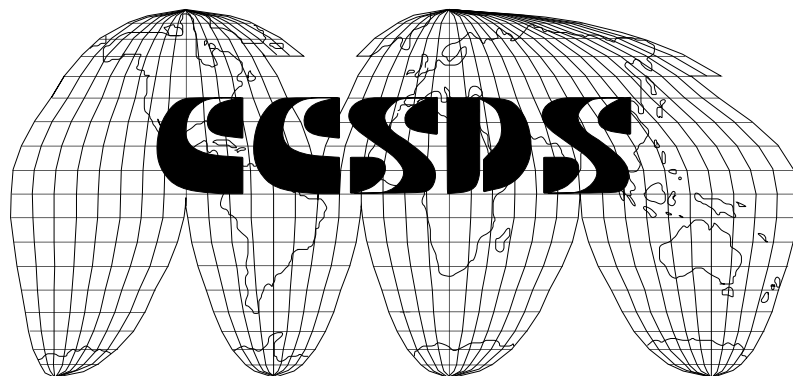# Consultative Committee for Space Data Systems

RECOMMENDATION FOR SPACE
DATA SYSTEM STANDARDS

## STANDARD FORMATTED DATA UNITS— CONTROL AUTHORITY DATA STRUCTURES

CCSDS 632.0-B-1

**BLUE BOOK**

November 1994

# AUTHORITY

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| Issue: | Blue Book, Issue 1 |
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This document has been approved for publication by the Management Council of the Consultative Committee for Space Data Systems (CCSDS) and represents the consensus technical agreement of the participating CCSDS Member Agencies.  The procedure for review and authorization of CCSDS Recommendations is detailed in reference [1], and the record of agency participation in the authorization of this document can be obtained from the CCSDS Secretariat at the address below.

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# STATEMENT OF INTENT

The Consultative Committee for Space Data Systems (CCSDS) is an organization officially established by the management of member space Agencies. The Committee meets periodically to address data systems problems that are common to all participants and to formulate sound technical solutions to these problems. Inasmuch as participation in the CCSDS is completely voluntary, the results of Committee actions are termed **Recommendations** and are not considered binding on any Agency.

This **Recommendation** is issued by, and represents the consensus of, the CCSDS Plenary body. Agency endorsement of this **Recommendation** is entirely voluntary. Endorsement, however, indicates the following understandings:

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  — The **standard** itself.

  — The anticipated date of initial operational capability.

  — The anticipated duration of operational service.

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In those instances when a new version of a **Recommendation** is issued, existing CCSDS-related Agency **standards** and implementations are not negated or deemed to be non-CCSDS compatible. It is the responsibility of each Agency to determine when such **standards** or implementations are to be modified.  Each Agency is, however, strongly encouraged to direct planning for its new and implementations towards the later version of the **Recommendation**.

# FOREWORD

This Recommendation extends the standardization of the Standard Formatted Data Unit (SFDU) concept in support of the digital transfer of space-related information.

This Recommendation specifies standards for expressing selected data description attributes and for their packaging with the data description. The resulting packages, called Control Authority Data Structures (CADS), are used to submit data descriptions to Control Authority Offices for registration and revision and to disseminate data descriptions from Control Authority Offices.

Other aspects of the SFDU concept are described in the documents identified in the References section.

Through the process of normal evolution, it is expected that expansion, deletion, or modification to this document may occur. This Recommendation is therefore subject to CCSDS document management and change control procedures which are defined in reference [1].

At time of publication, the active Member and Observer Agencies of the CCSDS were

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# DOCUMENT CONTROL

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| CCSDS 632.0-B-1 | Recommendation for Space Data Systems Standards:  Standard Formatted Data Units—Control Authority Data Structures, Issue 1 | November 1994 | Original Issue |

# CONTENTS

# 1  INTRODUCTION

## 1.1  PURPOSE AND SCOPE

The objective of the Control Authority organization is to provide a data description management infrastructure supporting the Standard Formatted Data Unit (SFDU) concept.  A complete mechanism for international data description archival and interchange will require the following components:

a)  an internationally coordinated Control Authority organization to implement the services required;

b)  a uniform set of responsibilities, services and associated procedures for the members of this organization;

c)  standard sets of information used in the interactions among members of the Control Authority organization and users;

d)  standard data description languages and standard data structures to permit the writing and packaging of data descriptions;

e)  a standard set of media and protocols for communication within the organization and between users and the organization.

