

Aerospace series - Modular and Open Avionics
Architectures - Part 003: Communications/Network
(corrected version 11.2019)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 4660-003:2019 sisaldab Euroopa standardi EN 4660-003:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 4660-003:2019 consists of the English text of the European standard EN 4660-003:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.08.2019.	Date of Availability of the European standard is 21.08.2019.
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ICS 49.090

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EUROPEAN STANDARD

EN 4660-003

NORME EUROPÉENNE

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Supersedes EN 4660-003:2011

English Version

Aerospace series - Modular and Open Avionics Architectures - Part 003: Communications/Network

Série aérospatiale - Architectures Avioniques
Modulaires et Ouvertes - Partie 003 :
Communication/Réseau

Luft- und Raumfahrt - Modulare und offene
Avionikarchitekturen - Teil 003:
Kommunikation/Netzwerk

This European Standard was approved by CEN on 5 November 2018.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 13 November 2019.

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.

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

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European foreword

This document (EN 4660-003:2019) 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 February 2020, and conflicting national standards shall be withdrawn at the latest by February 2020.

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

This document supersedes EN 4660-003:2011.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

The purpose of this MOAA standard is to define a set of open architecture standards, concepts & guidelines for Advanced Avionics Architectures (A3).

The three main goals for the MOAA Standards are:

- Reduced life cycle costs,
- Improved mission performance,
- Improved operational performance.

The MOAA 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 in Figure 1: *(in this figure the document is highlighted)*

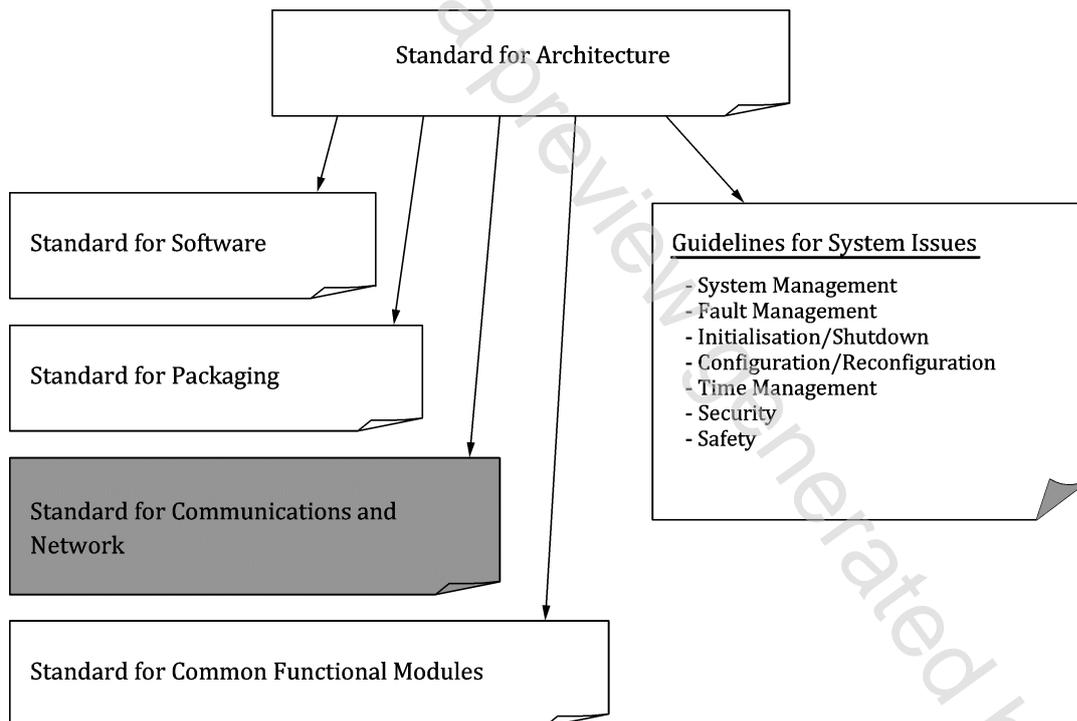


Figure 1 — MOAA Standard Documentation Hierarchy

This standard details the functionality and principle interfaces of an EN 4660 compliant network to ensure the interoperability of Common Functional Modules and design guidelines to assist in implementation of such a network.

The purpose of this standard is to establish by means of well defined interfaces and functionality, a network design that is technology transparent and that is open to a multi-vendor market. Therefore, specific data communication network topology, protocols and technologies are not identified in this document.

Although the physical organisation and implementation of the network shall remain the System Designers choice, in accordance with the best use of the current technology, it is necessary to define interfaces and parameter sets in order to achieve a logical definition of the network with a defined functionality. This definition includes:

- The generic functionality applicable to all networks.
- The logical interfaces to the Operating System and Module Support Layers.
- Optionally the physical interfaces to the Common Functional Modules (CFM).

This document identifies the principle interfaces for the Network, in Clause 4, and where appropriate, provides requirements on network parameters to be defined.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 4660-001, *Aerospace series — Modular and Open Avionics Architectures — Part 001: Architecture*

EN 4660-002, *Aerospace series — Modular and Open Avionics Architectures — Part 002: Common Functional Modules*

EN 4660-004, *Aerospace series — Modular and Open Avionics Architectures — Part 004: Packaging*

EN 4660-005, *Aerospace series — Modular and Open Avionics Architectures — Part 005: Software*

ISO/IEC 7498-1, *Open System Interconnect Basic Reference Model*

3 Terms and definitions and Abbreviations

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Terms and definitions

Use of “shall”, “should” and “may” within the standards observe the following rules:

- The word SHALL in the text expresses a mandatory requirement of the standard.
- The word SHOULD in the text expresses a recommendation or advice on implementing such a requirement of the standard. It is expected that such recommendations or advice will be followed unless good reasons are stated for not doing so.
- The word MAY in the text expresses a permissible practice or action. It does not express a requirement of the standard.