



Amendments to ICAO Flight Plan

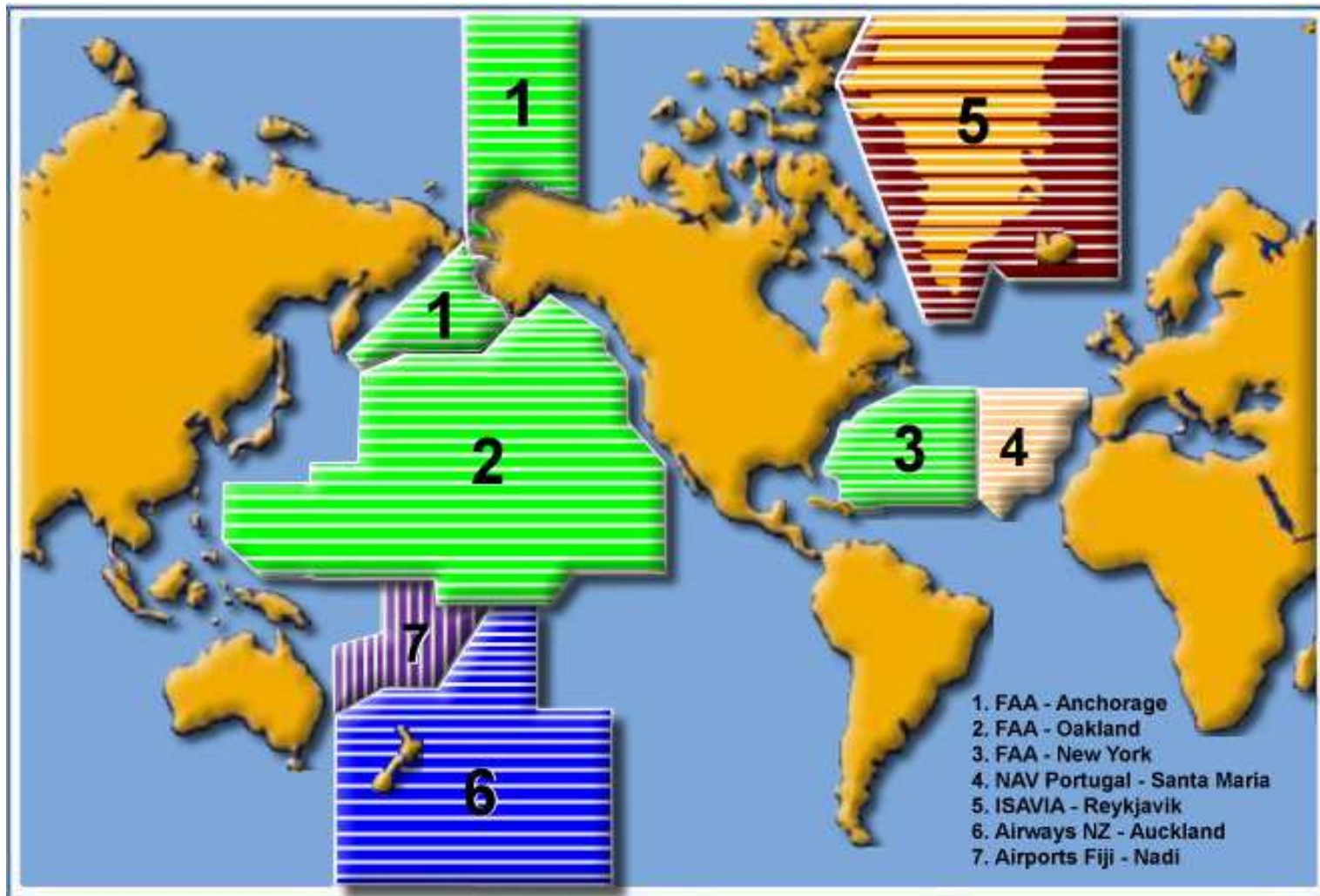
Lima, September 2010

**Air Traffic Management, Adacel Inc.
André Séguin**

Who Is Adacel?

- ❑ Founded in 1987
- ❑ Offices in Montréal, Canada, Orlando, USA and Melbourne, Australia
- ❑ Leading supplier of operational air traffic management systems and simulation solutions for controller training
- ❑ Adacel's Aurora ATM system is widely used and provides advanced flight data processing capabilities, e.g Dynamic 4D trajectory processing, AIDC, OLDI, automated conflict detection etc.
- ❑ Adacel is currently implementing the New ICAO Flight Plan changes for the FAA's ATOP System and for NAV Portugal in Santa Maria Centre

AURORA ATM



Presentation topics

- What is the industrial process?
- What system or sub-systems does it impact?
- Benefits
 - Now and future
- Impact on ANSP's and other users

What is the industrial process

- Understanding-Implication
 - ICAO documents
 - FAA documents
- Design
 - How to implement the change
 - Transition...12/11/2012
 - New format
- Prototyping
- Integration
- Testing

What are the changes?

