OAIS Critiques/RIDS Reviewed/Annotated

8 March 2001

This document contains all the OAIS relevant critiques and RIDS received as follows:

NARA RIDs
CNES RIDs
CEDARS Review
NEDLIB Review
Nat. Lib. Australia Review
ICSTI Review
GSFC RIDs

To facilitate review, the comments have been sorted either by OAIS document section number and paragraph, or by topic. However the ICSTI comments arrived late and so their 'General Comments' and 'Editorial Comments' have been inserted at the beginning of the list without specific reference to what parts of the document they may affect.

Some of the critiques/RIDs had received initial P2 dispositions, but are included here for completeness and because the US group has now taken a position. The US perspectives were generated at the US/ISO Archiving workshops held 19-20 July, and September 14-15, 2000. If there is no additional annotation from a US workshop, the US group was in agreement with the previous disposition.

In some cases the editor of this document (DMS) has added a subsequent note as more information has become available (such as DMS meeting with David Holdsworth on September 18th). Two NASA/GSFC RIDs were received as this list was being finalized and they have been inserted in appropriate sections.

Some GSFC RIDs arrived after the last Panel 2 workshop (RAL) and have been added at the end as RIDs 86-91. However with the 2 RIDs inserted with decimal numbers, the total number of RIDs is 93.

Additional annotations have been made as the RIDs dispositions were inserted into an updated version of the document, and as these were reviewed at the 19th US/ISO archiving workshop held February 20-22, 2001, and as additional editing was done following this workshop.

Please note the cover note that accompanies the new versions (word/pdf, with and without red lines) for known missing updates – particularly a few figures.

Known Issues:

1. Terminology section. Move definition of 'Data Submission Session' to follow 'Data Object'

2. Terminology section: There is a missing 'more' in the definition of SIP; should be 'one or more AIPs'.

3. RID 26 needs further review, per editor's comments.

4. RID 38, paragraph 3: Partially completed. Sentences need obvious additional work.

5. RID 50: Figure 4-3 needs updating to show 'Replace Media' instead of 'Migrate Media'

6. RID 58: The role of software, which can be part of Representation Information, has been expanded upon in section 4 and section 5.2. Mechanisms whereby various information objects are tied together are not explicitly identified as this seems to be more of an implementation question. Needs further discussion.

7. RID 59: See text on Preservation Planning and changes to Administration, and revised text on role of software in section 4.2 and revised section 5.2. Is this adequate?

8. RID 61: The need to track an 'inventory of ends' has not yet been clearly incorporated in section 4.2.

9. RID 65: Authentication issue may not be fully checked

10. RID 69: Figure 4-18 (old figure 4-19) is not yet updated as per Figure 4-11.

11. RID 70: Not completed yet - missed.

12. RID 81: Check to see that specific changes have been completed, and if this is adequate.

13. RID 86: Paragraph on software added. Check if adequate.
14.

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1 GENERAL COMMENTS FROM ICSTI

R-1: ICSTI REVIEW

One of the major issues raised by the review of the OAIS is the different definitions of what constitutes an “archive”. For example, most learned societies, because of their commitments and charters to preserve the research (both data and publications) of their communities, consider their

entire publications process to be “archiving”. While the comments below, particularly under functions and compliance, will show that there is not much difference between the Reference Model’s applicability to “archiving” in this sense versus the narrower preservation sense, this is still an area of confusion. It would be helpful to have the full publications process addressed in the context discussion or the scope refined to indicate specifically that the Model is not intended to encompass the whole process, and therefore, not “archiving” in the broader sense.

US Response: OAIS is not 'publications in the broader sense'; we attempt to use 'archiving' in the traditional sense, versus extremes of usage such as 'putting the data on a medium', or 'the full publications process'. Basically reject, with explanation.
AGREE with response
Editors: no document action needed

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R-2: ICSTI REVIEW

One reviewer thought that use of such a Model would make him less likely to create material to deposit in an archive and more expensive to be an archive.

US Response: Yes, real preservation costs money and this is a prime point we are attempting to emphasize.
AGREE with response
Editors: no document action needed

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R-3: ICSTI REVIEW

One reviewer was concerned that this might not adequately address records management and suggested that the CCSDS make sure that it has been reviewed by groups such as records managers, government and institutional archivists.

US Response: Presented to SAA and to ARMA, and comments have been provided by NARA. Presented to DOD records manager (5015.2 STD is their basic document).
AGREE with response
Editors: no document action needed

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R-4: ICSTI REVIEW

Some of the examples used throughout the draft should be less data-centric – for example while a checksum is mentioned as a means of ensuring integrity after migration, it was noted by one of the publishers who maintains an archive that a checksum does not necessarily work well on full text.

US Response: Specific examples would be needed. The checksum does work on full text. These are only examples.
AGREE with response
Editors: no document action needed

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R-5: ICSTI REVIEW

Most of the examples relate to CD-ROMs, when Web-based information presents other archiving problems.

US Response: We don't try to cover all possible cases in the examples. We don't give solutions for specific media types or environments. We would recommend applying the same approaches to the WEB. What other problems are being referred to here?
AGREE with response
Editors: no document action needed

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R-6: ICSTI REVIEW

In the Annex of scenarios, it would definitely be good to have a wider spectrum of applications, perhaps one from the national library and another from a learned-society scientific publisher.

US Response: We would welcome a scenario from such groups as long as they follow the template, which we can provide on request.
NEDLIB example expected * see action XXX**
Editors: send e-mail to Titia

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2 EDITORIAL COMMENTS FROM ICSTI

R-7: ICSTI Review

The definitions should appear in alphabetical order.
AGREED
Editors: Still one error: Move definition of 'Data Submission Session' to follow 'Data Object'

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R-8: ICSTI Review

Under Fixity--CRC is not in the list of acronyms.
AGREED
Editors: Added

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R-9: ICSTI Review

Reference Information might include SICI or DOI to use a library/publisher example.
AGREED *** Review by TvdW ***ACTION XXX

Editor (DMS): Send e-mail to Titia

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R-10: ICSTI Review

It would have been much easier to read if the major acronyms (AIC, AIP AIU, etc.) had been spelled out throughout the text.
REJECT: a style decision was made not to have 2 letter acronyms. The first time 3 letter acronyms are used they are given in full
Editors: No action needed

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R-11: ICSTI Review

Section 4.1.1 ("Detailed Description of Functional Entities" begins with a discussion of the IEE POSIX OSE Reference Model that does not appear to have any real relevance to the rest of the document. The section goes on to describe in detail the internal functions of an OAIS system. Although this section does provide some useful guidance to the system builder/designer, it seems that it belongs more in the annex than imbedded in the middle of what is a generally theoretical/conceptual discussion.
REJECT: this is an important section. The POSIX OS model discussion is just an acknowledgement of the source
Editors: No action needed

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R-12: ICSTI Review

One reviewer thought that some important terms in section 6 are missing from the glossary (e.g., federated archives, co-operating archives).
ACCEPT: will add these 2 to the GLOSSARY – any other suggestions for entries are welcome
Editors: added definitions at 19th US/ISO meeting

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R-13: ICSTI Review

There is inconsistency in the way the definitions are structured. Most terms are nouns, but the definitions begin with a variety of articles or no article at all.
ACCEPT: will make these more consistent

Editors: A pass was made, but check these when time permits

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3 SECTION 1

R-14: AGENCY RID NUMBER NARA
Discussion of additional comments in the meeting:

Section 1.1 Last sentence Current versions reads as an apology i.e.
"Finally it attempts to define a maximalS.., but it defines a minimalS"
Suggest swapping the phrases to:
"It defines a minimal set of responsibilities for an archive to be called

an OAIS , and it also defines a maximal archive to provide a broad set of useful terms and concepts"
AGREED
ACCEPT

Editors: Completed

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R-14.5: AGENCY RID NUMBER NARA
Section 1.3 1st sentence Read literally we are led to understand that organisations are exploding!
Suggest changing "an explosion of organization" to "an explosion in the number of organization"

AGREED
ACCEPT

Editors: Completed

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R-15: CCSDS REVIEW ITEM DISPOSITION (RID) :
RID INITIATION FORM

AGENCY RID NUMBER : 5
SUBMITTING ORGANIZATION (Agency, Center) : CNES

REVIEWER'S NAME : Claude HUC CODE :
E-MAIL ADDRESS : huc@cnes.fr
TELEPHONE :33 5 61 27 44 21

DOCUMENT NUMBER : CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME : Reference Model for an Open Archival Information System
DATE ISSUED : April 2000
PAGE NUMBER : 1-4
PARAGRAPH NUMBER : 3
RID SHORT TITLE : how to read this document

DESCRIPTION OF REQUESTED CHANGE :Use From : "...' To "..." format)
The advice about the subsections 1.1, 1.2 and 1.4 are no more useful at this place in the document.