Points a through c above are defined in the Control Authority Procedures Recommendation (reference [2]); the purpose of this document is to define point d to the extent needed to support registration and revision of data descriptions with Control Authority Offices and to support dissemination of data descriptions from Control Authority Offices.

## 1.2  APPLICABILITY

This Recommendation applies to all Member Agency Control Authority Offices (MACAOs) and to all users of MACAO data description registration, revision, and dissemination services.  The Recommendation does not preclude individual MACAOs from using locally developed formats where appropriate.

## 1.3  RECOMMENDED APPROACH TO READING THE DOCUMENT

A proper understanding of this document requires familiarity with the SFDU concept; the rationale underlying the various product-building and packaging techniques, including the Parameter Value Language (PVL) used to construct statements; and the specific terminology used in this document.  If the reader does not have this familiarity, it is recommended that the documents  identified in the References list (1.4) be read prior to reading this Recommendation.

This document is structured as follows:

–    section 2 provides the context for the Control Authority Data Structures (CADS);

–    section 3 defines the CADS packages and specifies a data structure whose ADID = CCSD0007;

–    section 4 provides guidance on what changes can be made in CADS formatting options without compromising the information content;

–    annex A presents the acronyms and abbreviations used in this document;

–    annex B presents the glossary of  terms used in this document.


## 1.4    REFERENCES

The following documents contain provisions which, through reference in this text, constitute provisions of this Recommendation.  At the time of publication, the editions indicated were valid. All documents are subject to revision, and users of this Recommendation are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below. The CCSDS Secretariat maintains a register of currently valid CCSDS Recommendations.

[1]    *Procedures Manual for the Consultative Committee for Space Data Systems.* CCSDS A00.0-Y-6.  Yellow Book.  Issue 6.  Washington, D.C.: CCSDS, May 1994 or later issue.

[2]    *Standard Formatted Data Units—Control Authority Procedures.*  Recommendation for Space Data Systems Standards, CCSDS 630.0-B-1.  Blue Book.  Issue 1.  Washington, D.C.: CCSDS, June 1993 or later issue.

[3]    *Standard Formatted Data Units—Control Authority Procedures Tutorial.*  Report Concerning Space Data Systems Standards, CCSDS 631.0-G-2.  Green Book.  Issue 2. Washington, D.C.: CCSDS, November 1994 or later issue.

[4]    *Standard Formatted Data Units—Structure and Construction Rules.*  Recommendation for Space Data Systems Standards, CCSDS 620.0-B-2.  Blue Book.  Issue 2.  Washington, D.C.: CCSDS, May 1992 or later issue.

[5]    *Parameter Value Language Specification (CCSD0006).*  Recommendation for Space Data Systems Standards, CCSDS 641.0-B-1.  Blue Book.  Issue 1.  Washington, D.C.: CCSDS, May 1992 or later issue.

[6]    *Parameter Value Language—A Tutorial.*  Report Concerning Space Data Systems Standards, CCSDS 641.0-G-1.  Green Book.  Issue 1.  Washington, D.C.: CCSDS, May 1992 or later issue.

[7]    *Standard Formatted Data Units—A Tutorial.*  Report Concerning Space Data Systems Standards, CCSDS 621.0-G-1.  Green Book.  Issue 1.  Washington, D.C.: CCSDS, May 1992 or later issue.

