

**ASD-STAN STANDARD
NORME ASD-STAN
ASD-STAN NORM**

ASD-STAN prEN 4660-005

**Edition P2
2018-04**



PUBLISHED BY THE AEROSPACE AND DEFENCE INDUSTRIES ASSOCIATION OF EUROPE - STANDARDIZATION
Rue Montoyer 10 - 1000 Brussels - Tel. + 32 2 775 8126 - Fax. + 32 2 775 8131 - www.asd-stan.org

ICS:

Descriptors:

ENGLISH VERSION

**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**

This "Aerospace Series" Prestandard has been drawn up under the responsibility of ASD-STAN (The AeroSpace and Defence Industries Association of Europe - Standardization). It is published for the needs of the European Aerospace Industry. It has been technically approved by the experts of the concerned Domain following member comments.

Subsequent to the publication of this Prestandard, the technical content shall not be changed to an extent that interchangeability is affected, physically or functionally, without re-identification of the standard.

After examination and review by users and formal agreement of ASD-STAN, the ASD-STAN prEN will be submitted as a draft European Standard (prEN) to CEN (European Committee for Standardization) for formal vote and transformation to full European Standard (EN).

The CEN national members have then to implement the EN at national level by giving the EN the status of a national standard and by withdrawing any national standards conflicting with the EN.

ASD-STAN Technical Committee approves that: "This document is published by ASD-STAN for the needs of the European Aerospace Industry. The use of this standard is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

ASD-STAN reviews each standard and technical report at least every five years at which time it may be revised, reaffirmed, stabilized or cancelled. ASD-STAN invites you to send your written comments or any suggestions that may arise.

All rights reserved. No parts of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of ASD-STAN.

Order details: **E-mail:** sales@asd-stan.org

Web address: <http://www.asd-stan.org/>

Edition approved for publication

1st April 2018

Comments should be sent within six months
after the date of publication to
ASD-STAN

General Domain

Contents

	Page
Introduction	5
1 Scope	6
1.1 General scope	6
1.2 Software Architecture Overview	6
1.3 Software Architectural Components	6
1.3.1 General.....	6
1.3.2 Functional Applications	7
1.3.3 Application Management (AM)	7
1.3.4 Operating System (OS)	7
1.3.5 Generic System Management (GSM).....	7
1.3.6 Run-Time Blueprints (RTBP).....	8
1.3.7 Module Support Layer (MSL)	8
1.3.8 Application to OS Interface (APOS).....	8
1.3.9 Module Support to OS Interface (MOS).....	8
1.3.10 System Management to Blueprints Interface (SMBP).....	8
1.3.11 System Management to OS Interface (SMOS).....	8
1.3.12 OS Logical Interface (OLI)	8
1.3.13 GSM Logical Interface (GLI)	8
1.3.14 System Management Logical Interface (SMLI)	8
1.3.15 Module Logical Interface (MLI)	8
2 Normative references.....	9
3 Terms, definitions and abbreviations	10
3.1 Terms and definitions	10
3.2 Abbreviations	11
4 System Functions.....	13
4.1 System Management Function.....	13
4.1.1 General.....	13
4.1.2 GSM Function	15
4.1.3 AM Function	17
4.1.4 Error Handling	18
4.1.5 Built-In Test.....	18
4.2 Communication.....	20
4.2.1 MOAA Communication Model	20
4.2.2 Types of Data Transfer	23
4.2.3 Communication Configuration	23
4.2.4 Communication Protocols.....	24
4.2.5 Multicast	27
4.2.6 Distributed Multicast.....	29
4.2.7 Streaming.....	32
4.2.8 Data Representation	33
4.3 Security Management	38
4.3.1 Application Security Management.....	38
4.3.2 Generic Security Management.....	39
4.3.3 Encryption/Decryption and Authentication	40