CATEGORY OF REQUESTED CHANGE :
Technical Fact _____ Recommended : ___X____ Editorial :
NOTES :
TECHNICAL FACT : Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected . Supporting analysis/rationale is essential)
RECOMMENDED : Change of a nature that would, if incorporated produce a marked improvement in document quality and acceptance.
EDITORIAL : Typographical or other factual error needing correction. (this type of change will be made without feedback to submitter).

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SUPPORTING ANALYSIS :

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DISPOSITION :
Style issue: we'll go with the ccsds style consensus, whatever that turns out to be.
REJECT: we will follow the style guide and CCSDS editor's advice.

Editors: No change contemplated at this time

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R-16: National Library of Australia
Section 1.6.1 acknowledges this and provides a useful guide to readers. However, there are some important concepts that are only develped fully well into the model. For this reason, we would recommend a last check to align the definitions in Section 1.7.2 carefully with the full model, particularly where there are multiple concepts with similar sounding definitions. Examples where clarification would help are:

* Both Content Information and Information Object are defined as a Data Object together with its Representation Information. It would make the model clearer if Information Object was defined as a super-class of Content Information in this section as it is in Figure 4-13.

US: Propose replacing second sentence in definition of Content Information with the sentence: "It is an Information Object".
ACCEPT

Editors: modified to "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."

* Similarly, it needs to be clarified in Section 1.7.2 that Archival Information Package, Submission Information Package and Dissemination Information Package are all types of Information Package and that Archival Information Unit and Archival Information Collection are specialisations of Archival Information Package.

US: Propose revision of AIP to: "An Information Package which is preserved within an OAIS." Also, revised definition of DIP for parallelism with SIP.
*** Think more about these definitions ***

Editors response:
AIP: An Information Package, consisting of the Content Information and the associated Preservation Description Information, which is preserved within an OAIS
SIP: The Information Package that is delivered by the Producer to the OAIS for use in the construction of one or AIPs

DIP: An Information Package, derived from one or more AIPs, received by the Consumer in response to a request to the OAIS.
(see also RID 39, which this responds to)

Accept in principal for 2 examples, but need the complete problem list.

ACCEPT

Editor: There is a missing 'more' in the definition of SIP above.
Editor (DMS): Ask ‘australia’ if there are other problems known.

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R-17: AGENCY RID NUMBER NARA
2) PAGE NUMBER: 1-7 PARAGRAPH NUMBER: 1.7.2

RID SHORT TITLE: Terminology

DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To ". ." format
Move the entire Terminology Section to the Annex and review all definition against existing Standards definitions

SUPPORTING ANALYSIS
The terminology section in the front of the document confuses the reader, since some of the definitions are not consistent with or what are used in the actual body of the document, Therefore, it is more appropriate to have this section as a reference. But the definitions should be consistent throughout the document
** dms- The location of the terminology section can not be changed as it is an ISO style. Any inconsistent use of terms needs correction **

Many of the existing definitions are in conflict with current ISO definitions, as well as other standards documents such as the Society of American Archivists (SAA) Glossary. In addition, some of The definitions are in conflict with definitions within the document. These have been identified specifically in other comment sheets
** dms- ISO definitions are not consistent across all ISO documents. We need specifics on which definitions are in conflict before any changes can be made.**

DISPOSITION:
REJECT this but we will ask for specific examples and also review Glossary
US: We'll ask for specific examples of conflicts apart from those given later.
REJECT but will consider specific examples if presented.

Editor (DMS): No actions taken yet to get more specific examples.

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R-18: 1.7.2 Terminology
DAVID HOLDSWORTH
In using the model we constantly have the need for a precise term that describes the original digital object (i.e. that part that together with the representation information forms the Content Information). PDO Primary Digital Object or perhaps Preserved Digital Object. I prefer the first one,

as we need to refer to it before it has got to the stage of being preserved.

US: Accept in principle; Content Data Object, and see how it works in the application. In section 4.2.1.4.1, first sentence becomes: "The Content Information is the primary information that the OAIS is tasked to preserve." Then the third sentence becomes: "The Content Information, which is an Information Object as shown in Figure 4-9, is the Content Data Object together with its Representation Information". Delete the last sentence of the paragraph which is now redundant.
AGREE with proposal
(some discussion – NB and TvdW - about "original" CI and versions – see RID79)

Editors:
In section 4.2.1.4.1, we now have "The **Content Information** is the set of information that is the original target of preservation by the OAIS."
Also used "Content Data Object" and 'digital Content Data Object' as needed in the document.

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R-19: AGENCY RID NUMBER NARA
3) PAGE NUMBER: 1-7 PARAGRAPH NUMBER: 1.7.2
RID SHORT TITLE: Terminology - Definition of Archive
DESCRIPTION OF REQUESTED CHANGE: (Use From: ..." To ...." format)
Change definition of Archive from "An organization that intends to preserve information..." to "An organization that intends to preserve archival information packages..."
** dms- The original sense is what we meant, while the proposed change gets into the 'how it is done'. Recommend we reject this **

Add definition for "Archives" - The DOCUMENTS created or received and accumulated by a person or organization in the course of the conduct of affairs, and preserved because of their continuing value. Historically, the term referred more narrowly to the NONCURRENT RECORDS of an organization or institution preserved because of their continuing value.
2) The building or part of a building where archival materials are located; also referred to as an archival repository.
3) The AGENCY or program responsible for selecting, acquiring, preserving, and making available archival materials; also referred to as an archival agency, archival institution, or archival program.
**dms- We define 'archive' as an organization that intends to preserve information. We intend 'archives' to be the plural form. We do not use it to refer to the documents being preserved nor to just the building in which they are housed. Therefore our usage, in singular form, is more in line with definition 3 above. Do we need to define 'archives' as the plural form of 'archive' to help avoid confusion with 'documents'? **

SUPPORTING ANALYSIS:
The change to archive adds clarification to the document. The new definition of archives adds consistency with other archival Standard definitions within the International Council on Archives (ICA) Glossary.
** dms- We should check this glossary. Perhaps we need to note these other uses of the term 'archives' and make clear this is not our intended usage.**

DISPOSITION:
REJECT - we use OAIS specifically to avoid the overloaded definition of "Archive(s)". However we will add a "(S)" after Archive and organisation in

the glossary definition of Archive to make ourselves clear.
TBD after review of the ISO definition identified.

US: Propose that we reject the rid and not add an 's'. However we propose to include a 'thesaurus' that shows that 'archives', in sense 3 above, is close to our use of 'archives'. This could be a subsection of 1.7.2.
REJECT but agree that editors should find acceptable way to indicate the possible common mappings: Records, Accession & Archives (plus others if equired)

Editor (DMS): Put in a 'terminology mapping' subsection to glossary. May need additional text discussion with each mapping – tbd.
Editor (DMS): Proposal from US meeting is to delete such a section to avoid endless discussion and additions.

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R-20: AGENCY RID NUMBER NARA
4) PAGE NUMBER: 1-8,4-25, PARAGRAPH NUMBER: 1.7.2, 4.2.1.4.2
RID SHORT TITLE: Terminology - Definition of Context Information
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DESCRIPTION OF REQUESTED CHANGE: (Use From: " ... To ".. " format)
As part of the definition of "Context Information", delete the last 2 words, "existing elsewhere".

SUPPORTING ANALYSTS:
This change to the "Context Information" will add Clarify to the definition. The words "existing elsewhere" confuse the reader and create the unanswered question of Where might these other objects exist?" For the standard it is not important where they might exist.
** dms- Seems acceptable. **

DISPOSITION:
AGREED
AGREED

Editors: Completed

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R-21: AGENCY RID NUMBER NARA
5) PAGE NUMBER 1-8 PARAGRAPH NUMBER: 1.7.2
RID SHORT TITLE: Terminology - Definition of Data

DESCRIPTlON OF REQUESTED CHANGE: (Use From: "...~ To ~
Delete the current definition of data, and use the ISO definition.

SUPPORTING ANALYSIS:
This change will add consistency across standards.
** dms- I requested identification of the ISO document, as our original definition was taken from an ISO document. I've received a response saying it could be found in ANSI X3.172-1990, Dictionary for Information Systems. It cites ISO 2382, Vocabulary - Information Systems, as the source of the definition of data. We should check this definition to see if it is acceptable. **

DISPOSITION:

TBD after review of the ISO definition identified.
US: Agreed: An editor will look this up.
AGREE to check ISO document and then decide

Editor:(DMS)
ISO TR 9007:
Data: The representations forms of information dealt with by information systems and users thereof.

Information: Any kind of knowledge about things, facts, concepts, etc. of a universe of discourse that is exchangeable among users. Although exchangeable information necessarily will have a representation form to make it communicable, it is the INTERPRETATION of this representation (the meaning) that is relevant in the first place.

