



AAB/5 – 26/27 March 2013

Item 3.3: CENTRALISED SERVICES

Bo REDEBORN

Principal Director ATM - EUROCONTROL



Why EUROCONTROL as a partner for the centralised services ?



EUROCONTROL has the experience in providing such services, even beyond the EU membership boundaries:

- a single Central Flow Management (CFMU);
- a single European Aeronautical Database (EAD) on behalf of all European States for all airspace users and operators;
- a single route charging office for all flights in Europe (CRCO).

EUROCONTROL has the experience in managing and tendering such services and systems to industry to operate.

.....and EUROCONTROL has proven in the past its ability to realize complex projects such as....

Flexible Use of Airspace (FUA)



RVSM



Why “Centralised Services” ?



Our collective goal: controlled flight hour for half the cost

Why “Centralised Services” ?




- Fit for pan European implementation
- Fit for regional (FAB) implementation
- Fit for local implementation

Including up to ten candidate Centralised Services paving the way towards:

- achieving the performance targets
- the implementation of essential operational changes
- organising common procurement of ATM systems and their constituents
- unbundling of ancillary services from ATS
- cross-boundary service provision
- competitive tendering

What are “Centralised Services“ ?

- 
- Pan-European air navigation services or related functions.
 - Exercised at central / network level, bringing significant benefits in cost-effectiveness and harmonisation.
 - Contributing significantly to the Performance Targets of the Member States.
 - Supporting the implementation of SESAR developments on a central basis.
 - Supporting the unbundling of ancillary services.
 - Enabling service providers/ATM manufacturing industry to work together to provide the service outside of the national boundaries.
 - Allowing the implementation of market mechanisms - competition for the market.
 - Allowing the implementation of performance based contracts between EUROCONTROL and the Service Provider.

What centralised services ?



1

Flight Plan and Airport Slot Consistency Service (FAS)

Centralised Service # 1

Flight Plan and Airport Slot Consistency Service (FAS)

- Creating a central data base in which the airport slots and the FPLs are integrated and compared
- Deviations are identified and communicated for action
- Supporting the draft revised Airport Slot Regulation
- Better exploitation of airport capacity and improvement in flight punctuality
- Mature Technology exists already in some Member States
- Links NM with all EC (eventually ECAC) coordinated airports in cooperation with ACI and EUACA

What centralised services ?



1 Flight Plan and Airport Slot Consistency Service

2 4 D Trajectory Flight Profiles Calculation for planning purposes (4DDP)

Centralised Service # 2

4 D Trajectory Flight Profile Calculation for planning purposes service (4DDP)

- Centrally processed 4D trajectory
- Distribute the calculation to the ANSPs/Centres
- Provide a common reference for the 4D Trajectory Profile for all ATM **planning** activities
- Increased accuracy, allowing reduction of buffers around airspace occupancy, reducing under- / over-delivery
- Making full use of existing sector capacities
- Technology exists already in some Member States
- Phase 1 – compare the trajectories produced by modern 4D trajectory system and NM system, using the same data input
- Supports fostering of innovative technologies - as this will be the first centralised 4D trajectory system in the world

What centralised services ?



- # 1
Flight Plan and Airport Slot Consistency Service
- # 2
4 D Trajectory Flight Profiles Calculation for planning purposes

3 European Tracker Services (ETKR)

Centralised Service # 3 European Tracker Services (ETKR)

- Enable the creation of an ECAC wide consistent high quality Air Situation Picture
- The tracking system processes and unifies all data sent by numerous surveillance sensors, in order to provide fused information.
- Provision of radar data requested subsets in interoperable format to any authorised user of processed surveillance, civil and military
- Technology exists already with ARTAS (ATM surveillance Tracker And Server) in EUROCONTROL
- Allows the fostering of innovative technologies - as this will be the first centralised Tracker Service in the world

What centralised services ?



# 1	# 2	# 3
Flight Plan and Airport Slot Consistency Service	4 D Trajectory Flight Profiles Calculation for planning purposes	Tracker Services

4
Advanced Flexible Use of Airspace Support Services (AFUAS)

Centralised Service # 4 Advanced Flexible Use of Airspace Support Services (AFUAS)

- Collection and provision of ASM data enabling collaborative civ-mil ASM decision-making processes
- Builds on the Advanced Flexible Use of Airspace (FUA) Concept
- Enables better use of available airspace and allows military to use larger airspaces for missions on an absolute time-limited basis
- Technology exists already in some Member States
- Feeds into updated European airspace/route availability picture for all
- Allows the fostering of innovative technologies in cooperation with the Military

What centralised services ?



