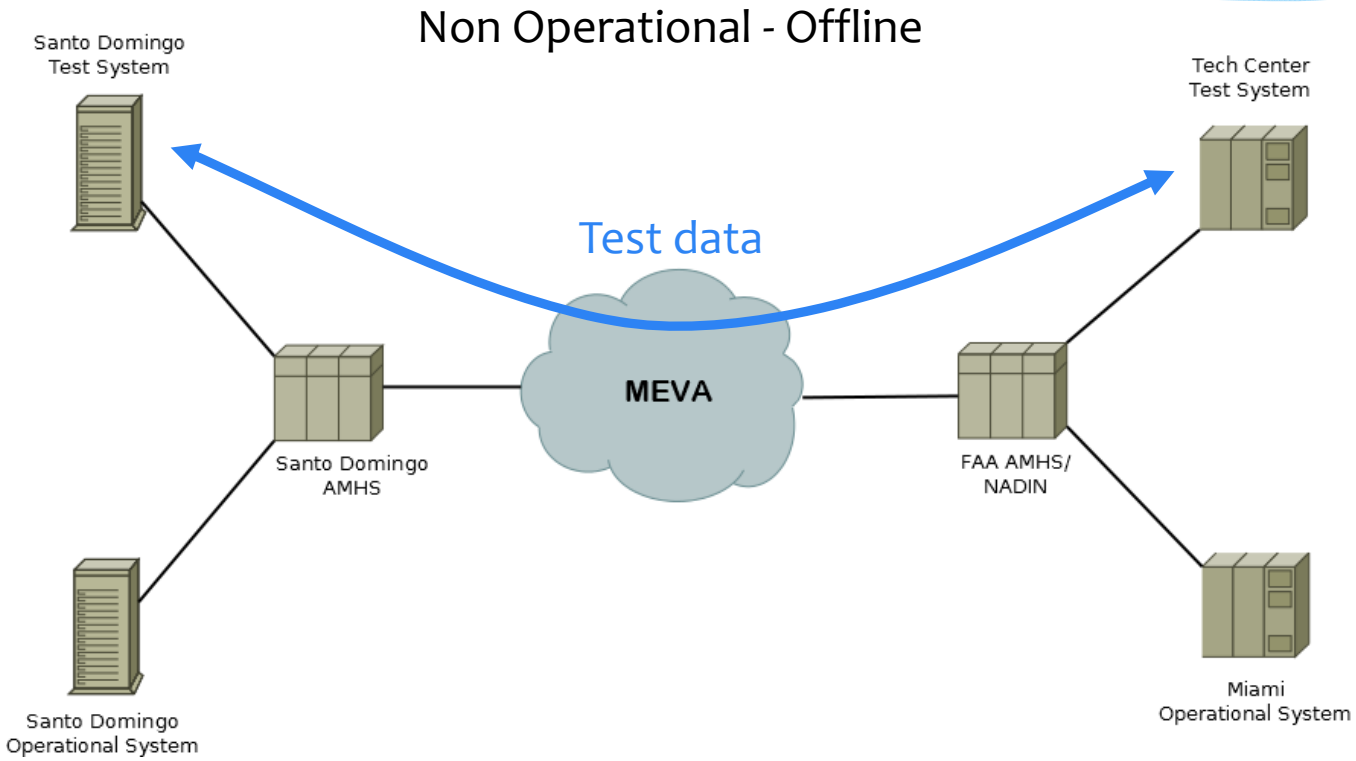
Test Environment



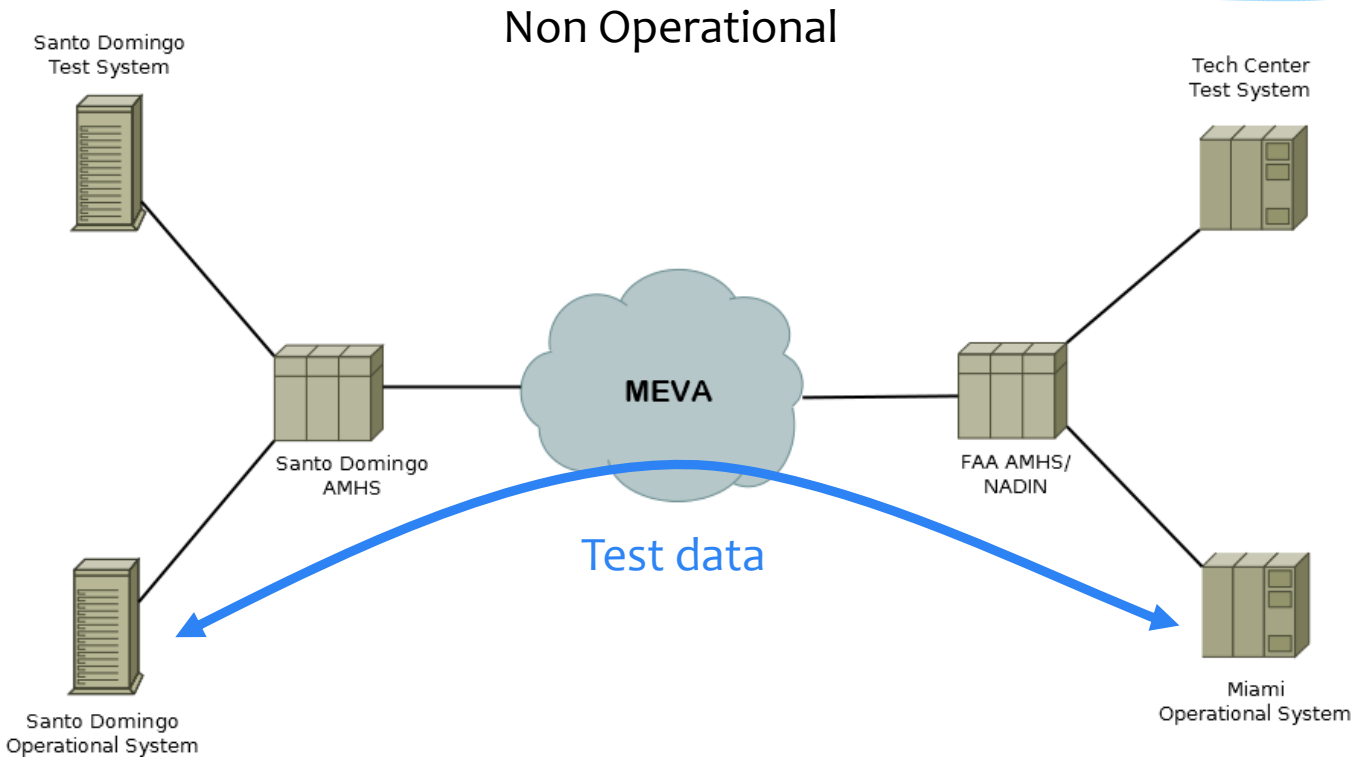
Test Environment



Three phases of testing



Three phases of testing



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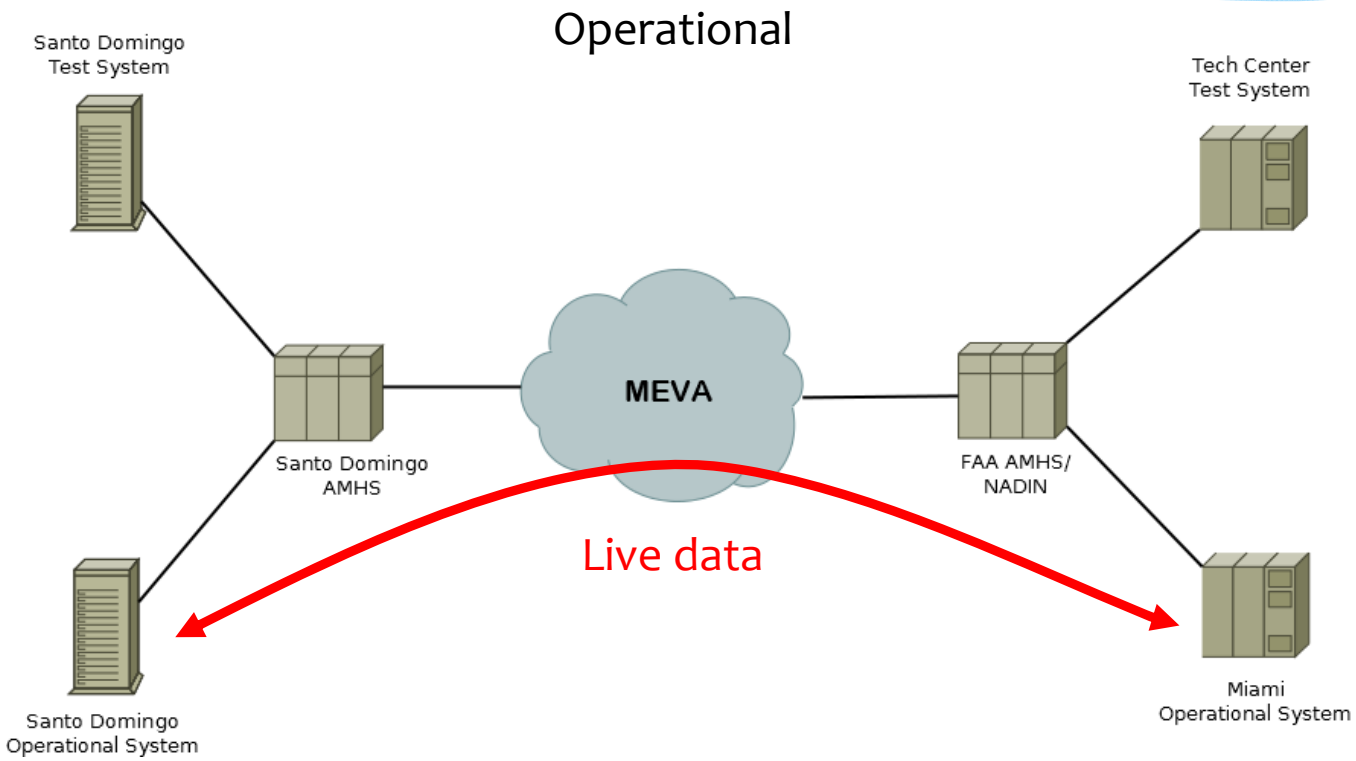
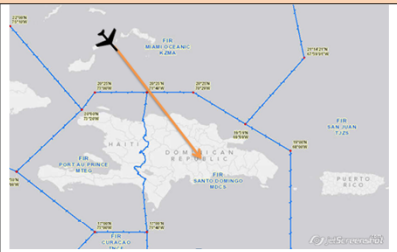


Scenarios

Traffic flow analysis under different conditions

EVALUACION DE ESCENARIOS PARA IMPLEMENTACION NAM ICD EN REPUBLICA DOMINICANA

Escenarios:	CPL	LAM	Ilustración	Observación
Flujo entrante desde el Oeste				
a) KZMA a MDCS	KZMA -> MDCS	MDCS -> KZMA		
b) KZMA a MDCS vía MTEG	KZMA -> MDCS	MDCS -> KZMA		CPL con fin informativo/ Por acordarse RD-EUA

Scenarios

Taking into account Punta Cana TCC

a) MDCS a TJSZ via MDPC (abajo de FL150)	MDCS -> KZMA (TJSZ)	KZMA (TJSZ) -> MDCS		Procedimiento coordinación TJSZ-MDPC existe TBD: Coordinación automatización MDPC-MDCS
b) MDCS a TJSZ (arriba de FL150)	MDCS -> KZMA (TJSZ)	KZMA (TJSZ) -> MDCS		

Questions

Contacts

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