ISO/IEC 2382-1:
Data: A reinterpretable representation of information in a formalized manner suitable for communication, interpretation, or processing.

Information: Knowledge concerning objects, such as facts, events, things, processes, or ideas, including concepts that within a certain context has a particular meaning.

Our Definitions:
Data: The representation forms of information. Examples of data include a sequence of bits, a table of numbers, the characters on a page, the sounds made by a person speaking, a moon rock specimen.

Information:
Any type of knowledge that can be exchanged. In an exchange, it is represented by data. Often the representation used is not fully known to the recipient of the data and the data must be accompanied by explicit Representation Information, understandable to the recipient, that is used to interpret the data. An example is a string of bits (the data) accompanied by a description of how to interpret a string of bits as numbers representing temperature observations measured in degrees Celsius (the representation information).

Editors: from the 19th US/ISO archive meeting, adopt ISO-2382-1 for data, but for information revise our original slightly.

- Data: A reinterpretable representation of information in a formalized manner suitable for communication, interpretation, or processing. Examples of data include a sequence of bits, a table of numbers, the characters on a page, the recording of sounds made by a person speaking, a moon rock specimen.

- Information: Any type of knowledge that can be exchanged. In an exchange, it is represented by data. An example is temperature observations measured in degrees Celsius (the Information) given by a string of bits (the Data) accompanied by a description of how to interpret the string of bits as numbers and as temperature observations measured in degrees Celsius (the Representation Information).

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R-22: AGENCY RID NUMBER NARA
6) PAGE NUMBER: 1-10 PARAGRAPH NUMBER: 1.7.2
RID SHORT TITLE: Terminology - Definition of Format

DESCRIPTION OF REQUESTED CHANGE: (Use From: ~..." To -..." formal)

NATIONAL ARCH 1

Delete the definition of format.

Supporting ANALYSIS:
The concept of "format", by itself is not addressed in the body of the document. e.g., there are "file formats" and "data formats" but not format alone. As a result, the term only adds confusion, particularly using words like "sequential organization" and "components" in the definition which are not further defined elsewhere.
** dms- While format is sometimes used alone, it is then a short hand for 'data format' or 'format of a piece of data'. I have no problem with deleting the definition of 'format' because as a general concept it is a bit abstract. I think format is generally understood sufficiently to not need a special definition **

DISPOSITI0N:
AGREED
AGREED

Editors: completed
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R-23: ICSTI REVIEW

One reviewer thought that the terms were confusing, because they stand in the abstract. More real-world examples would help.

US Response: Would need identification of specific terms needing examples.
REJECT: but we will consider specific examples if presented

Editors: no action yet taken to request specific terms

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R-23.5: ICSTI REVIEW

Some reviewers expressed concerned about the definitions of data and information. This is probably a hold over from the data community perspective. On the other hand, it could be that this type of problem with the definition is particular to the information community (libraries and publishers in particular). However, one reviewer noted that while the distinction between data and information in the introduction and the glossary is clear, it is not maintained throughout. For example, the term Data Management Data, is defined in terms of Data, but perhaps should be defined in terms of information and maybe the term should be changed.

US Response: We should look at this.
ACCEPT – editor will search for use of DATA and consider changes

Editor (DMS): The term ‘data’ is widely used in computer circles, and these are generally consistent with the ISO definition we’re using (and have used). It appears that all the uses of ‘data’ in the Data Management section are not in violation of this definition. Even when there is an exchange of information, it will be represented by ‘data’, and so there is an exchange of ‘data’ as well. The Data Management section talks about managing information, but again this is represented by data, so ‘data management’ is not wrong. I now propose that we reject this RID for the above reasons.

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R-24: ICSTI REVIEW

The concept of a “designated community” from a primary publisher’s environment caused some concern. However, the group thought that this was just a matter of degree and suggested that “designated community” would best be equated with the term “primary audience” for a journal.

US Response: We agree.
AGREE – no change to text except possible addition to “thesaurus”. Could also be “target audience”

Editor (DMS): Added “Primary Audience to terminology mappings”
Editor (DMS): Proposal from 19th US/ISO meeting is to drop idea of a mapping section. Reviewers have demonstrated they can do the mappings.

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R-25: ICSTI REVIEW

From a publisher's point of view, the Content Information and the Provenance Information appear to be very narrow. For them, content is likely to be at the article level or report level and provenance would include where the content was published (though the framers did include "who has had custody" which could be the publisher).

US Response: We would welcome additional examples.
This is a comment rather than a RID, but extra term may be added to table 4-1. ***see TvdW action XXXX***

Editors: Send e-mail to Titia

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R-26: ICSTI REVIEW

"Ownership" is used in the definition of an archive, and this may be misinterpreted to have intellectual property implications; "stewardship" might be a better term. Ownership of the object and ownership of intellectual property need to be better distinguished.

US Response: We need to look at the distinction between ownership (ideal case) and stewardship where there are copyright issues, to see if this is clear.
*REJECT: first para of 3.2.2 makes the distinction between ownership and custodianship. (***ACTION Check glossary for "ownership" – may be appropriate to change to custodian/owner)*

Editor (DMS): Occurs only in section 2, 2nd paragrah, wrt traditional archives. Bruce should check this usage.
Editor (DMS): From Ken's presentation, we know that most traditional archives take ownership, but the Australian archive is just the steward. Do we want to modify the text in section 2 to be less definitive wrt ownership? We could say '…taking ownership, or stewardship, of the records…'

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R-27: ICSTI REVIEW

One reviewer thought that "ingest" sounded too much like a computer term. More importantly, it does not connect readily with the other terms related to the function of submitting data-- Data Submission Session, Submission Agreement, and Submission Information Package.

US Response: Reject. This has been the topic of much review and the consensus is to stay with 'ingest'.
REJECT

Editors: No action needed

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R-28: ICSTI REVIEW

The term "Digital Migration" is defined as a "transfer of digital information". It seems that to many people transfer means to move without changing, but that applies only to one kind of transfer identified in the document (refresh). Migration might better be defined as a "transformation". As a special case of digital migration, refresh operation would then involve a null (no change) transformation, but other types would have varying degrees of change.

US Response: Reject: We feel that 'transfer' doesn't necessarily imply change, but does capture the important aspect of moving. Therefore we feel the current terminology is appropriate.
REJECT

Editors: No action needed

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R-29: ICSTI REVIEW

The definition of an “Archival Information Unit” as atomic is confusing. Perhaps some examples would help here.

US Response: Reject: AIU is not defined as 'atomic'. This is only one way to view it. We give the definition and we give an example, in the glossary.
REJECT

Editors: No action needed

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R-30: ICSTI REVIEW

One reviewer more involved in traditional archive functions, questions the applicability of the word “Consumer”, because it suggests cost involved in using the archive.

US Response: Reject: Definition doesn't imply cost. To consume doesn't mean you have had to buy what you are consuming.
REJECT

Editors: no action needed

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R-31: ICSTI REVIEW

For one reviewer, there was confusion over the description of an Archival Information Collection. Although some attention is paid to the idea of organizing by “origin” more time is spent on thematic collections. However, in traditional archiving the organizing principle is origin or provenance with the thematic being handled by queries against the archive. If the idea is that the AIC, one based on provenance or one based on theme, is built from a query, it wasn’t completely clear. This same reviewer noted that the AIC scheme, if applied according to provenance, is a very good one, since it allows for description at the constituent unit level as well as at the collection level. Preservation Description Information would then repeat across units when provenance is the combining factor, making a collection-level PDF much easier to put together, and more meaningful for users.

US Response: We think the reviewer figured it out very well!
Not a RID

Editors: no action needed

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R-32: ICSTI Review

Another odd term was the “Ad Hoc Query” (as my guess is most queries to an archive are not event-driven, i.e., cyclical, but are to find specific information known or expected to be held in the archive). But it could be mapped easily to something else.

US Response: It appears to have conveyed the intended meaning.
Not a RID

Editors: no action needed

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R-33: ICSTI REVIEW

“Member Description” was unclear, as the definition is a "member of a collection."

US Response: This is not the definition. The key part is that it is an associated description. As a note to editors, remove the plural from 'associated descriptions' in the glossary.
Agree with response

Editors: completed

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R-34: ICSTI REVIEW

The term “Finding Aid” seems to be any search tool, even an online public access catalog. This clashes with the archivist’s use of the term. Would it be better to call the concept “Searching Aid”?

US Response: Finding Aid is more general, which is intended, and is found to be widely accepted in the archival community.
REJECT

Editors: no action needed

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R-35: ICSTI REVIEW

The term “Designated Community” might be better as Consumer Community or primary Consumer Community. The former connotes more deliberate intention in reaching an audience than is common on Internet sites today.

US Response: The reason for using 'designated' is to make clear that an active identification of the relevant Consumer Community is to be made. However the glossary definition needs clarification because there are too many 'sets'. Perhaps :…' who should be able to understand a particular collection of information.'