# 2 CONTEXT FOR THE CONTROL AUTHORITY DATA STRUCTURES

The Control Authority Procedures Recommendation (reference [2]) specifies the content of three data packages. The packages are used to exchange information between a MACAO and a MACAO services user. Two packages are produced by the users; a Registration Package (RP) is used to register a data description, and a Revision Registration Package (RRP) is used to revise a data description at a MACAO. The third package is produced by the MACAO to provide a data description to the user at user request. This package is referred to as a Data Description Package (DDP).
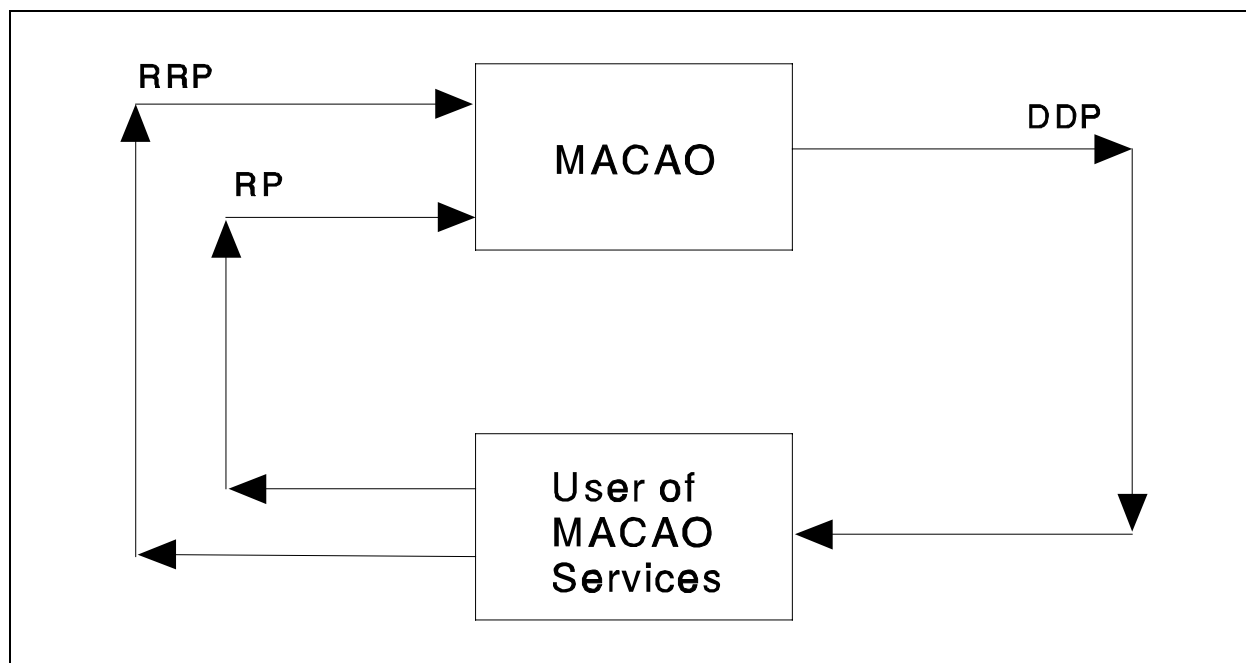


**Figure 2-1: MACAO-User Interactions**

The rationale, requirements, and context for the Control Authority organization are presented in the Control Authority Procedures Tutorial (reference [3]).

The requirements for data structures supporting registration, revision, and dissemination of data descriptions are specified in the Control Authority Procedures Recommendation (reference [2]) and further described in the Control Authority Procedures Tutorial (reference [3]).

This Recommendation translates these information-interchange requirements identified in the Control Authority Procedures Recommendation (reference [2]) into detailed specifications.

Brief scenarios of the three applicable user-MACAO interchanges are given below.

An individual or organization, called the Originator, prepares the RP containing a data description and submits it to the MACAO for registration.  The MACAO responds by checking the RP content, assigning an Authority and Description Identifier (ADID), and thereby registering it. The MACAO then returns the data description to the Originator of the RP in the form of a DDP.

A DDP requester, perhaps another MACAO, requests a data description from a MACAO by submitting the ADID, and optionally the revision number.  The MACAO provides the DDP to the requester.

An individual or organization, called the Originator, and previously identified as a Permitted Reviser of a particular data description, prepares an RRP that includes the ADID of the data description to be revised and submits it to the MACAO.  The MACAO checks the RRP content, registers the revision, and then returns the data description in the form of a DDP.

