EUROCONTROL Proposal for a first set of Centralised Services to contribute to SES Performance Achievement

Update to the European Commission

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EUROCONTROL

3 Proposed Centralised Services

3.1 What is a centralised service?

A centralised service is an ANS service or ATM function exercised at pan-European and central network level for harmonisation and cost-efficiency purposes. It is a means to foster the deployment of new ATM technologies and achieve unbundling of some of the ancillary services or functions, through implementation of market mechanisms and competition. It will allow centralised services processes to be provided on a pan-European level rather than on a national/local level.

The principle for the concept of new centralised services is based on the model used for the European Aeronautical Information Service Database (EAD). The EUROCONTROL Organisation has been entrusted since 2001 by its Member States with the development, establishment and operation of the EAD. Operations are externalised to industry through procurement.

A centralised service can be described as:

- **An air navigation support service or a related function**
- **Exercised at central European/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 implementation of SESAR developments to become pan-European services**
- **Supporting the unbundling of ancillary services**
- **Enabling service providers/ATM manufacturing industry to work together to provide the service outside of the national boundaries on a pan European level**
- **Allowing the implementation of market mechanisms for the centralised services following a tender process - competition for the market**
- **Allowing the implementation of performance based contracts between EUROCONTROL and the Service Provider**

3.2 List of proposed Centralised Services

CS #1. **Flight Plan and Airport Slot Consistency Service (FAS)**. Match flight plans and airport slots to better exploit airport capacity and improve flight punctuality.

CS #2. **4D Trajectory Flight Profile Calculation for planning purposes Service (4DPP)**. Provide a centralised facility for common reference for the 4D Trajectory profile for all ATM planning activities with an increased accuracy, allowing reduction of buffers around airspace occupancy, reducing under-/over- delivery.

CS #3. **European Tracker Service (ETKS)**. Enable the creation of an ECAC-wide, consistent, high quality Air Situation Picture and the provision of its required subsets to any user of processed surveillance information, civil and military.

CS #4. **Advanced Flexible Use of Airspace Support Service (AFUAS).** This service will provide civil-military collaborative ASM decision-making processes based on transparent ASM data and ASM performance feedback.

CS #5. **European ATM Information Management Service (EAIMS)**. Accurate and timely information needs to be organised and provided through flexible means that support system-wide interoperability, secured seamless information access

and exchange. In this Service the EAD service is integrated and enlarged by additional functions, such as ADQ, weather briefing, digital NOTAMs, briefing depicting relevant NOTAMs on a chart in accordance with the flight track etc.

CS #6. **Management of Common Network Resources Service (CNR).** The scarce resource management addresses the Transponder Code Function (TCF) and Radio Frequency Function (RFF). These functions improve the management of these resources, optimising utilisation for the benefit of stakeholders and the Network as a whole, including allocation of scarce interrogator codes to Mode S radars installed in Europe. A centralised management of common resources (network addresses for instance) ensures a coherent and efficient utilisation of the resources shared by all the stakeholders.

CS #7. **Network Infrastructure Performance monitoring and analysis Service (NIPS)**. In order to achieve a safe and efficient operation the CNS infrastructure performance needs to be monitored and managed all along its deployment and operation. This service, consisting of seven interlinked and inter-dependent sub-services, such as datalink and transponder functions, will help to acquire a better knowledge of the infrastructure performance and therefore help in preparing infrastructure rationalisation.

CS #8. **Pan European Network Service (PENS).** To meet all present and future ground communication needs a secure connectivity is required between sites and partners. PENS is a shared service with centralised management based on IPv6 and compliant with SES regulation for FMTP as well as ICAO ATN/IPS standards. The provision is contracted out to a Network Service Provider. Potential to be expanded and could cover all stakeholders.

CS #9. **Data Communications Service (DCS)** To increase interaction between the air and ground ATM-related systems and replace current fragmented means of communication, a data communication service is required in all airspace (airport, TMA en-route, polar and oceanic); this service shall support all A/G services such as datalink, AOC services, ADS-C, flight information services, airport coordination services, space-based ADS-B, etc.

CS #10. in development

CS#.4 Advanced Flexible Use of Airspace Support Service - AFUAS

Overview

The extension and acceleration of the deployment and the integration at the Network level of the advanced civil/military flexible use of airspace (AFUA) will optimize the use of available airspace capacity both locally and at the network level, across borders, delivering increased flight efficiency and resulting in higher performance flights is the objective of CS4. These improvements require the sharing of a common view of airspace situations between all partners, kept up-to-date in real time. Activity 4 connects local tools to a new Central Database making available the updated status of civil/military airspace usage. The interoperability between local and network operations is enabled by developing and deploying shared mechanisms through AFUAS and CS5 EAIMS.

CS4 focuses at the full deployment of efficient civil-military airspace management capabilities at European level. The project connects with the development of civil-military cooperation tools, including the LARA tool (partially funded by the European Commission and TEN-T) with a central Network system designed to support the online exchange of updated, accurate ASM data. This project will extend and improve the civil-military airspace management and co-ordination processes and the associated exchange of information throughout Europe for a better network performance. Additionally it will connect the local/national data inputs to a central European database protected by appropriate security.

Civil-military co-operation and co-ordination are of the utmost importance in achieving the objectives of the performance scheme, having due regard to military mission effectiveness. The performance plans shall contain a description of the civil-military dimension of the plan, describing the performance of FUA application in order to increase capacity with due regard to military mission effectiveness, and, if deemed appropriate, relevant performance indicators and targets in consistency with the indicators and targets of the performance plan.[14]

It has been shown operationally that improved coordination between civil and military stakeholders can provide significant benefits to airspace users in the core area.

There are significant differences between the periods of time that airspace is segregated or restricted from general air traffic and the periods of time that the airspace is used for the activity requiring such restriction. This indicates a significant amount of latent capacity and flight efficiency that could be available to airspace users.

Making the latent capacity and route options available in a predictable manner, when needed by airspace users, will improve the network planning of available capacity and flight efficiency to meet the airspace users' requirements, thus providing a better air navigation service.

Links

- SESAR
  - Airspace Management & AFUA
- Pilot Common Projects
  - Flexible Airspace Management including Free Route & Airspace Local ASM tools for Real-time
- Interim Deployment Programme
  - Airspace Management Improvements & Data Sharing

[14] Commission Implementing Regulation (EU) laying down a performance scheme for air navigation services and network functions, voted in SSC 49/7-8 March 2013, Recital (6) and Article 11, paragraph 3(f).