Agree with response

Editors: completed.

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R-36: ICSTI REVIEW

The term “Data Management” has a multi-part definition that one reviewer could not understand. There are several ways to add parentheses, commas and semi-colons, but not sure which one would be correct.

US Response: Accept: Propose wording is:
Data Management: The OAIS entity that contains the services and functions for populating, maintaining, and querying a wide variety of information. Some examples of this information are catalogs and inventories on what may be retrieved from Archival Storage, processing algorithms that may be run on retrieved data, Consumer access statistics, Consumer billing, Event Based Orders, security controls, OAIS schedules, policies, and procedures

Agree with response – but change “querying” to ACCESSING

Editors: completed

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R-37: ICSTI REVIEW

One reviewer indicated a problem with treating producer and consumer as roles, since it is then difficult to talk about sets or groups of these roles. He suggested the following definitions: Consumer: An agent (a person, organization, or program) with a persona that may interact with OAIS search and access services. This persona (a set of motives and responses) may actuate the agent temporarily or intermittently, but does not define it: for example, a Consumer may also be an OAIS or a Producer. A similar definition was suggested for Producer.

US Response: We don't feel that a significant problem has been presented with the current use of 'roles', and find the proposed definitions to be more confusing .
REJECT

Editors: no action needed

4 SECTION 2

R-38: REVEW ITEM DISPOSITION (RID)

AGENCY RID NUMBER NARA
SUBMITTING ORGANIZATlON (Agency, Center): NARA
REVIEWER'S NAME: Mary Ann Hadyka
CODE

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, issue
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999

1) PAGE NUMBER:2-1 PARAGRAPH NUMBER: 2, 3, 4
RID SHORT TITLE: "OAIS CONCEPTS

DESCRIPTION OF REQUESTED CHANGE: (Use From: "" To " format
Paragraph 2, Sentence 2, change: "Traditionally, an archive" to "
Traditional archives"
** dms- Seems acceptable **
AGREED
AGREED
Editors: completed

Paragraph 3 -, Delete the sentence: "Although some archives may be temporary, some or all of their information my need to be preserved indefinitely." Combine the next two sentences to read: "Because much of the supporting information necessary to preserve this information is more easily available or only available at the time when the original information is produced, these organizations need to be active participants in the long-term preservation effort

* dms- This change removes the use of the term 'temporary archive' from the document. Seems acceptable dms - should be further reworded later ** AGREED
AGREED
Editors: Partially completed. Sentences need additional obvious work.

Paragraph 4 -delete the last sentence which begins with: "The designers and architects should document where compromises have been made. ..."
** dms- This change has the effect of not encouraging compromises, in active archvies, of preservation for the sake of access,etc. -- Seems acceptable on this basis **
REJECT BUT AGREE to change "compromises" to "solutions" and reword the sentence to keep spirit of the suggestion.
Agree with reponse

Editors: It now reads:
“The designers and architects of such systems should document the solutions that have been reached.”

SUPPORTING ANALYSIS
The use of archive, archives, and temporary archives is confusing. These changes clarify the terms. Also designers and architects play no role in the body of the reference model, so the sentence is irrelevant to the document.
** dms- Designers and architects are mentioned several places in the document as primary beneficiaries of the reference model, so this rationale is not correct, but I find the changes acceptable **

DISPOSITION
See above for individual points

==========

R-39: CCSDS REVIEW ITEM DISPOSITION (RID) :
RID INITIATION FORM

AGENCY RID NUMBER : 4
SUBMITTING ORGANIZATION (Agency, Center) : CNES

REVIEWER'S NAME : Claude HUC CODE :
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DOCUMENT NUMBER : CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME : Reference Model for an Open Archival Information System
DATE ISSUED : April 2000
PAGE NUMBER : 2-5
PARAGRAPH NUMBER : 5
RID SHORT TITLE : definition of 'Content Information'

DESCRIPTION OF REQUESTED CHANGE :Use From : "...' To "..." format)
We suggest replacing 'The Content Information is that information which is the primary target of preservation' (this sentence is valid only for AIP, certainly not for DIP) by 'The Content Information is the primary information of interest'.
Regarding to the 'information definition, section 2.2.1), it seems interesting to add : 'The Content Information is an information object which consists of SS

CATEGORY OF REQUESTED CHANGE :
Technical Fact _____ Recommended : ___X____ Editorial :
NOTES :
TECHNICAL FACT : Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected . Supporting analysis/rationale is essential)
RECOMMENDED : Change of a nature that would, if incorporated produce a marked improvement in document quality and acceptance.
EDITORIAL : Typographical or other factual error needing correction. (this type of change will be made without feedback to submitter).

SUPPORTING ANALYSIS :

DISPOSITION :
Agreed that there is an inconsistency. Need to work on a solution which doesn't dilute the preservation notions being introduced at a high level in section 2, while removing the inconsistency.

We can clarify that the content information is an information object, as introduced a bit earlier. (Editors: Done in glossary.)

US: Propose to change the definition of Content Information in glossary to be the "that information which is the original target of preservation by the OAIS". We need to clarify that a DIP is derived from an AIP, and that non-AIP information is carried by a 'result set' or 'report'. With regard to the suggestion that the definition include the fact that it is an information object, this is already addressed and agreed by US. (Editors: Done in Glossary)
Agree with response

Editors' response:
Content Information: 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."

Section 2.2.2, paragraph 5, modify first 2 sentences to be: "The Content Information is that information which is the original target of preservation. It consists of the Content Data Object (Physical Object or Digital Object, i.e., bits) and its associated Representation Information needed to make the Content Data Object understandable to the Designated Community." Further, it is already clear that a DIP is derived from an AIP. Result sets are discussed as a response to queries. It appears clear that AIP info appears in a DIP and therefore non-AIP info must appear elsewhere. There is no mention of 'reports' in this section, which could be added if desired. They are not in the figure and this is probably not a needed addition for this section.

AIP: An Information Package, consisting of the Content Information and the associated Preservation Description Information, which is preserved within an OAIS
SIP: The Information Package that is delivered by the Producer to the OAIS for use in the construction of one or more AIPs
DIP: An Information Package, derived from one or more AIPs, received by the Consumer in response to a request to the OAIS.

(see also RID 16, which this relates to)

==========
R-40: ICSTI Review
In 2.3.3 the text of the Reference Model implies, without stating it specifically, that the consumer has no further rights to data residing within the archive once the order has been completed. Many scientific consumers, however, have some expectation that, having taken a subscription for one year to a journal that they have rights to the data in the archive for that year of the subscription for all time. They seek to treat the purchase of an electronic subscription as giving them an "eternal" archive in the same way that the print edition does.

US Response: This is a policy issue that goes beyond the model.
REJECT: this is a policy/implementation issue for a specific sector.

Editors: no action needed
==========
R-41: ICSTI Review

The discussion of “Order Agreement” doesn’t mention authentication and payment

US Response: This is intended to be a high level summary, although it does mention pricing. Authentication is mentioned under common services, in section 4.1.1.1.

REJECT – agree with response

Editors: no action needed

5 SECTION 3

R-42: AGENCY RID NUMBER NARA
7) PAGE NUMBER: 3 .2 PARAGRAPH NUMBER 3.2.2
RID SHORT TITLE: Paragraph titled" Copyright implications"

DESCRIPTION OF REQUESTED CHANGE: (Use From: -...~ To "..." format)
Change title of paragraph "Copyright implications" (occurs in 2 places, paragraph 2 and 3) to "Copyright implications, intellectual property and other legal restrictions on use". Add new first sentence to paragraph 3: "An archive will honor all applicable legal restrictions."

