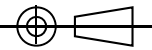


NAS9300-007

Long Term Archiving and Retrieval
of digital technical product documentation
such as 3D, CAD and PDM data

PART 007: Terms and References

FORM 18-01

THIRD ANGLE PROJECTION 	CUSTODIAN ENGINEERING MANAGEMENT COMMITTEE	REVISION 1
PROCUREMENT SPECIFICATION NONE	TITLE LONG TERM ARCHIVING AND RETRIEVAL OF DIGITAL TECHNICAL PRODUCT DOCUMENTATION SUCH AS 3D, CAD AND PDM DATA PART 007: TERMS AND REFERENCES	CLASSIFICATION STANDARD PRACTICE NAS9300-007 SHEET 1 OF 14

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Foreword

1. This standard was prepared jointly by AIA, ASD-STAN, PDES, Inc. and the PROSTEP iViP Association.
2. The PROSTEP iViP Association is an international non-profit association in Europe. For establishing leadership in IT-based engineering it offers a moderated platform to its nearly 200 members from leading industries, system vendors and research institutions. Its product and process data standardization activities at European and worldwide levels are well known and accepted. The PROSTEP iViP Association sees this standard and the related parts as a milestone of product data technology.
3. PDES, Inc. is an international non-profit association in USA. The mission of PDES, Inc. is to accelerate the development and implementation of ISO 10303, enabling enterprise integration and PLM interoperability for member companies. PDES, Inc. gathers members from leading manufacturers, national government agencies, PLM vendors and research organizations. PDES, Inc. supports this standard as an industry resource to sustain the interoperability of digital product information, ensuring and maintaining authentic longevity throughout their product lifecycle.
4. Readers of this standard should note that all standards undergo periodic revisions and that any reference made herein to any other standard implies its latest edition, unless otherwise stated
5. The Standards will be published under two different standards organizations using different prefixes. ASD-STAN will publish the standard under the number EN 9300-007. AIA will publish the standard under the number NAS9300-007. The content in the EN 9300 and NAS9300 documents will be the same. The differences will be noted in the reference documentation (i.e. for EN 9300 Geometric Dimensioning & Tolerancing will be referenced in ISO 1101 and ISO 16792, and for NAS9300 the same information will be referenced in ASME Y14.5 and Y 14.41). The document formatting etc., will follow that of the respective editorial rules of ASD-STAN and AIA.

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1 Scope

This document defines the common terms, abbreviations and references used through the NAS9300 series of standard parts.

2 Normative references

This Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NAS9300 Aerospace series – LOTAR – Long Term Archiving and Retrieval of digital technical and product documentation such as 3D CAD and PDM data. Other parts are applicable as required.

3 General terms, & references and abbreviations

3.1 Terms & References

The following section provides a list of general terms that occur in the NAS9300 set of documentation, together with a description of what the terms mean. As the meaning of a term may change with context, this section records the usage of those terms in the context of NAS9300, and is provided to enable the correct interpretation of the NAS9300 standard. These descriptions are not otherwise normative.

3D Model Based Definition – Model Based Definition (MBD) is a set of concepts, processes, and tools that allow the creation of an annotated 3D product definition based on a 3D solid model. The MBD dataset includes all Engineering Intent requirements (including Process Specifications, Geometric Dimensioning and Tolerancing (GD&T), Product and Manufacturing Information (PMI), and other required information). Combined with product lifecycle management (PLM) attributes, a parts list, and general notes, this constitutes an authoritative, single source of master product definition data that does not include or depend upon traditional 2D drawings. The MBD dataset defines complete requirements for a product in its nominal condition as well as permissible limits of variation and other acceptance criteria, providing all the data needed to plan, fabricate, and validate an article of product hardware.

Access - from the OAIS model, the process of recovering data from the archive.

Administration (OAIS cf also NAS9300-13 7.3) the management of the archive and its daily operation.

Administrator (OAIS cf also NAS9300-13 8.1.3) the organization or person responsible for management of the archive and its daily operation.