- Message Input Parsing
- Flight Plan Legacy Flag & Facility 2012 Support
- Field 10 Equipment & Capabilities
- Field 10a Conversion - Radio Comm, Navigation-Approach
- Field 10b Conversion - Surveillance Equipment
- Field 18 Other Information
- Field 18 Enforce Subfield Coherence
- Field 18 Subfield Parsing
- Field 10a and Field 18 PBN/ Designator Consistency
- HMI
- Distance Based Separation Requirements
- ADS Contract Requirements

What is the industrial process

- Understanding-Implication
 - ICAO documents
 - FAA-LM documents
- Design
 - How to implement the change
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Design

- Divide work into specialties FDP, HMI, ENV, Parsing messages
- Engineering solution from the specialties in a Design document
- Design, code inspection
- Synchronize all specialties and test specifics
- Integrate on test platform :
 - Transition: Accept Legacy FPL and New FPL. And forward the messages in the format acceptable to the downstream facility
 - Downgrade the New FPL to legacy, but can't upgrade it legacy to new
 - A database contains the format used by all users in order to support all users in both format

What system or sub-systems does it impact?

- Flight plan data processor, 4-D profile
- Incoming messages parsing and outgoing messages formatting
 - The system will support both transition and after transition messages processing
 - During transition period the system will support both legacy format and new format
 - After transition period the system will support the new format only
- Environment Definition
 - Coordination parameters and supported format of adjacent facilities
- HMI for Flight Plan creation, modification, messages correction, Repetitive flight plan and others

Prototyping, Testing

Flight Plan New Help

ACID FLT RULE FLT TYPE

NUMBER AC TYPE WTC

RADIO SSR EQUIP ACTIVE

DEP TIME

ARR CX

SPEED LEVEL

ROUTE

DEST TEET SSR CODE ADDR TAIL

SSR MODE ALTN DEST 2nd ALTN DEST

OTHER

Modify Update Delete VFR IFR Close

Flight Plan New Help

ACID FLT RULE FLT TYPE

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Modify Update Delete VFR IFR Close

FPEA window after November 2012

Flight Plan New Help

ACID FLT RULE FLT TYPE

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SSR MODE ALTN DEST 2nd ALTN DEST

OTHER

Benefits

- Compliant with ICAO
- Remain connected with adjacent facilities
- Automated systems will handle PBN
 - Show aircraft advanced capabilities in more detail
 - Meet evolving requirements of automated ATM systems
- ANSP will provide a better service to the users
 - Airlines to fly PBN routes etc.

Impact on ANSP's ... 3 Solutions

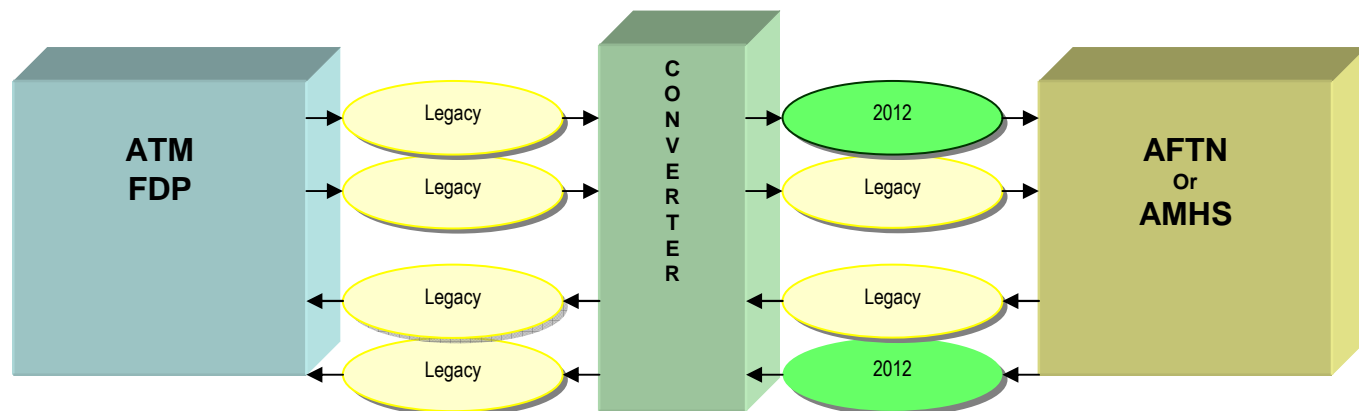
- **Upgrade**
 - To new format:
 - Time
 - Cost
 - Training Ops and Tech
- **Replace**
 - If your ATM system is approaching its end of life, It may be wise to consider changing to a new system
 - Time
 - Cost
 - Training Ops and Tech