Supporting ANALYSIS:
Addressing only copyright is misleading. This section needs to be broadened and should be more general in dealing with legal issues related to intellectual property and other legal restrictions, eg., National security classifications and Privacy Act.
** dms- I think this is an improvement and should be incorporated. See following RID for rest of the recommended change **

DISPOSITION
AGREED
AGREED

Editors: completed
==========

R-43: AGENCY RID NUMBER NARA
8) PAGE NUMBER PARAGRAPH NUMBER: 3.2.1, 3.2.2
RID SHORT TITLE:

DESCRIPTION OF REQUESTED CHANGE: (Use From: u t. To "... format)
Change all but the first sentence of the first paragraph of 3.2 2 from "When acting as a custodian, the OAIS may need to involve the actual owner (s)) in some migration and access decisions depending on the authority it has been granted to act independently. When it is the legal owner, it already has the independence to do what is required to preserve the information and make it available." to "**When acquiring lega1 ownership from the producer or any other entity, the OAIS should ensure that the transfer**

of ownership clearly specifies any limitations imposed by the former owner and that its subsequent actions to preserve the information and make it available conform with these limitations. When the OAIS accepts information solely as a custodian, the OAIS should establish an agreement with the owner which specifics what involvement the owner will have in preservation, management or release of the information. In most cases, it will be preferable for the OAIS to negotiate an agreement which specifies the (prior) owners requirements and authorizes the OAIS to act in accordance with those requirements without active involvement of the (prior) owner in individual cases

SUPPORTING ANALYSIS:
The current draft assumes that in situations where an OAIS owns the information it preserves, it has unrestricted discretion over the actions it takes. In fact, in many cases where an OAIS acquires ownership from another entity, the transfer is effected by a deed of gift or other legal instrument which includes limitations on the OAIS's discretion. The recommended revision addresses this fact It also suggests that in either a custodial or owner role, it is advantageous for the OAIS to have any limitations on its discretion expressed in categorical terms which minimize occasions when another owner or party is actively involved in specific decisions.
** dms- I think this improves the paragraph and recommend it be accepted. **
DISPOSITION:
AGREED
AGREED – but change "limitations" to "conditions" – other clrifications needed. ** ACTION : NB to suggest revised wording ***XXXX***

Editor (DMS): Send e-mail to Neal asking for input.

==========
R-44: ICSTI Review

Most felt that the responsibilities were complete and they could be used independent of the stakeholder group doing the archiving function. One reviewer indicated that the responsibilities of a compliant OAIS are very similar to that of a responsible learned-society publisher.

US Response: Good
Not a RID
Editors: no action needed

==========
R-45: ICSTI Review

Security of the archive seems to be missing both specifically in the responsibilities and in the amount of text devoted to Fixity Information.

US Response: Again, this is addressed in security services under common services, because this is ubiquitous.
REJECT
Editors: no action needed
==========

R-46: ICSTI Review

There was significant discussion about the requirement to have the information remain "understandable for the designated community" group; several reviewers believe this is out of the scope of an archive and access is all that can be required. "Ensure the information …. Is independently understandable…", raises the question "independent of what?"

US Response: An OAIS is a long term preservation function which expects the information to be understandable without going back to the creator. This is a traditional function of an archive. We will look at revising the 'independently understandable' phrase to clarify.
AGREE: resolve by using text from Glossary definition of "Long Term Preservation" and move it to a separate Glossary item for "Independently understandable information" (note UNDERSTANDABLE rather than USEABLE).

Editor (DMS): Following definitions incorporated in glossary:

- **Long Term Preservation**: The act of maintaining information, in a correct and Independently Understandable form, over the Long Term.

- **Independently Understandable**: A characteristic of information that has sufficient documentation to allow the information to be understood and used by the Designated Community without having to resort to special resources not widely available, including named individuals.

In section 3.1 capitalized and bolded 'independently understandable'. In section 3.2.4, , first paragraph, changed first 'understandable' to 'Independently Understandable'.

==========

R-47: ICSTI Review

There are some aspects that aren't clear upon closer reading. For example "negotiate and accept appropriate information" implies that the information is negotiated, when it is more likely the archiving agreement that is negotiated. Perhaps "negotiate for".

US Response: Change to 'negotiate for' in section 3.1 and 3.2.1. Provide other cases which are unclear.
ACCEPT for this specific case – other specific examples would be considered.

Editor (DMS): Changed title of section 3.2.1 to "Negotiates For and Accepts Information"

6 SECTION 4.1

R-48: AGENCY RID NUMBER NARA
11) PAGE NUMBER: 4~2 PARAGRAPH NUMBER: 4.1
RID SHORT TITLE: Functional Model, Administration

DESCRIPTION OF REQUESTED CHANGE: (Use From: "...~ To '. " format)
In the paragraph titled "Administration" add the following phrase to end of the first sentence: "which could include the hardware, software and telecommunications."

SUPPORTING ANALYSIS:
Within Section 4 of the reference model, there is no stated function for the entity which is responsible for the actual operation of the system infrastructure (operations and maintenance of the hardware, software and telecommunications). This may be implicit' in the Administrative function, however, the function as currently described focuses on oversight not actual operations. The change as described above will make the function explicit.
** dms- I think the issue here is whether there is an entity that is 'responsible for the actual operation of the system infrastructure'. Is the operation and maintenance of the hardware and software for each function handled by that functions, or is there a general support sub-function for this? Administration has a 'Manage System Configuration', but does not talk about actually operating any systems. Needs discussion. **

DISPOSITION
REJECT, this section already states that "This entity manages the overall operation of the archive system." We specifically did not wish to imply any hierarchy of management or implementation.

US: First sentence becomes: This entity provides the services and function for the overall operation of the archive system. For parallelism, change first sentence of Access to: "This entity provides the services and functions that support Consumers in determining the ....". This will better address the issue while improving consistency.
AGREE with US proposal

Editors: Completed

==========

R-49: AGENCY RID NUMBER: Wed Oct 25 14:09:04 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: PARAGRAPH NUMBER:
RID SHORT TITLE: Promote functional entity Common Services to figure
---
DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

FROM:

Current Text:

" In addition to the entities described above, there are various Common Services assumed to be available. These services are considered to constitute another functional entity in this model. This entity is so pervasive that, for clarity, it is not shown in figure 4-1."

TO:

Recommended Text

"In addition to the entities described above, there is an infrastructure of various Common Services. These services are considered to constitute another functional entitiy in this model supporting the portability and interoperability that are characteristic of Open Systems. This entity is pervasive enough that, for clarity, connections to other functions are not shown in figure 4-1."

Corresponding recommendation for figure 4-1: OAIS Functional Entities.

Place a small rounded rectangle in the bottom right corner of the figure, as follows: (figure did not copy)
The rectangle could be made with dashed lines as shown, or with lighter ink to indicate the intended transparency of the function.

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact ____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

The purpose of this recommendation is to give a more consistent

and cleaner view of the functional model. The function of Common Services is to be transparent to the user community but not to the administrators and operators, as these functions are expected to provide the infrastructure that supports openness between archives and consumers.

DISPOSITION:
REJECT

Editors: No action required

==========

R-50: CCSDS REVIEW ITEM DISPOSITION (RID) :
RID INITIATION FORM

AGENCY RID NUMBER NARA
9)PAGE NUMBER: 4-6, 4-7, 5-1 thru 5- 4 PARAGRAPH NUMBER: 4,1,1,3, 5.1, 5,1,3, 5.2
RID SHORT TITLE: Paragraph titled "Migrate Media"

DESCRIPTION OF REQUESTED CHANGE: (Use From: "..." To h...'l format)
Change title of paragraph which begins with "The Migrate Media function" to "The Migration function" Change the "Migrate Media" block in figure 4-3 to "Migration"
Make Section 5.1, 5.2 consistent with this title change.

SUPPORTING ANALYSIS:
This name change is more general and better encompasses the four migration types identified in Section 5.1.3. adding clarification to the document.
** dms- The ' migrate media' function is archival storage covers the migration types of refreshment, replication, and repackaging, but NOT transformation. Calling this function 'migration' is too general, while 'migrate media' is perhaps too narrow. Basically, what this function does is migration as long as there is no change in the content information (i.e., there is no transformation). This is spelled out in the text of this section. Better name for this set of functions? **

DISPOSITION
REJECT change simply to "Migrate" as this is too broad a term. However it is recognized that "Migrate Media" could be misleading. Therefore change this to "**Replace Media**" reproduce

US: *** Need more analysis. Come back after doing more work on the preservation issue.

AGREE: Rename as “REPLACE MEDIA” – also remove REPACKAGE from this function – leave only REFRESH and REPLICATE

Editors: Text changed, but figure 4-3 needs updating to show 'replace media' instead of 'migrate media'.

==========

R-51: Page 4-4 4.1.1.2 Ingest

DAVID HOLDSWORTH
before Generate AIP - new section
(but it may already be covered by the data formatting and documentation standards aka motherhood and apple pie)
Identify the underlying abstract form (UAF) of the data. The UAF is some conceptual view of the components of the data, that is likely to stand the test of time. Likely UAFs are: file tree, file containing lines of text, a relational database.

Once this form has been identified, the data should be converted into a byte stream for long-tem preservation. The archive must maintain a list of UAFs and have the transformation capabilities for converting from UAF to byte stream and for regeneration of the UAF from the byte-stream.

The purpose of the UAF concept is to facilitate the delivery of data onto a platform different from that upon which it originated. This is particularly valuable for access to really old data, for which the original platform (say a *'" tape, or 12" laser disk) is unlikely to be available.

US: *** Hold off on this until we address the preservation issues to come up later.
Need more information.
REJECT: the suggested change is too implementation specific however we agree with the spirit of the comment.

Editors: no action needed

==========

R-52: ICSTI Review

Ingest should be more specifically defined with some guidelines given for the format of the information that is most easily ingested and best for archiving, such as ASCII or SGML. While details about format would be out of the scope of a Reference Model, it may be worth mentioning that there are some standards that appear to be preferable when dealing with migration, depending on the type of data.