- # 1
Flight Plan and Airport Slot Consistency Service
- # 2
4 D Trajectory Flight Profiles Calculation for planning purposes
- # 3
Tracker Services
- # 4
Advanced Flexible Use of Airspace Support Services

- # 5
European ATM Information Management Service (EAIMS)

Centralised Service # 5 European ATM Information Management Service (EAIMS)

- Accurate and timely information are prepared, maintained and provided through system wide (SWIM) interoperability
- Provides access to common and consolidated European ATM context information to all actors
- Existing EAD is enlarged to include all pre-departure Static and dynamic data (e.g. WX, ADQ-Airport, digital NOTAM)
- Integrated pan-European AIS service including wx data
- Extension to airports and airspace users
- Allows the use of the already existing, well recognised EAD system and service
- Allows the acceleration of the early deployment of new SWIM technology

What centralised services ?



# 1	# 2	# 3	# 4	# 5	# 6
Flight Plan and Airport Slot Consistency Service	4 D Trajectory Flight Profiles Calculation for planning purposes	Tracker Services	Advanced Flexible Use of Airspace Support Services	European ATM Information Management Service	Management of Common Network Resources Services (CNR)

Centralised Service # 6 Management of Common Network Resources Services (CNR)

- Management of common network resources – transponder codes, frequencies for CNS systems, AFTN Message addresses directory, IP addresses, security certificate and keys.
- Key resources which require coordination between stakeholders
- Groups common network resources into a critical mass for management efficiency
- Provides tools and data needed to network to operate
- Most are already accepted as centralised services

What centralised services ?



# 1	# 2	# 3	# 4	# 5	# 6	# 7
Flight Plan and Airport Slot Consistency Service	4 D Trajectory Flight Profiles Calculation for planning purposes	Tracker Services	Advanced Flexible Use of Airspace Support Services	European ATM Information Management Service	Management of Common Network Resources Services	Network Infrastructure Performance Monitoring and Analysis Services (NIPS)

Centralised Service # 7 Network Infrastructure Performance Monitoring and Analysis Services (NIPS)

- Ensure safe functioning and anomaly resolution of common/distributed CNS infrastructure
- Data-link communication, satellite navigation, surveillance avionics, 1030/1090 RF bands, TCAS function, Height Monitoring
- Central service sets up/operates sensors, analysis tools and databases to collect data, measures performance, detect anomalies
- Offered to fulfil national responsibilities to ensure safe airborne infrastructure
- Many of these services are already accepted as centralised services

What centralised services ?



# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8
Flight Plan and Airport Slot Consistency Service	4 D Trajectory Flight Profiles Calculation for planning purposes	European Tracker Services	Advanced Flexible Use of Airspace Support Services	European ATM Information Management Service	Management of Common Network Resources Services	Network Infrastructure Performance Monitoring and Analysis Services	Pan-European Network Services (PENS)

Centralised Service # 8

Pan-European Network Services (PENS)

- Supporting all data exchange of ATM applications, paving the way to SWIM applications
- Currently in use for NM centralised functions (NM + EAD)
- ANSP/ATM applications are planned to migrate to PENS
- Central supervision of all technical network
- Gateway to interconnect all ATM stakeholders via rationalised infrastructure and avoidance of multiple interconnection negotiations and additional costs
- PENS services are developed and run by Industry, EUROCONTROL acting as a “contractual agent”.
- Fosters European innovative Network Services

What centralised services ?

