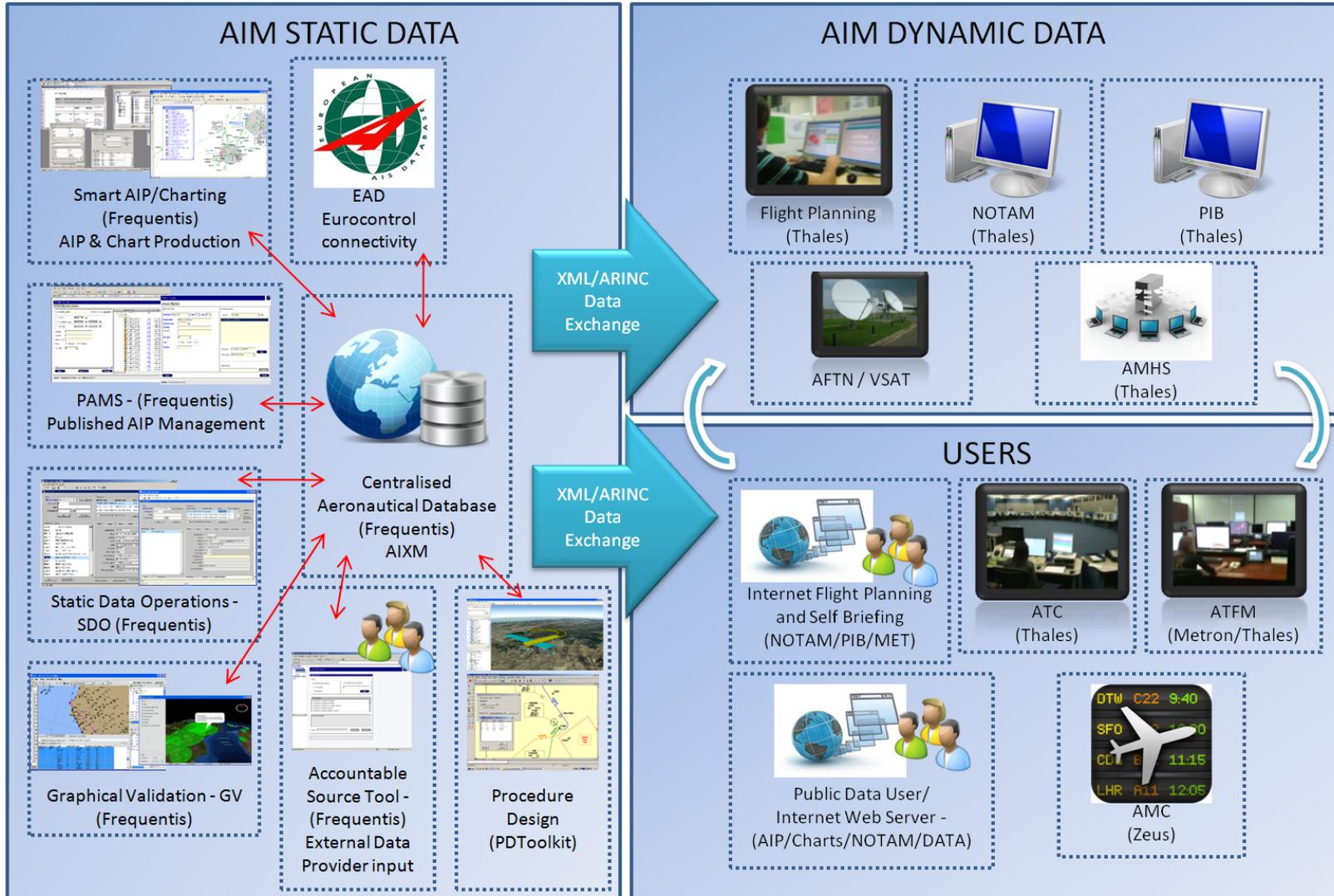- **AIS/AIM System in South Africa (ATNS)**
  - Description:
    - Dynamic Component comprises of
      - I. Flight Planning and Management
      - II. NOTAM Management (Creation, PIB, etc)
      - III. Internet Briefing and Flight Planning
      - IV. AMHS
    - Static Component comprises of
      - I. SmartDM (SDO, GV, PAMS, IFS, LRI, etc)
      - II. SmartAIP (AIP production tool)
      - III. SmartCharting (Chart Production Tool)
      - IV. Workflow Management (AST for External sources to provide data via web-interfaces)
  - Specificities:
    - Integration with ATC and ATFM (Flow Management)
    - Advanced AIS and Internet Briefing component
    - Integration to Frequentis NOTAM and Flight Plan Management components
    - Integration to any other AIXM databases
    - Synchronisation to EAD (Access to Worldwide data)