US Response: This is done within negotiating the submission agreement.
REJECT

Editors: no action needed

==========

R-53: ICSTI Review

Ingest deals with the technical submission of data or documents into the OAIS data base. This leads one to believe that scientific refereeing is covered in the administration part of the Model and not in the 'Receive submission' which gives the impression on a first reading of an oversimplified submission procedure. The same applies to 'Quality Assurance' which covers only the quality control of the data transfer and does not in any way concern any tests on the scientific integrity and

quality of the data. In fact, 'scientific integrity and quality of data' being specifically mentioned in the 'administration' part of the Model.

US Response: The implementation of an OAIS is not specified by the grouping of functions within the model. The separation was intended to highlight the day-to-day operations in Ingest, with less frequent reviews and verification of content taking place in Administration. A full reading of the model is required.
REJECT

Editors: no action needed

==========

R-54: Page 4-6 4.1.1.3 Archival Storage
DAVID HOLDSWORTH
I think that this section may be overly prescriptive. The function of the archival storage is to receive the AIP and return it sometime later. This includes appropriate activities to deal with disasters. With present technology we assume media migration, and back-ups for disaster recovery, but new ideas may change that.

The best way to view all the diagrams of 4.1.1 may be as a checklist of capabilities, rather than a prescription for implementation. (This opinion may sit uneasily with my previous comment on 4.1.1.2!)

US: REJECT: These figures are meant to give the concept of the scope of the functions, not an implementation. Look to see where this may be made even clearer.

DMS: David is concerned that some of the detailed concepts implied by the subfunction breakout might discredit the model in the future as technology evolves. For example, perhaps archival storage should emphasize that submission of AIP and get it back, and the rest is implementation.
REJECT – it is made clear in section 1 that this is NOT a design for an implementation

Editors: no action needed

==========

R-55: AGENCY RID NUMBER: Wed Oct 25 14:56:35 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: F-11 PARAGRAPH NUMBER: 5

RID SHORT TITLE: Enlarge responsibility of Customer Service function in text

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DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

FROM:

"The Customer Service function will also create, maintain and delete Consumer accounts and will bill and collect payment from Consumers for the utilization of archive system resources."

TO:

"The Customer Service function will create, maintain and delete Consumer accounts and will bill and collect payment from Consumers for the utilization of archive system resources. This function will also be a collection point for Consumer feedback on products of the Archive."

Update corresponding figure 4-5, Functions of Administration, to reflect this recommendation. Add such words as "feedback", "confirmation", "delivery acknowledgement", or "delivery status" between consumer and Customer Service.

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact _____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

The Archive is intended to serve Consumers, albeit in an open, standardized fashion. Does it not seem reasonable to acknowledge communications other than payments?

DISPOSITION:

AGREE in concept – editor will propose rewording.

Editors: text changed, but no change made to Figure 4-5.

==========

R-56: NEDLIB Review

The OAIS Document provides some perspectives on the issues of information preservation using digital migration across media and across new formats or representations, but it is not clear which processes are needed and which

functionality is required. It discusses medium migration (refreshing or copying a publication) as a preservation procedure belonging to Archival Storage. As formats become obsolete and the viewers needed to interpret and render these formats be come obsolete as well, measures to preserve the content of a publication and all related aspects such as look and feel, layout, structure and functionality, need to be taken. To this end, several strategies may be followed, such as migration and emulation. The OAIS model does not discuss different preservation strategies and how they affect the model. It implicitly accepts data migration, i.e. "transformation" of digital content, as the preferred strategy. In all cases, transformation leads to a "new version" of the original publication. However, even with this strategy, it is not clear where transformation processes take place in OAIS. It does not belong to Archival Storage and this is understandable because Archival Storage does not have (and does not need to have) any knowledge of the content of a publication. The Administration entity has an "Archival Information Update" function that provides a mechanism for updating the contents of an AIP stored in Archival Storage, by accessing it as a DIP, updating its content and resubmitting it as a SIP to Ingest. However the Reference Model does not clarify if and in what way this function belongs to a preservation process.

What NEDLIB found missing in the OAIS Model was a conceptual entity symbolising the preservation processes required of an OAIS, whatever the preservation strategies followed. Therefore NEDLIB has added in its DSEP model a Preservation entity that manages the preservation processes required of a DSEP. Although it is recognised that the preservation function affects all DSEP processes, NEDLIB has added this separate preservation entity to make this function more visible and more explicit in the model. Much in the same way as metadata processing affects all DSEP functions, still, OAIS has defined a separate Data-Management entity to visualise the metadata processing function.

Both transformation and emulation approaches are worked out in some detail in the DSEP model. The resulting output is either a new version of a formerly deposited publication, in which case it is ingested anew in the system, or it is a set of specifications for interpreting or emulating the interpretation of the publication. In both cases, new preservation metadata are generated and managed by the Data-Management process.

US: See the proposed new function "Preservation Planning" for a partial response.
AGREE: see proposed new Preservation Planning entity.

Editors: Preservation Planning function added. The process of actually doing updates is handled in Administration by Archival Information Update under Manage System Configuration request and guidance.

==========

R-57: National Library of Australia
Need for a Preservation function

Our main concern with the model in its current form is the need to incorporate a Preservation function. The Nedlib Project also found the need to extend the model in this area in its Data/Functional Model for a DSEP (DSEP), which otherwise follows the OAIS Reference Model. There are other functional areas essential to deposit libraries building selective archives of electronic publications - for example, Selection , Evaluation and

Collection of Content Information - that we accept as falling outside the scope of the model. However, we see the preservation function is a core responsibility of an OAIS. Section 5 currently goes some way towards addressing this isssue but it still implies that Preservation is not a core function of an OAIS or that it is somehow already addressed within the model. The new Preservation function needs to be separate from Archival Storage to support Digital Migrations that change the Content Information and therefore create a new Archival Information Package. Work in this area would assist in identifying more fully the information needed to support the Preservation function, either as Preservation Description Information or as Data Management Data (see below). Currently, the sections on Data Management Data are most developed in relation to information needed to support the Access function.

US: See the proposed new function "Preservation Planning" for a partial response.
AGREE: see proposed new Preservation Planning entity.

Editors: Preservation Planning function added. The process of actually doing updates is handled in Administration by Archival Information Update under Manage System Configuration request and guidance.

==========

R-58: NEDLIB Review

Handling software

Our understanding is not yet well advanced in relation to software required for accessing a particular Archival Information Package and how this is handled in the model. The model makes it clear that Representation Information cannot depend on referencing software, as this would not completely specify the Representation Network needing to be in place for on going access to a given Archival Information Package. However, we also assume that, at a given time, an OAIS will use software as part of the Access function to provide current access. We assume that software is another type of Information Object, that it might be treated as an Archival Information Package in its own right, and that it might be part of a set of operations invoked during Access. We are not sure where information about the software needing to be invoked in order to support current access to a given Archival Information Package would be managed.

US: TBD
AGREE: Editor will propose text to address this. XXXXXX

Editor (DMS): The role of software, which can be part of Representation Information, has been expanded upon in section 4 and section 5.2. Mechanisms whereby various information objects are tied together are not explicitly identified as this seems to be more of an implementation question. Needs further discussion.

==========

R-59: CNES Summary points

-- Preservation
Long-term preservation of information constitutes the leading essential mission of an OAIS archiving system. This is translated in the Model by a series of consequences and at multiple levels:
For example: have representation information without which our bits cannot be interpreted.
For example: the 'archival storage" function must preserve the bits.
However, there is no central monitoring and control function for this aspect. Technological developments must be taken into account in order to decide on the migrations to undertake. Who decides on the migrations? This is not easy to find in the Model. The 'storage" function comprises a sub-function 'migrate media', but this only covers part of the necessary migrations. A function handling all hard and soft aspects of preservation would clarify the situation. Its role would be to ensure permanently that all conditions required to preserve data using the available technologies are satisfied. This function could be either an integral function of the Model or a sub-function, part of DLIB seem justified.

-- Emulation

With regard to the substance, we are in full agreement with the reservations expressed by the Reference Model concerning the question of emulation (paragraph 5.2).
However, we must be aware that today there are thousands of electronic documents in CD-ROM form, including the executable software required for access to the information in these publications. In particular, this concerns major publications such as encyclopedias.
For these publications, the Reference Model cannot simply adopt the standpoint that, in the absence of a source code and appropriate documentation, it is not and will not be possible to preserve these publications.
The emulation technique is still too young to be able to settle this problem definitively. The Model may be able to handle this problem in a separate chapter. While describing the limits and dangers of this approach, the possibility of developing this part, taking into account long or medium-term experience, will be kept open.
Refer to the report by Jeff Rothenberg on this subject
http://www.kb.nl/nedlib/results/emulationpreservationreport.pdf

US: See proposed new function "Preservation Planning" for a partial response to these issues. Need a view/paper on how AIP emulation may be used. Note the distinction between preservation of information and preservation of access to information, as called out in section 5.2

Take last para of 5.2 (ACCESS SERVICE PRESERVATION) but remove REQUIREment of having source code. Summarise the techniques in Preservation Planning.