Application Activity Model (AAM) - from STEP, the model of activities that defines the context for a particular Application Protocol.

Application Interpreted Model (AIM) - one of the STEP information models, historically used as the basis for implementation.

Application Protocol (AP) - from STEP, one of the major parts of the standard that provides an implementable data exchange in a particular context.

Application Reference Model (ARM) - from STEP, an information model that describes the information requirements and constraints of a specific application context.

Archival Information Package (OAIS) - An Information Package, consisting of the Content Information and the associated Preservation Description Information (PDI), which is preserved within an OAIS. (Note - this is the package actually retained by the archive, containing both the Content Information and all necessary PDI's.)

Archival Storage (OAIS, cf also NAS9300-10 6.3 and NAS9300-13) The process includes the setting of digital time signatures, generation of additional Descriptive Information for Archive Information Packages (meta data for the archive) and the physical storage of the data within the archive.

Archive (1) - A repository for historical information.

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Archive (2) - Any repository conforming to the OAIS standard. (OAIS, cf also NAS9300-10 7.1.1) The Archive is the archiving environment, which usual supports at least the key functions of an archiving architecture according ISO 14721 (OAIS).

Note: This is the preferred sense in the LOTAR documentation.

Article - see Product, Part, Item and Article.

Authentication (1) - Ensuring something is what it purports to be.

Authentication (2) - In security, ensuring the claims to identity of one party are proven to the satisfaction of another.

Audit Trail - Information collected during the execution of a process that shows what actually occurred.

Business Application (cf NAS9300-003, 3.2.3) - the software creating and generating native Product Models.

Certification (1) - the process of assessing a process or product against some particular set of criteria.

Certification (2) - the particular process of certifying an aircraft type as being airworthy.

Note: For clarity, LOTAR uses the term "Type Certification" in this context.

Character-based Presentation: is a type of Presentation where the conveyed information is stored as characters (letters, numbers, and symbols). These characters are typically stored in a string variable that can be retrieved and edited in a consuming application. The appearance of Character-based Presentation depends on the font being used and may change if the originating system and the consuming application use different fonts. To ensure no characters are lost from creation to consumption, the alphabet (character encoding) used must be defined as well.

Example – In ASCII, the letter 'A' is stored as character code '0x41' (hexadecimal).

Character-based Presentation is often supplemented by geometric elements, such as leader lines, curves or terminator symbols.

Configuration Management (1) - the discipline of managing the information relating to a product design, encompassing change management, configuration identification, status accounting and audit.

Note: this is the preferred sense in the aircraft industry, and in the NAS9300 documentation.

Configuration Management (2) - the rules relating to the choice and combinations of options used when configuring a particular physical example of a product.

Consumer - from OAIS, the user of data taken from an archive. (OAIS, cf also NAS9300-10 7.1.2) The consumer is an organization, person, or client system, which interact with the services offered by the archive to find preserved information of interest and to access that information in detail. (See also Designated Community)

Content Information (OAIS) - The set of information that is the original target of preservation. It is an Information Object comprised of its Content Data Object and its Representation Information. An example of Content Information could be a single table of numbers representing, and understandable as, temperatures, but excluding the documentation that would explain its history and origin, how it relates to other observations, etc.

Context Information (OAIS) - The information .that documents the relationships of the Content Information to its environment. This includes why the Content Information was created and how it relates to other Content Information objects.

Core Model (NAS9300-003, 5.3.2.1) - the essential minimum of data which are required to preserve the design intent for a given purpose.

Cyclic Redundancy Check - a method for checking the integrity of a set of digital data.

Data (ISO 10303-1) - a representation of information in a formal manner suitable for communication, interpretation, or processing by human beings or computers.

Data Object - a collection of data treated as a single unit, such as a CAD model or file.

Data Preparation (NAS9300-10 6.1 and NAS9300-11) the data to be archived will be prepared by the producer. This includes data verification.

Data Selection (NAS9300-14 6.3) the functions to search the archive for data.

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