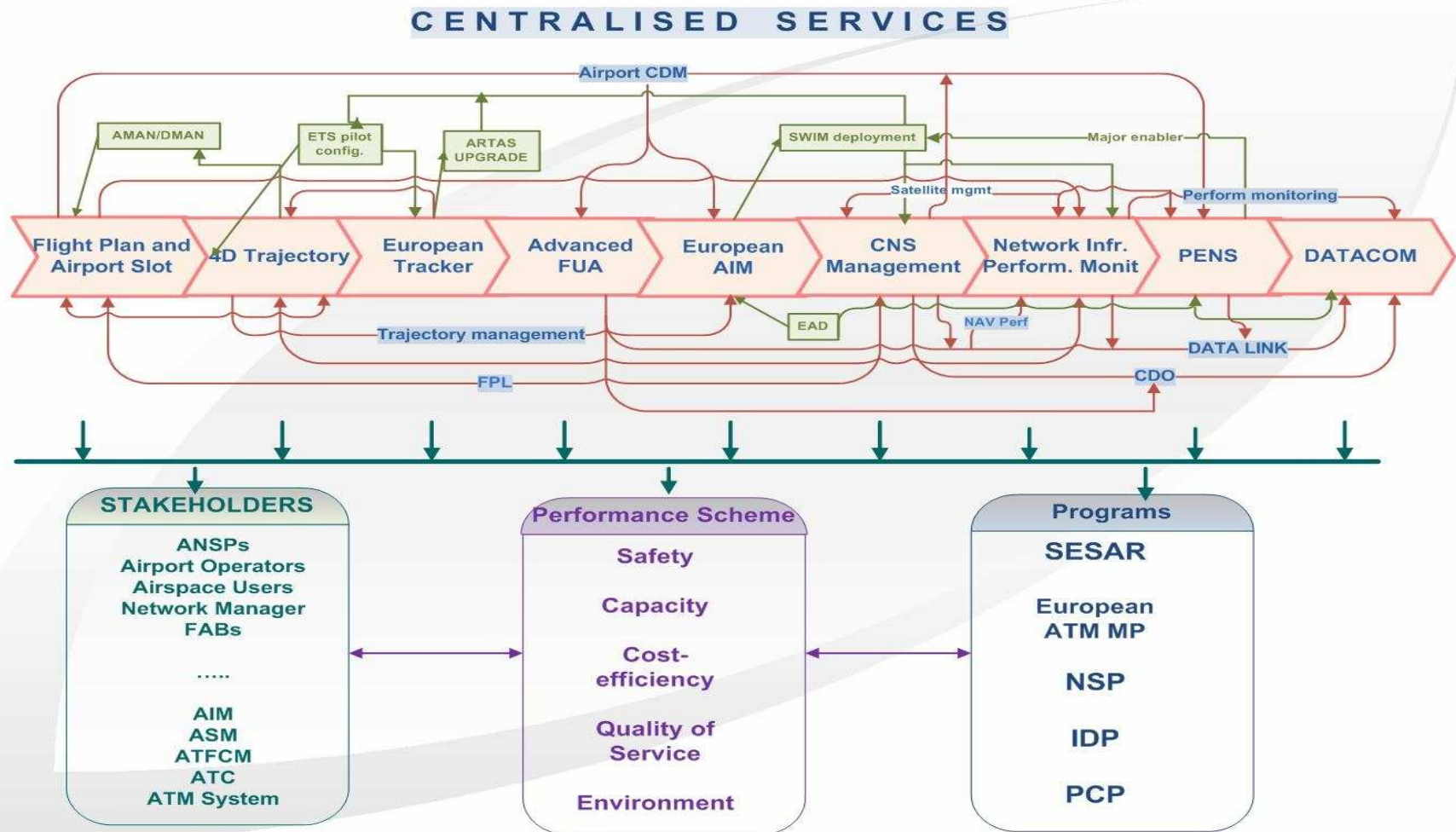


# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9
Flight Plan and Airport Slot Consistency Service (FAS)	4 D Trajectory Flight Profiles Calculation for planning purposes (4DPP)	European Tracker Service (ETKR)	Advanced Flexible Use of Airspace Support Service (AFUAS)	European ATM Information Management Service (EAIMS)	Management of Common Network Resources Service (CNR)	Network Infrastructure Performance Monitoring and Analysis Service (NIPS)	Pan-European Network Service (PENS)	Data Communication Service (DCS)

Centralised Service # 9 Data Communication Service (DCS)

- Provide coherent, centralized DATA Communication services in Europe that meet current and future requirements in all airspace areas (airport, TMA en-route, polar and oceanic) for most stakeholders (ANSPs, airlines, pilots, maintenance staff, etc.).
- Fosters European innovative data exchange services.

Interdependencies



In addition, for each CS, interdependencies are being checked with the IDP, the PCP and the ESSIP Objectives

Implementing the centralised services

- **Time:** stepwise transition from **fragmented** to **integrated** system architecture
- **Business:** market-driven approach and solutions
- **Strong partnership:** NM and ATM industry
- **Technical management:** coordinates CS set-up
- **Tendering** of CS development, service set-up and operation where feasible

Targets:

- **CS operations externalised to industry through procurement**
- **Consortium (e.g. ANSPs, Industry) to run new CS on behalf of EUROCONTROL / NM**

What's going on ?

- EUROCONTROL has set up an internal project to develop proposals for the Centralised Services
- EUROCONTROL has started discussions in order to receive first reactions from the Stakeholder community:
 - Work-shop with States: 4 March 2013
 - Work-shop with ANSP: 24 April 2013
 - Work-shop with AO: 29 April 2013 (to be confirmed)
 - Work-shop with manufacturing industry (near future)