Editor (DMS): See text on Preservation Planning and changes to Administration, and revised text on role of software in section 4.2 and revised section 5.2. Is this adequate?

7 SECTION 4.2

R-60: Pg 4-16 4.2.1.1 Information Object
DAVID HOLDSWORTH
I propose that a third choice be added to the data object alongside the

sequence of bits, namely a sequence of bytes, treating a byte as an atomic object.

Although it is true that a digital object is a bit-stream at the lowest level, in practice computation since the 1980s has been completely byte-oriented. The hardware that we have for implementing the storage is byte-oriented, and the underlying abstract forms for representation of the data are also byte-oriented.

I used to think that this was a small point, but I now realise that if bits are the atoms, the process of recovery involves unpacking the bytes into bits and then packing them back again. In CEDARS we are using ASN.1's Basic Encoding Rules for packaging the AIP and could easily accommodate the choice. I note that X.509 insists in describing signatures as BIT_STREAMs and this leads to some messy practices in the PKCS standards, where there is a recognition that the byte has become a "natural unit" of computatioN.

REJECT: We fail to see the problem that bit-stream brings, since bytes and now unicode (16 bits) are comprised of bits.

DMS: David points out that modern storage technology stores bytes not as individual 8-bit objects
REJECT

Editors: no action needed

==========

R-61: Page 4-17 4.2.1.3.1 Representation Networks
DAVID HOLDSWORTH
It is quite clear in CEDARS's intended end-user community that the archive should enable use of software that renders access to the intellectual content of the preserved material. Without software in the representation network, the chances are that the information will never be looked at. I appreciate that this may be more a library perspective than that of space data.

The challenge is to keep the rendering software working over time. We take that view that keeping an inventory of these Gödel Ends in the representation network. is a vital part of the function of the Administration, and would recommend that Figure 4-5 and §4.1.1.5 be amended to include this.

We now have successful emulation of a 1970s operating system, giving access to information previously lost, and the implementation is only dependedent on the ability to run a C program. I believe that concentration on rendering facilities that depend only on implementation of main-stream programming languages offers the best promise of continued access - but it must go hand-in-hand with monitoring the Gödel Ends. After all, one can still run FORTRAN77, but most of the binary programs that were written in FORTRAN77 in 1977 will not not now run - only those from IBM 360s

US: *** Agree that an inventory of 'ends' is important. It might be in Admin or somewhere else - hold off until we discuss the 'preservation function' issue.

AGREE – see proposed new PRESERVATION PLANNING entity

Editors: Need to track an 'inventory of ends' has not yet been clearly incorporated.

==========

R-62: Page 4-17 4.2.1.3.1 Representation Information Types
DAVID HOLDSWORTH
The Figure 4-10 should have the semantic information box on the left so that it relates more easily to Figure 4-11 - or it may be that I have failed to understand Figure 4-11, which I find to be both more detailed and less informative than Figure 4-10.

US: Agreed

I believe that I would find figure Figure 4-11 more convincing if Figure 4-12 were to be replaced by a concrete example. The current example is more by way of ectoplasm.

US: Agreed
DMS: David suggests we might want to put this in an annex, and then consider referring to a URL where the reader could navigate the example.

I used to think that Figure 4-10 appeard as a one-off in the Red Book, but it reappears as a part of Figure 4-19, to give it extra substance. The representation nets used in CEDARS are more easily seen in terms of the 4-9 formalism.

Whatever else, I think that relationship between 4-9 and 4-10 should be made clearer.

US: Seems clear to us. Ask him to propose how to make it clearer.
DMS: David has interpreted 4-11, operations and relationships, as a realization of the semantic information, while the other children correspond to the structure information. Therefore, swapping the two on figure 4-10 would make this parallelism clearer.
AGREE to swap order of lower boxes in Fig 4-10

Editors: Old figure 4-10 is now figure 4-11, with structure and semantics boxes switched, but also augmented with references to 'other representation information'. This has allowed deletion of old figures 4-11 and 4-12 and complex example, to simplify view of Representation Information and Representation Network.

==========
R-63: Page 4-22 4.2.1.4.1 Content Information
DAVID HOLDSWORTH
On the third line there is a reference to "primary data object", neatly supporting my first point.

US: Already addressed

6th para - starting "This is not difficult to do ..."
The vital part of an environment is the API (applications programming interface). It is this that needs to be preserved (and we have practical

proof of doing this). I take issue with Rothenberg on such matters of emulation, but have not had time to write a paper on the subject. I believe that identifying the appropriate abstraction for the software environment is the correct route, and is closely parallel to the ideas about underlying abstract form.

US: Basically agree, but not sure what you would like to see differently. See also Annex E on a model for software use in representation information.
DMS: David says: The essence of the environment is the API which is normally realized by some underlying hardware, etc.

7th para - starting "In summary ..."
I never found the Subsection 6.2 refered to in the last sentence.

US: AGREED: Should be 5.2

8th para - starting "An important ..." - parts b, c and d
This is transitive closure until we arrive at nodes that are meaningful to the designated community. It may help to spell this out

US: REJECT: These words are not really clear to most readers, including ALL of the review committee.

We found it vital to introduce the CRID (Cedars Reference ID) in order to make absolutely clear the need for globally unique names for use as poniters in the construction of representation nets. I note that you too have the ADID. Perhaps here is something else that needs another term in the glossary.

US: Reject - too much implementation
AGREE in part – we use Content Data Object; correct section number to 5.2; REJECT the rest

Editors: Completed - Used Content Data Object

==========

R-64: AGENCY RID NUMBER NARA
10) PAGE NUMBER:4-23 PARAGRAPH NUMBER: 4
RID SHORT TITLE: Paragraph beginning in summary

DESCRIPTION OF REQUESTED CHANGE: (Use From: "...- To "..." formal)
Incorrect reference: Last sentence refers readers to Subsection 6.2, reference is incorrect, and it is unclear what the reference should be.

SUPPORTING ANALYSIS:
This is a factual error needing correction.
** dms- This should have been 5.2, Access Preservation. Accept change **

DISPOSITION
ACCEPT
AGREE

Editors: completed

==========
R-65: Page 4-25 4.2.1.4.2 Preservation Description Information

DAVID HOLDSWORTH
The section on Fixity entangles the concepts of error handling, and authenticity. I propose scrapping any mention of errors. The faithful preservation of the byte-stream is the job of the archival storage. Authenticity is a different matter, and perhaps invites the use of digital signatures. If this is to be meaningful, it may introduce a new form of migration, becuase today's 1024-bit keys may be easily cracked in 2050, so that the authentication may need some refresh process (perhaps another layer) to sign things afresh with new technology cryptography. (This begins to look like a can of worms

US: Propose to replace the corresponding text under FIXITY with:

Fixity Information includes special encoding and error detection schemes that are specific to instances of Content Objects. Fixity Information does not include the integrity preserving mechanisms provided by the OAIS underlying services, error protection supplied by the media and device drivers used by Archival Storage. The Fixity Information may specify minimum quality of service requirements for these mechanisms.

DMS: In discussion with David, the point is made that the underlying services need to be treated with some skepticism for error detection. Perhaps authenticity is more a matter for an implementation of provenance.
AGREE in part: "Authentication" should be replaced – use Data Integrity check or Validation/Verification(XXX * ACTION on editor to check ***). Accept proposed text for second sentence onwards.**

Editors: May not be fully checked

==========

R-66: CCSDS REVIEW ITEM DISPOSITION (RID) :
RID INITIATION FORM

AGENCY RID NUMBER : 1
SUBMITTING ORGANIZATION (Agency, Center) : CNES

REVIEWER'S NAME : Claude HUC CODE :
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DOCUMENT NUMBER : CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME : Reference Model for an Open Archival Information System
DATE ISSUED : April 2000
PAGE NUMBER : 4-25
PARAGRAPH NUMBER : 1
RID SHORT TITLE : inconsistent references

DESCRIPTION OF REQUESTED CHANGE :Use From : "...' To "..." format)
We suggest replacing 'Srepeat Steps 2 through 4' by 'repeat Steps a to d'

CATEGORY OF REQUESTED CHANGE :
Technical Fact ____ Recommended : _____ Editorial : X
NOTES :

TECHNICAL FACT : Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected . Supporting analysis/rationale is essential)
RECOMMENDED : Change of a nature that would, if incorporated produce a marked improvement in document quality and acceptance.
EDITORIAL : Typographical or other factual error needing correction. (this type of change will be made without feedback to submitter).