Impact on ANSP's

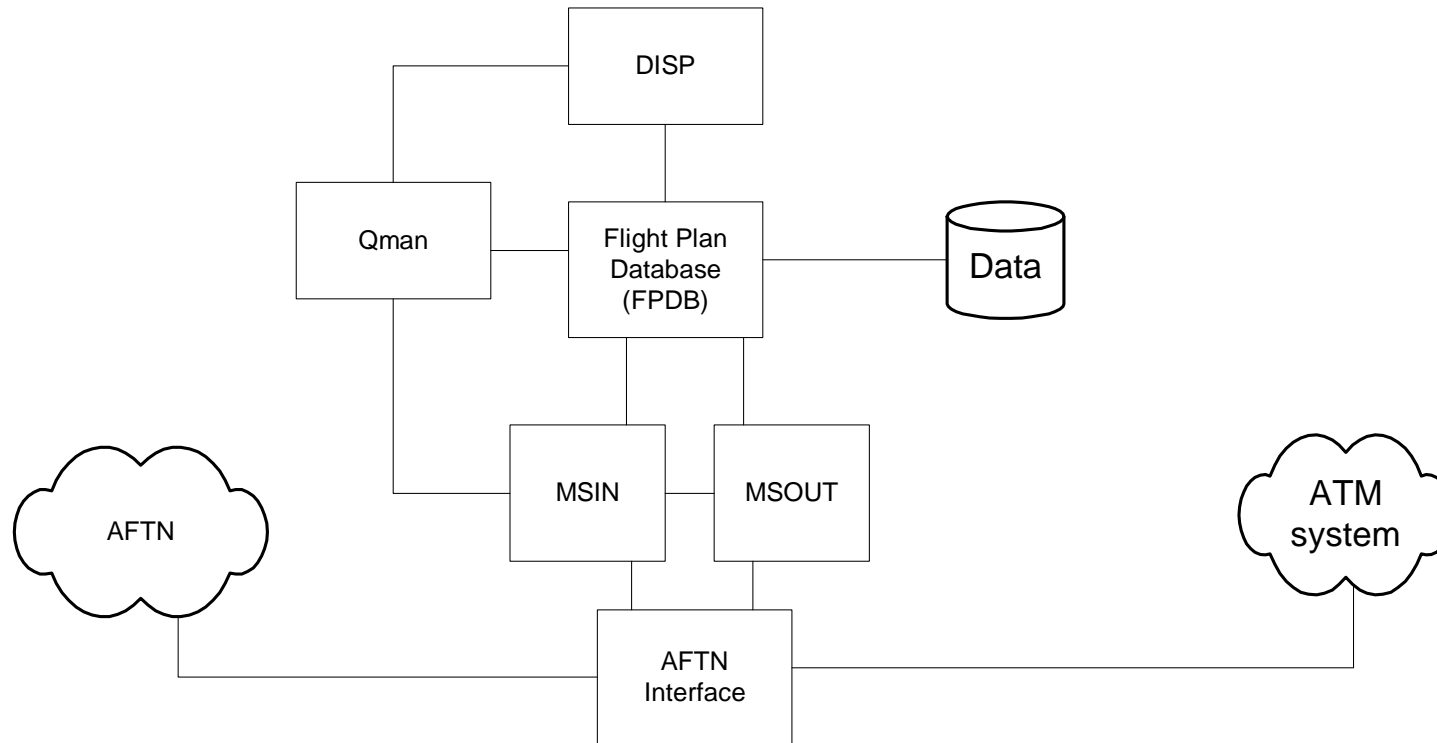
- **Converter** for ANSP's or other Flight Planning facilities
 - who wish to maintain their present FDPS until it has completed its life cycle
 - that do not require an ATM system supporting PBN, RVSM, ADS, etc
 - Transmission of flight plan data only
 - Time
 - Cost
 - Training Ops and Tech

Converter

The Converter interfaces with the AFTN/AMHS circuit and your ATM/FDP system and provides a conversion from the new format to the legacy or old flight plan format and vice-versa



Converter's system architecture



Summary

- In order to be compliant with the ICAO new flight plan (INFPL), applicable on 15 November 2012

The ANSP's and other Flight Planning facilities will have to:

- ✓ Upgrade the ATM system,
 - ✓ Replace the ATM system, or
 - ✓ Interface a converter into the AFTN/AMHS

Thank You

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