# 3 SPECIFICATION OF REGISTRATION, REVISION REGISTRATION, AND DATA DESCRIPTION PACKAGES

Each of the three packages (i.e., RP, RRP, and DDP) shall conform to the specification of a Description Data Unit (DDU) having an ADID = CCSD0005 as specified in the *Standard Formatted Data Units—Structure and Construction Rules* Recommendation (reference [4]). The DDU must always be contained within an Exchange Data Unit (EDU), as specified in reference [4], when exchanged between users and MACAOs.

The DDU value field structure required by this specification is shown in figure 3-1. As can be seen from the figure,

  – The first Label Value Object (LVO) in the value field of each package (RP, RRP, or DDP) shall have a Class ID = C and an ADID = CCSD0004 as specified in reference [4]. This LVO identifies the DDU and provides a means for logically including previously registered data descriptions.

  – The second LVO in the value field of each package shall have a Class ID = K and an ADID = CCSD0007, as described in 3.2. This LVO supplies the identification information required by the Control Authority Procedures Recommendation (reference [2]).

  – Following the second LVO shall be zero or more LVOs with Class IDs of D, E, S, K, or R. These LVOs supply the data description information to be registered, revised, or disseminated.
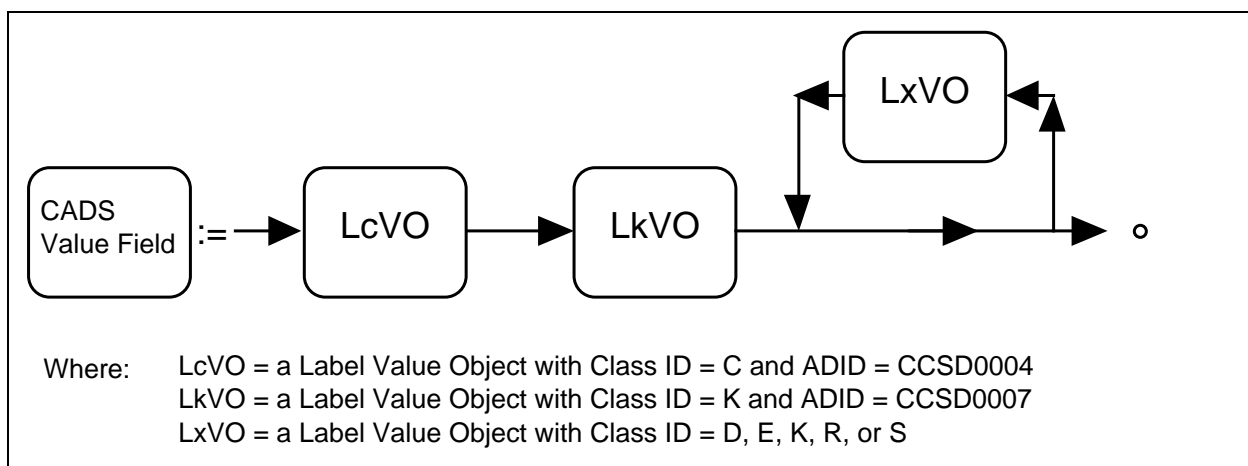


**Figure 3-1: Structure Diagram for CADS DDU Value Field**

## 3.1 VALUE FIELD CONSTRAINTS ON THE LVO WITH CLASS ID = C AND ADID = CCSD0004

The following constraints apply for the LVO with Class ID = C and ADID = CCSD0004:

a) if the CADS package is an RP, then the ADIDNAME parameter value shall begin with the letter Z;

b) if the CADS package is an RRP or DDP, then the ADIDNAME parameter value shall be the ADID as assigned by the MACAO.

There are no other constraints imposed by CADS on any other ADID = CCSD0004 parameters.

## 3.2 SPECIFICATION FOR ADID = CCSD0007

The CCSD0007 specification describes a Simple LVO value field for specifying parameter values necessary for the identification information specified in the Control Authority Procedures Recommendation (reference [2]). The information is expressed using the PVL as specified in the Parameter Value Language Specification (reference [5]). All keywords in the CCSD0007 value field shall be expressed in uppercase.

