SLOVENSKI STANDARD
SIST EN 4660-005:2011

01-oktober-2011

Aeronavtika - Modularne in odprte letalske elektronske arhitekture - 005. del: Programska oprema

Aerospace series - Modular and Open Avionics Architectures - Part 005: Software

Luft- und Raumfahrt - Modulare und offene Avionikarchitekturen - Teil 005: Software

Série aérospatiale - Architectures Avioniques Modulaires et Ouvertes - Partie 005: Software

Ta slovenski standard je istoveten z: **EN 4660-005:2011**

ICS:

49.090	Oprema in instrumenti v zračnih in vesoljskih plovilih	On-board equipment and instruments

SIST EN 4660-005:2011 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 4660-005

May 2011

ICS 49.090

English Version

Aerospace series - Modular and Open Avionics Architectures - Part 005: Software

Série aérospatiale - Architectures Avioniques Modulaires et Ouvertes - Partie 005: Software

Luft- und Raumfahrt - Modulare und offene Avionikarchitekturen - Teil 005: Software

This European Standard was approved by CEN on 26 June 2010.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Figures

Page

Tables

Page

Foreword

This document (EN 4660-005:2011) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2011, and conflicting national standards shall be withdrawn at the latest by November 2011.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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.

0 Introduction

0.1 Purpose

This document is produced under contract ASAAC Phase II Contract n°97/86.028.

The purpose of the ASAAC Programme is to define and validate a set of open architecture standards, concepts & guidelines for Advanced Avionics Architectures (A3) in order to meet the three main ASAAC drivers. The standards, concepts and guidelines produced by the Programme are to be applicable to both new aircraft and update programmes from 2005.

The three main goals for the ASAAC Programme are:

1. Reduced life cycle costs,
2. Improved mission performance,
3. Improved operational performance.

The ASAAC standards are organised as a set of documents including:

— A set of agreed standards that describe, using a top down approach, the Architecture overview to all interfaces required to implement the core within avionics system,

— The guidelines for system implementation through application of the standards.

The document hierarchy is given hereafter: *(in this figure the document is highlighted)*

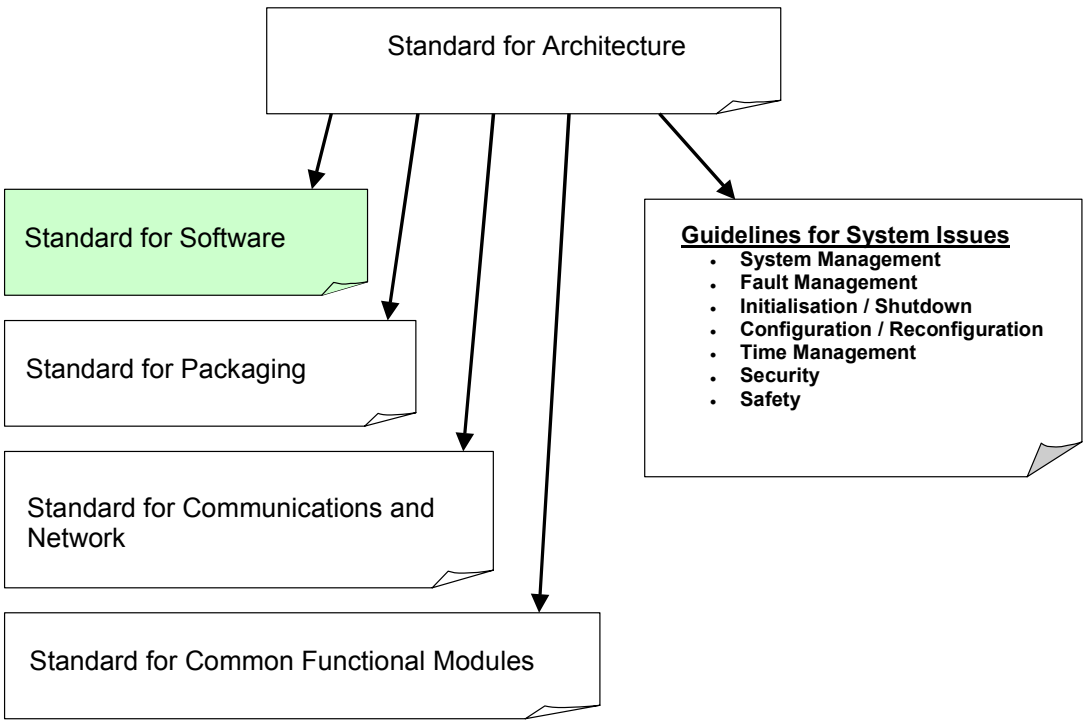

Figure 1 — ASAAC Standard Documentation Hierarchy

0.2 Document structure

The document contains the following sections:

Clause 1, Scope,

Clause 2, Normative references,

Clause 3, Terms, definitions and abbreviations,

Clause 4, System Functions,

Clause 5, Software Architecture Definition,

Clause 6, Direct Interfaces,

Clause 7, Logical Interfaces Definitions,

Clause 8, Data Type Definitions,

Clause 9, Tailoring,

Annex A, AGL.

1 Scope

The purpose of this European Standard is to establish uniform requirements for design and development of software architecture for modular avionics systems as defined per ASAAC.

1.1 Software Architecture Overview

The ASAAC Software Architecture is based on a three-layer stack as shown by a simplified Figure 2.

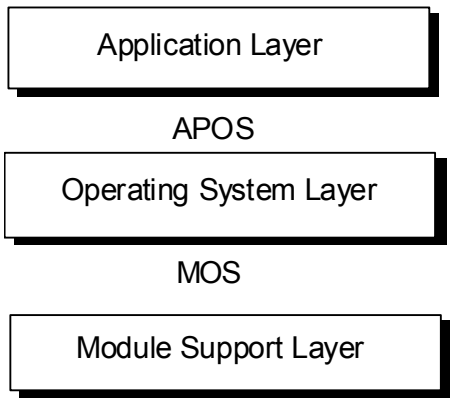

Figure 2 — ASAAC Three Layer Software Architecture

Each layer is described in terms of it dependency/independency on both the aircraft system and the underlying hardware.

Table 1 — Software Layer Independence

Software Layer	Aircraft Dependency	Hardware Dependency
Application Layer (AL)	Dependent	Independent
Operating System Layer (OSL)	Independent	Independent
Module Support Layer (MSL)	Independent	Dependent

1.2 Software Architectural Components

Figure 3 provides an overview of the software architectural components and software interfaces.

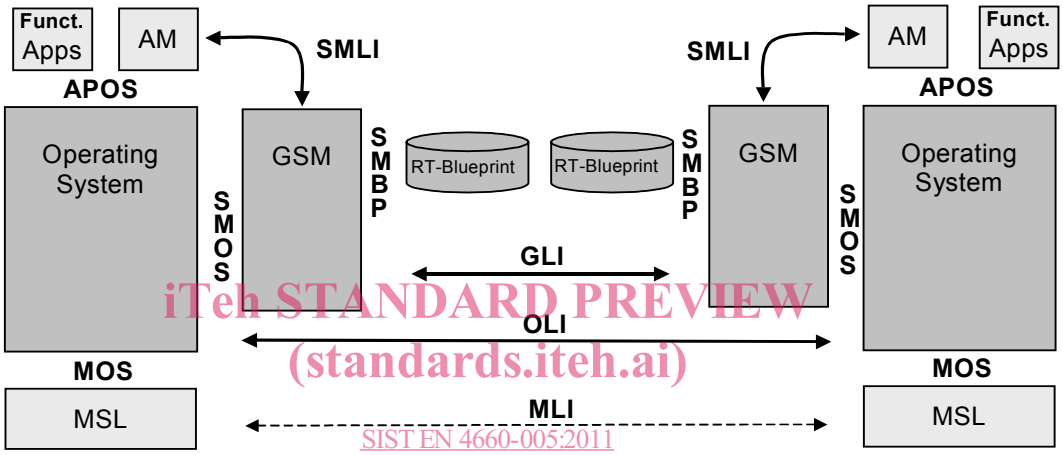

Figure 3 — The Software Architecture Model

1.2.1 Functional Applications

The term "Functional Applications" relates to all functions that handle the processing of operational data, e.g.

— Radar Applications,

— Mission Management,

— Stores Management,

— Vehicle Management System,

— Communication, Navigation and Identification.

1.2.2 Application Management (AM)

AM is responsible for the non-standardised system management, i.e. the AM performs the non-generic system management. As an example, the AM may perform the mission/moding management. The interface between the AM and GSM is the System Management Logical Interface (SMLI) (see 4.1.2).