  - Dynamic Component - operational since 2001 (FPL, NOTAM & Briefing Component)
  - Static Component - SAT accepted Dec 2012 (Currently populating database with full Dataset)
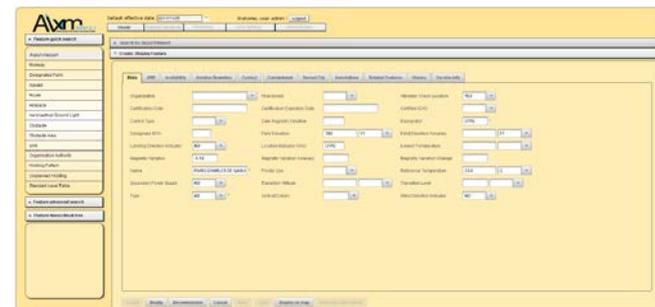
South Africa -AIM system overview

AIM System

AIM STATIC DATA

Smart AIP/Charting
(Frequentis)
AIP & Chart Production

EAD
Eurocontrol
connectivity

PAMS - (Frequentis)
Published AIP Management

Centralised
Aeronautical Database
(Frequentis)
AIXM

Static Data Operations -
SDO (Frequentis)

Graphical Validation - GV
(Frequentis)

Accountable
Source Tool -
(Frequentis)
External Data
Provider input

Procedure
Design
(PDToolkit)

XML/ARINC
Data
Exchange

XML/ARINC
Data
Exchange

AIM DYNAMIC DATA

Flight Planning
(Thales)

NOTAM
(Thales)

PIB
(Thales)

AFTN / VSAT

AMHS
(Thales)

USERS

Internet Flight Planning
and Self Briefing
(NOTAM/PIB/MET)

ATC
(Thales)

ATFM
(Metron/Thales)

Public Data User/
Internet Web Server -
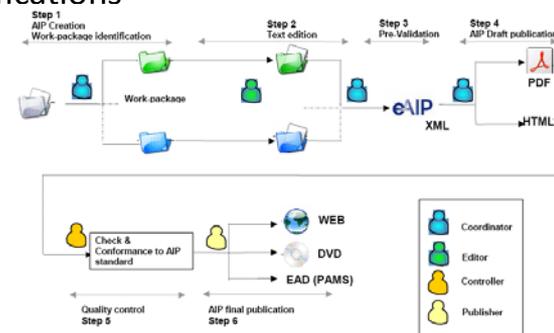(AIP/Charts/NOTAM/DATA)

AMC
(Zeus)

Advantages

AIXM 5.1 Database

- Built on top of latest technical components (JEE6, WFS, NASA World Wind, MDA …)
- Operation oriented input forms for main features in order to mask AIXM5 model complexity to end users

Electronic AIP

- Integrated workflow
- Automatic generation & publication of PDF, HTML, web site
- Fully compliant with latest Eurocontrol and ICAO specifications (XML technologies)
- Full integration with AIXM database
- Strong support during AIP migration

Modular Deployment

Enabling Innovations - Internet Briefing

- **Internet Flight preparation interface**
  - Self briefing airport position
  - Home-briefing internet connexion

- **Flight plan submission**
  - Template
  - ICAO format import
  - New FPL from existing FPL or template

- **Flight plan status (IFPS/CFMU) follow-up**
  - Users history management in the flight handbook
  - Alert via SMS & email

- **Integrated PIB (NOTAM + Meteo)**
  - « FPL from PIB » function
  - Narrow route PIB
  - Integrated-PIB = NOTAM + Meteo data
  - Electronic-PIB = HTML and PDF files

Flight Plan Message (Step 1 of 2)

- Introduction

ATNS is taking a stance on the African Continent and transforming Aeronautical Information Services (AIS) to Aeronautical Information Management (AIM) to Information Management (IM) applying the System Wide Information Management (SWIM) principles by deploying and using leading technologies to the benefit of the ATM Community. Establishing the ATNS Centralized Aeronautical Database (CAD) will proactively contribute towards Global AIM by providing the right quality assumed digital aeronautical information to the right place at the right time and in correct format to support all phases of flight.

- GENERAL
  - System

    - ATNS has started the process of acquiring the ATNS CAD that addresses the South African ATM Community requirements;

    - The solution contemplated by ATNS provides for the Single National/Regional aeronautical database, with Global interconnectivity, supporting the following applications:

      - AIXM 4.5 and 5.1 compatible database;
      - Electronic IAIP;
      - Published IAIP management tool;
      - Charting Tool;
      - Procedure Design interconnectivity;
      - Static Data Operations (Input and Output) including Remote data input operations;
      - Geospatial Information Visualization;
      - Internet Services allowing external users to view Static data.

Challenges of ATNS on AIM Capability towards SWIM (3)

The system has the capability to expand to accommodate future requirements such as:

- x-NOTAM management; and

- integrated METEO Operations.

CONCLUSION

The system identified by ATNS is identical to the European Aeronautical Database(EAD) currently used by EUROCONTROL and the European ATM Community, which will enable the ATNS CAD to synchronize with the European Aeronautical Database, thereby aligning South Africa to comply and contribute towards Global AIM. This database will align with all the Global initiatives in aligning the continent with projects to the like of AIXM, EAD and others.