Table 3-1 presents the required list of PVL parameter names. The names ORIGINATOR and REVISER are PVL aggregation block parameter names. The remaining names are PVL assignment statement parameter names. The table contains the following information for each name:

– the PVL assignment statement or aggregation block parameter name;

– the meaning associated with each parameter name;

– an indication, for each package type, of whether the presence of a parameter name is mandatory, forbidden or conditional. Restrictions on the use of the parameter are indicated by a numeric superscript corresponding to a rule at the end of the table.

**Table 3-1: Parameter Descriptions and Occurrences**

| PARAMETER OR AGGREGATION BLOCK NAME | PARAMETER DESCRIPTION | RP | RRP | DDP |
|---|---|---|---|---|
| DESCRIPTION | An English description of the nature and expected usage of the data description. | ✓ | ✓ | ✓ |
| PACKAGE_TYPE | An identification of the CADS package type. The acceptable values are RP, DDP, and RRP. | ✓ | ✓ | ✓ |
| REGISTRATION_DATE | The date a MACAO assigns an ADID or increments the Revision Number of a data description. | X | X | ✓ |
| RELEASABLE | An indicator of whether the Originator of the RP or RRP deems the data description can be made available to the user community. | ✓ | ✓ | ✓ |
| REVISABLE | An indicator of whether the data description contained in this RP or RRP can later be revised by any of the indicated Permitted Revisers. | ✓ | ✓ | ✓ |
| REVISION_COMMENT | An English comment given by the Originator of the RP or RRP explaining the nature of the revision. | ✓ | ✓ | ✓ |
| REVISION_NUMBER | A number assigned to each revision of the data description by the registering MACAO. | X | X | ✓ |
| SUBMISSION_DATE | The date the RP or RRP is submitted to a MACAO, as determined by its Originator. | ✓ | ✓ | X |
| TITLE | An English title of the data description. | ✓ | ✓ | ✓ |

**Table 3-1: Parameter Descriptions and Occurrences (continued)**

| PARAMETER OR AGGREGATION BLOCK NAME | PARAMETER DESCRIPTION | RP | RRP | DDP |
|---|---|---|---|---|
| ORIGINATOR | An aggregation block that gives information that identifies the Originator of the data description contained in the RP or RRP. | ✓ | ✓ | ✓ |
| REVISER | An aggregation block that gives information that identifies each Permitted Reviser of the data description contained in the RP or RRP. | $C^1$ | $C^1$ | $C^1$ |

Where:  ✓ = Mandatory
  X = Forbidden
  C = Conditional

Rule 1:  If the REVISABLE parameter has the value YES (see table 3-3), then at least one REVISER aggregation block must be included.  If the REVISABLE parameter has the value NO, then the presence of a REVISER aggregation block is forbidden.

NOTE – The Originator is not automatically a Permitted Reviser.  The Originator information must also be explicitly included in a REVISER aggregation block if the Originator is to be allowed to submit a revision.

The aggregation blocks for ORIGINATOR and REVISER are expressed using the PVL syntax for an OBJECT.  The PVL assignment statements permitted in these aggregation blocks are presented in table 3-2.  This table contains the following information:

– the PVL assignment statement parameter name;

– the meaning associated with each parameter name;

– an indication of whether the presence of a parameter name is mandatory or conditional. Restrictions are indicated by numeric superscript that corresponds to a rule at the end of the table.

**Table 3-2: Parameter and Occurrences within Aggregation Blocks**

| PARAMETER NAME | PARAMETER DESCRIPTION | PRESENCE |
|---|---|---|
| AFFILIATION | Institution or organization with which the Originator or a Permitted Reviser is associated. | ✓ |
| EMAIL | The network name (e.g., Internet or TELEMAIL) and network address on which the Originator or a Permitted Reviser can be contacted. | ✓[2] |
| FAX | An internationally recognized phone number of the Originator or a Permitted Reviser for facsimile transmission. | ✓[2] |
| NAME | Name of the Originator or a Permitted Reviser. | C[3] |
| PHONE | An internationally recognized phone number of the Originator or a Permitted Reviser. | ✓[2] |
| POSITION | The organizational position of the Originator or a Permitted Reviser. | C[3] |
| POSTAL_ADDRESS | An internationally recognized postal address of the Originator or a Permitted Reviser. | ✓ |

Where:  ✓ = Mandatory
        C = Conditional

Rule 2:   There may be any number, greater than zero, of EMAIL, FAX, or PHONE parameters specified within any single Originator or Permitted Reviser aggregation block.

