SLOVENSKI STANDARD
SIST-TS CEN/TS 16071:2012

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Medobratovalnost obdelave podatkov pri letih (kontrola zračnega prometa) za uporabo na enotnem evropskem nebu (Single European Sky) - Uredba ES 552 2004 o medobratovalnosti

Interoperability of Flight Data Processing (Air Traffic Control - Air Traffic Control) for application under the Single European Sky - Interoperability Regulation EC 552/2004

Interoperabilität der Flugdatenverarbeitung (FVK - FVK) zur Anwendung im Rahmen des Einheitlichen Europäischen Luftraums (Single European Sky) - Interoperabilitätsverordnung EG 552/2004

Interopérabilité des systèmes de traitement des données de vol (contrôle de la circulation aérienne) pour mise en oeuvre dans le cadre du règlement Ciel unique européen - Interopérabilité EC 552 2004

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Interopérabilité des systèmes de traitement des données de vol (contrôle de la circulation aérienne) pour mise en oeuvre dans le cadre du règlement Ciel unique européen - Interopérabilité EC 552 2004

Interoperabilität der Flugdatenverarbeitung (Flugverkehrskontrolle - Flugverkehrskontrolle) zur Anwendung gemäß der Interoperabilitätsverordnung EG 552/2004 im Rahmen des Einheitlichen Europäischen Luftraums (SES)

This Technical Specification (CEN/TS) was approved by CEN on 26 June 2010 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (CEN/TS 16071:2010) has been prepared by Technical Committee CEN/TC 377 “Air Traffic Management”, the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This Technical Specification has been prepared under a mandate given to the CEN/CENELEC/ETSI by the European Commission and developed in cooperation with EUROCAE to support Essential Requirements of the Single European Sky Interoperability Regulation [2].

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

The European Union launched the Legislation "Single European Sky" (SES) in 2002 which was adopted in 2004 and largely amended in 2009.

The SES legislation is based on a framework of four regulations, which include the Interoperability Regulation (EC 552/2004 as amended). The objective of the Interoperability Regulation is to ensure interoperability of the European Air Traffic Management Network (EATMN) consistent with air navigation services.

The technical detail for the provision of Flight Data Processing (ATC-ATC) Interoperability is not included in the body of this document.

1 Scope

This Technical Specification is for the production of conformity evidence for FDP-FDP ground-based system interoperability which has to be declared by the Air Navigation Service Provider (ANSP) before putting FDP-systems into service.

This Technical Specification defines the Technical, Operational and Maintenance requirements for Flight Data Processing (ATC-ATC) system interoperability.

Flight Data Processing (FDP) interoperability between ATC units is a key element to facilitate and harmonise Flight Data systems data exchanges and critical to the functioning of a harmonised European Air Traffic Management system.

FDP Interoperability can be achieved by the use of different techniques appropriate to the operational need, e.g. message exchange, replication mechanisms and data sharing.

The architectural framework in which the different actors have to inter-operate is of major importance to define the context in which the European Standards have to be developed.

For a systematic solution to certain flight data inconsistency problems currently existing in Europe, the definition of a Flight Object (FO) is required to become a conceptual single point of reference for flight data to be used by stakeholder systems.

Interoperability of FDP (ATC-ATC) includes coordination and transfer; correlation and surveillance, facilitation of optimum routes; MTCD and resolutions; recovery support; ground-ground situation awareness and traffic management.

Any software elements related to the software assurance level of a FDP System are outside of the scope of the present document.

Although a consensus can be reached on the present state of the art in FDP interoperability, this state of the art is not mature enough to be put into a European Standard (EN). The European Committee for Standardisation thus resolved to record the obtained technical consensus as the present Technical Specification, with informative status.

The present document thus does not give legal presumption of conformity to any piece of European legislation.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EUROCAE ED-133, *Flight Object Interoperability Specification*

3 Terms, definitions and abbreviations

ACC	Area Control Centre
AIM	Aeronautical Information Management
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider

AOI	Area of Interest
AOR	Area of Responsibility
APP	Approach
ATC	Air Traffic Control
ATM	Air Traffic Management
ATSU	Air Traffic Service Unit
CDM	Collaborative Decision Making
CEN	Comité Européen de Normalisation / European Committee for Standardization
CS	Community Specification
EATMN	European Air Traffic Management Network
EC	European Commission
ESARR	EUROCONTROL Safety Regulatory Requirement
ESO	European Standards Organisation
EUROCAE	European Organisation for Civil Aviation Equipment
FDP	Flight Data Processing
FDPS	Flight Data Processing System
FO	Flight Object
FOIPS	Flight Object Interoperability Proposed Standard
FOS	Flight Object Server
ICAO	International Civil Aviation Organisation
ICOG	Interoperability Consultancy Group
IOP	Interoperability
IRD	Interoperability Requirements Document
MTCD&R	Medium Term Conflict Detection and Resolution
SES	Single European Sky
SESAR	Single European Sky ATM Research
SWIM	System Wide Information Management
TS	Technical Specification
TWR	Tower

4 FDP IOP Implementation Framework

4.1 General

The concepts, specifications and requirements detailed below are those that shall be complied with in order to be able to provide assured interoperability:

— Operational Framework and Behaviour;

— Common environment requirements;

— Architectural Framework;

— AIM Data Model and Services;

— Flight Data Model and Services;

— Middleware Services;

— Safety;

— Test and Maintenance.

ED-133 in its entirety is relevant and shall be complied with. It contains interface definitions and sets of associated requirements (e.g. IOP-FOM-010).

4.2 Operational Framework and Behaviour

4.2.1 General

Whereas the operational framework presented here is indicative of the wider ATM context, only the ATC-ATC aspects should be considered within the scope of this document.

The high level operational framework for the FDP interoperability specification is provided by [14] the ICAO Global Air Traffic Management Operational Concept. It is further refined by [5] the SESAR Concept of Operations and [7] to [13] the applicable Eurocontrol Interoperability Requirements Documents.

4.2.2 ICAO Operational Concept

4.2.2.1 General

The high level operational framework for the FDP interoperability specification is provided by the [14] ICAO Global Air Traffic Management Operational Concept which describes the general principles for Air Traffic Management together with related ATM Service Delivery Management and Information Management which drive the need for FDP Interoperability. The relevant Guiding Principles and Information Services applicable to the field of FDP Interoperability are outlined below (by [14] section reference).

4.2.2.2 Guiding Principles ([14] 1.5)

a) "Information. The ATM community will depend extensively on the provision of timely, relevant, accurate, accredited and quality-assured information to collaborate and make informed decisions. Sharing information on a system-wide basis will allow the ATM community to conduct its business and operations in a safe and efficient manner."

b) "Collaboration. The ATM system is characterized by strategic and tactical collaboration in which the appropriate members of the ATM community participate in the definition of the types and levels of service.