Rule 3:   Either the NAME or the POSITION parameter or both must be specified within any one aggregation block for the Originator or a Permitted Reviser.  If both NAME and POSITION are specified in a Permitted Reviser aggregation block, then either the person identified by the NAME parameter or any person identified by the POSITION parameter may update the data description.  In the POSITION parameter, individuals may be specified by an appropriate title (e.g., "Project Scientist"), or a group may be specified by an appropriate phrase (e.g., "A member of XYZ group").

### 3.2.1  SPECIFICATION OF ASSIGNMENT STATEMENTS

Table 3-3 presents specifications for the values of parameters used in CCSD0007.  The last column, Maximum Individual String Length, specifies the string value's maximum string length as a count of characters.  For a sequence or set of string values, this length is the maximum string length for each individual string forming the sequence or set.

**Table 3-3: Parameter Value Specifications**

| PARAMETER NAME | VALUE SPECIFICATION | MAXIMUM INDIVIDUAL STRING LENGTH |
|---|---|---|
| AFFILIATION | A PVL string.  If not applicable, the string shall contain 'N/A'. | 80 |
| DESCRIPTION | A PVL string. | 240 |
| EMAIL | A sequence of two PVL strings, the first of which specifies the network name, and the second of which specifies the network address.  If not applicable, the string shall contain 'N/A'. | 240 |
| FAX | A PVL string of the form '+cc nnnnnnn...', where 'cc' is the international country code, which must be followed by a space, and 'nnnnnnn...'  are the numbers that must be dialed from outside the country.   The 'cc' field may be any number of digits required for the international country code.  The 'nnnnnnn...' field may contain digits and spaces.  No other formatting characters are allowed.  If not applicable, the string shall contain 'N/A'. | 30 |
| NAME | A PVL string, formulated as 'family name, given name(s)'.  The comma after family name is mandatory. | 80 |

**Table 3-3: Parameter Value Specifications (continued)**

| PARAMETER NAME | VALUE SPECIFICATION | MAXIMUM INDIVIDUAL STRING LENGTH |
|---|---|---|
| PACKAGE_TYPE | A PVL string which assumes the value of either 'RP', 'RRP', or 'DDP'. | - |
| PHONE | A PVL string of the form '+cc nnnnnnn...', where 'cc' is the international country code, which must be followed by a space, and 'nnnnnnn...' are the numbers that must be dialed from outside the country.  The 'cc' field may be any number of digits required for the international country code.  The 'nnnnnnn...' field may contain digits and spaces.  No other formatting characters are allowed. | 30 |
| POSITION | A PVL string. | 80 |
| POSTAL_ADDRESS | A PVL sequence of strings, each of which contains a single line of the postal address. The last string in the sequence must be the country. | 80 |
| REGISTRATION_DATE | A PVL date. | - |
| RELEASABLE | A PVL string that assumes the value of either 'YES' or 'NO'.  A value of 'YES' means that the data description can be disseminated from the Control Authority to anyone requesting it.  A value of 'NO' means that the data description can only be disseminated from the Control Authority to the Originator or any of the Permitted Revisers. | - |

**Table 3-3: Parameter Value Specifications (continued)**

| PARAMETER NAME | VALUE SPECIFICATION | MAXIMUM INDIVIDUAL STRING LENGTH |
|---|---|---|
| REVISABLE | A PVL string that assumes the value of either 'YES' or 'NO'. A value of 'YES' means that those identified in any of the REVISER aggregation blocks can submit a revised data description using the same ADID. A value of 'NO' means that the data description cannot be revised. | - |
| REVISION_COMMENT | A PVL string. | 8000 |
| REVISION_NUMBER | A PVL integer. If the data description has never been revised, this value must be zero (0). | - |
| SUBMISSION_DATE | A PVL date. | - |
| TITLE | A PVL string. | 80 |

# 4  CONSTRAINTS FOR INFORMATION PRESERVATION

To ensure that information is preserved in the exchange of CADS packages (i.e., RPs, RRPs, and DDPs) among open systems, it is necessary to make clear which CADS formatting options may and may not be altered by these systems.  Producing systems will then avoid attaching special meaning to formatting choices that may be altered by automated processes in recipient systems.

The following constraints need to be observed:

a)  CADS DDU LVO label versions and delimitation types may be altered by MACAOs. No special meaning shall be attached to the use of these LVO formatting options.

b)  MACAOs shall preserve the ordering of LVOs in CADS packages.  This is a re-affirmation of the definition of a compound LVO (of which a DDU is one example) as an LVO whose Value field contains a sequence of LVOs (reference [4]).  However there are two exceptions to note:

1)  LVOs that are referenced by wildcarding associated with R class objects do not have a guaranteed order, and therefore the ordering of such LVOs may be altered by MACAOs.  The use of wildcarding implies that the order of the referenced LVOs is not significant.

2)  R class LVOs may be replaced by the sequence of LVOs formed from external data objects (reference [4]).  While this will change the syntactic order of LVOs, the sequential order of all LVOs other than R class LVOs is what is significant for information preservation, and this will be unaltered.

c)  Within R class LVOs, a referenced ADID (e.g., `DDRID = NSSD1234`) shall not be replaced with the actual LVOs referenced as this alters the information content of the data description.

d)  The PVL formatting of CCSD0004 LVOs may be altered by MACAOs.  The following changes may take place:

1)  Statement delimiters (e.g., white space, semicolons) may be substituted for each other. The use of a semicolon as the statement delimiter is the preferred form.

2)  Comments found within the CCSD0004 value field may be removed.

3)  White space between PVL statement elements may be altered as to amount and type.

4)  String delimiters may be added to PVL strings or removed from PVL strings as is consistent with valid PVL and where the meaning of the string is not changed.  For example, the string "ABCD1234" (with double quotes) may be represented as ABCD1234 (without quotes), or vice-versa.

e)  The PVL formatting of CCSD0007 LVOs may be altered by MACAOs.  The following changes may take place:

1)  Statement delimiters (e.g., white space, semicolons) may be substituted for each other. The use of a semicolon as the statement delimiter is the preferred form.

2)  Comments found within the CCSD0007 value field may be removed.

3)  White space between PVL statement elements may be altered as to amount and type.

4)  String delimiters may be added to PVL strings or removed from PVL strings as is consistent with valid PVL and where the meaning of the string is not changed.  For example, the string "ABCD1234" (with double quotes) may be represented as ABCD1234 (without quotes), or vice-versa.

5)  PVL statements may be reordered as long as the `BEGIN_OBJECT` aggregations are correctly preserved.

6)  PVL begin aggregation keywords `OBJECT` and `BEGIN_OBJECT` may be substituted for each other.  The use of the `BEGIN_OBJECT` keyword is the preferred form.

7)  PVL end aggregation statements `END_OBJECT = 'block name'` and `END_OBJECT` may be substituted for each other.  `END_OBJECT = 'block name'` is the preferred form.

# ANNEX A

# ACRONYMS AND ABBREVIATIONS

This annex is part of the Recommendation.

### Purpose:

This annex defines the acronyms and abbreviations which are used throughout this Recommendation to describe the concepts and elements of the Control Authority Data Structures.

| Term | Meaning |
| --- | --- |
| ADID | Authority and Description Identifier |
| ASCII | American Standard Code for Information Interchange |
| CA | Control Authority |
| CADS | Control Authority Data Structures |
| CAID | Control Authority Identifier |
| CCSDS | Consultative Committee for Space Data Systems |
| DDID | Data Description Identifier |
| DDP | Data Description Package |
| DDU | Description Data Unit |
| EDU | Exchange Data Unit |
| LVO | Label Value Object |
| MACAO | Member Agency Control Authority Office |
| N/A | Not Applicable |
| PVL | Parameter Value Language |
| RA | Restricted ASCII |
| RP | Registration Package |
| RRP | Revision Registration Package |
| SFDU | Standard Formatted Data Unit |
| WDC-A-R&S | World Data Center A for Rockets and Satellites |

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# ANNEX B

# GLOSSARY

This annex is part of the Recommendation.

**Purpose:**

This annex defines key terms which are used throughout this report to describe the concepts and elements of the Control Authority Data Structures.

**Authority and Description Identifier (ADID)**: The concatenation of the Control Authority Identifier (CAID) and the Data Description Identifier (DDID).

**Control Authority (CA)**: An organization under the auspices of CCSDS which supports the transfer and usage of SFDUs by providing operational services of registration, archiving, and dissemination of data descriptions. It comprises:
– The CCSDS Secretariat supported by the Control Authority Agent (CA Agent), and
– Member Agency Control Authority Offices (MACAOs).

**Control Authority Agent (CA Agent):** An organizational entity that has agreed to discharge the Control Authority (CA) responsibilities of the CCSDS Secretariat. The World Data Center A for Rockets and Satellites (WDC-A-R&S) has agreed to act as this agent. Overall Control Authority responsibility rests with the CCSDS Secretariat.

**Control Authority Identifier (CAID)**: A four character restricted ASCII string that identifies an individual Member Agency Control Authority Office (MACAO) or the CCSDS Secretariat.

**Data Description Identifier (DDID)**: A four character restricted ASCII string, assigned by a Member Agency Control Authority Office (MACAO) or the CCSDS, to distinguish among descriptions with the same Control Authority Identifier (CAID).

**Data Description Package (DDP)**: The combination of a data description, its Authority and Description Identifier (ADID), and identification information, originating from Member Agency Control Authority Offices (MACAOs) and supplied to users to facilitate understanding of data.

**Label Value Object (LVO):** The basic SFDU building block comprised of a LABEL field and a VALUE field. This structure is the fundamental structural element used to build SFDUs.

**Member Agency Control Authority Office (MACAO)**:  An individual CCSDS Participating Agency organization that has accepted the operational responsibilities and constraints specified within CCSDS Recommendations on Control Authority (CA) operations.

**Open System Data Interchange**:  The process of transferring data from one open system to another.  An open system is one which uses publicly available formats and protocols, so that anyone can communicate with the open system by following the open system standards.  It should be noted that open system does not imply an uncontrolled or unrestricted access to the data.

**Originator**:  That individual or organization that submits a Registration Package (RP) or a Revision Registration Package (RRP) to a Member Agency Control Authority Office (MACAO) and accepts responsibility for its contents.

**Participating Agency:** A Member or Observer Agency of the CCSDS.

**Permitted Reviser**:  An individual or organization that has been specified, in a Registration Package (RP) or a Revision Registration Package (RRP), as having the authority to submit a revision of the data description.

**Registration Date**:  The date a Member Agency Control Authority Office (MACAO) assigns an Authority and Description Identifier (ADID) or increments a Revision Number of a data description.

**Registration Package (RP)**:  A particular data description, with its accompanying identification information, intended for registration by a Member Agency Control Authority Office (MACAO).

**Restricted ASCII (RA) Character**:  A character from the ASCII character set consisting of the numeric characters, 0-9, and the upper-case letters, A-Z, of the Roman alphabet.

**Revision Registration Package (RRP)**:  A revision of a particular data description, with its accompanying identification information, intended for registration by a Member Agency Control Authority Office (MACAO).

**Standard Formatted Data Unit (SFDU)**:  Data that conform to CCSDS SFDU Recommendations for structure, construction rules, and field-specification definition.

**Submission Date**:  The date the Registration Package (RP) or the Revision Registration Package (RRP) is submitted to a Member Agency Control Authority (MACAO), as determined by its Originator.

**World Data Center A for Rockets and Satellites (WDC-A-R&S):** An organization under the World Data Center that is collocated with NASA's National Space Science Data Center. It responds to world-wide requests for information about rockets and satellites and performs related services.

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