SUPPORTING ANALYSIS :

DISPOSITION :Accepted as per May version.
US: Already in the official May version
DELETE this RID

==========

R-67: Page 4-26 4.2.1.4.3 Packaging Information
DAVID HOLDSWORTH
The last paragraph is superfluous (or even wrong) if the concept of underlying abstract form is taken on board enthuiastically.

US: Don't see the concern. Suggest replacing the following sentence:
Packaging Information is not guaranteed to be preserved by Migration

DMS: In discussion with David, it may be useful to have the UAF concept in section 5, and then be referenced as it is now from this section. Needs review to see if this works.
REJECT

Editors: no action needed

==========

R-68: Page 4-28 4.2.2.1 Information Package
DAVID HOLDSWORTH
If we had been more definite about the need for a name-space, the first paragraph could be much crisper

US: REJECT: Too much implementation
REJECT

Editors: no action needed

==========

R-69: Page 4-30 4.2.2.3 The Archival Information Package
DAVID HOLDSWORTH
Figure 4-19: swap sides of the two boxes in the embedded Figure 4-9

US: Agreed, and change arrow direction
AGREED

Editors: Figure 4-18 (old figure 4-19) is not yet updated

==========

R-70: AGENCY RID NUMBER : 2

SUBMITTING ORGANIZATION (Agency, Center) : CNES

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DOCUMENT NUMBER : CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME : Reference Model for an Open Archival Information System
DATE ISSUED : April 2000
PAGE NUMBER : 4-31
PARAGRAPH NUMBER : 1
RID SHORT TITLE : inconsistent reference

DESCRIPTION OF REQUESTED CHANGE :Use From : "...' To "..." format)
We suggest replacing 'and this is discussed and modeled in section 4' by
'and this is discussed and modeled hereafter in this section'

CATEGORY OF REQUESTED CHANGE :
Technical Fact _____ Recommended : _____ Editorial : X
NOTES :
TECHNICAL FACT : Major technical change of sufficient magnitude as to
render the Recommendation inaccurate and unacceptable if not corrected .
Supporting analysis/rationale is essential)
RECOMMENDED : Change of a nature that would, if incorporated produce a
marked improvement in document quality and acceptance.
EDITORIAL : Typographical or other factual error needing correction. (this
type of change will be made without feedback to submitter).

SUPPORTING ANALYSIS :

DISPOSITION :
Agreed, but as: 'modeled later in this section.'
US: Agreed
AGREED

Editors: Not completed yet - missed.

==========
R-71: CCSDS REVIEW ITEM DISPOSITION (RID) :
RID INITIATION FORM

AGENCY RID NUMBER : 3
SUBMITTING ORGANIZATION (Agency, Center) : CNES

REVIEWER'S NAME : Claude HUC CODE :
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DOCUMENT NUMBER : CCSDS 650.0-R-1 Red Book, Issue 1

DOCUMENT NAME : Reference Model for an Open Archival Information System
DATE ISSUED : April 2000
PAGE NUMBER : 4-34
PARAGRAPH NUMBER : 5
RID SHORT TITLE : inconsistent reference

DESCRIPTION OF REQUESTED CHANGE :Use From : "...' To "..." format)
The reference to '4.2.3.1' (this sub-section doesn't exist) should be replace by '4.2.3'

CATEGORY OF REQUESTED CHANGE :
Technical Fact ____ Recommended : _____ Editorial : X
NOTES :
TECHNICAL FACT : Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected . Supporting analysis/rationale is essential)
RECOMMENDED : Change of a nature that would, if incorporated produce a marked improvement in document quality and acceptance.
EDITORIAL : Typographical or other factual error needing correction. (this type of change will be made without feedback to submitter).

SUPPORTING ANALYSIS :

DISPOSITION : Agreed, but already in May version.
DELETE this RID
==========

R-72: ICSTI Review

One reviewer compared the Model to the ISO/OSI which formalizes components that are reasonably well established in practice.
US Response: Yes

Others thought the Model was too detailed and would make a particular implementation too expensive.

US Response: The model is intended to make the true costs more apparent. See the following reviewer's bullet.
NO A RID

Editors: no action needed

==========
R-73: ICSTI Review

One reviewer thought that the Model provided a good framework for the analysis of his company's archiving approaches against high level best practices and that it pointed out some issues that they had not previously addressed.
US Response: Great!

NOT A RID

Editors: no action needed

==========
R-74: ICSTI Review

There could be issues related to the granularity of the AIPs. The case cited by a reviewer is that in which a dissertation is archived by a national library or institutional archive, but the archive version for the document when the dissertation is published as a journal article would reside with the publisher. The two would have separate "owners" from the copyright standpoint and separate archiving responsibility. On the other hand it may not make sense to divide such "objects" into different packages. Minimally, there should be some link between the two.

US Response: This is a typical problem, and the AIPs, with AIC and AIU seems to provide a useful framework for these issues. There can certainly be links between the two in the Descriptors. Provenance can also address such issues. These are implementation decisions.
AGREED – no change required

Editors: no action needed

==========
R-75: ICSTI Review

Fixity Information, which is used to insure integrity, and issues related to security should be covered more thoroughly.

US Response: Security is a ubiquitous concern and security facilities are stated to be present in underlying services (e.g., see 4.1.1.1). Fixity is directed to specific AIPs, and includes such techniques as checksums and various encoding approaches. We're not persuaded by the comment to add more specifics.
REJECT: agree with US response

Editors: no action needed

==========
R-76: ICSTI Review

In the discussion of Representation Networks, the document does a good job of describing the need for a low level of Representation Information (i.e., cycling down through various representation schemes all the way down to a discussion of ASCII). One reviewer thought that it would be useful to introduce the concept of a base OAIS representation. This would be a representation object that would be common building blocks (e.g., ASCII) underlying all other representation information objects. Almost a more bottom up approach.

US Response: It is not clear that there is a base OAIS representation that will survive for very long. The OAIS needs to track emerging technology to keep up to date with what is still useful. It is beyond the scope of the model.
REJECT – this is an implementation concern for a specific archive

Editors: no action needed

==========

8 SECTION 5

R-77: Page 5-1 5.1.1 Digital Migration Motivators
DAVID HOLDSWORTH
It is obsolecence of disk and tape drives that is the prime motivator. It deserves a mention.

US: Accept, by clarifying what is meant by hardware in the second bullet, by inserting " (e.g., disk/tape drives)
AGREED
Editors: completed

==========
R-78: ICSTI Review

The discussion of "Digital migration motivators" seems to over emphasize the physical decay of the data support medium at the expense of the obsolescence of the logical context.

US Response: We can add a bit about other changes to the Designated Community that affect their ability to understand the information. However, we are not clear what you mean by logical context. Is it like directory structures or file systems?

REJECT – BUT to clarify the issue change the order of the points in this section, putting "Improved Cost Effectiveness" first and "Media Decay" last in case people regard this as a priority order. Note that that paragraph also addresses technology obsolescence.

Editors: completed

==========
R-79: Handling old versions

National Library of Australia
Sections 5.1 and 5.1.3.4 state that the outcome of Digital Migration in an OAIS is a full replacement for the Archival Information Package that is undergoing transfer. We understand that by this is meant that the transfer process should result in minimum information loss, not that the Archival Information Package undergoing transfer is necessarily discarded. In cases where a new Archival Information Package is created, our archival policy requires the source AIP to be retained. We might transform an Archival Information Package from one file type to another to enhance current access while retaining the source copy as an archival master. At a later stage, the replacement copy might be used as the source of another transformation; or we might return to the archival master for the new transformation. It would

be useful if this requirement to retain source AIPs was clarified in Section 5.1.3.4.

US: Propose the following changes for clarification:

1. Section 5.1.3.4, 1st para. Replace material with:
In all cases the intent is to provide maximum information preservation. The resulting AIP is intended to be a replacement for the AIP that is undergoing Transformation. The new AIP qualifies as a new **Version** of the original AIP. The previous versions may be retained.

2. Section 5.1.4, 2nd para, add sentence: " The previous versions may be retained."
AGREE with proposed responses, but change "new version of the original AIP" to "new version of the previous AIP. The first version of the AIP is referred to as the original AIP and may be retained for verification of information preservation."

Editors: completed

==========

R-80: AGENCY RID NUMBER NARA
Section 5.1.3 2nd bullet, last sentence Change "but Replication can occur without all the constraints of Refreshment."
To
"but may require changes to the Archival Storage mapping infrastructure."
For clarity.
AGREED
Section 5.1.3.4 3rd scenario, penultimate sentence Change
"This approach is an advantage"
to
"This approach would be advantageous.."
AGREED
US: Agreed
AGREED

Editors: completed

==========
R-81: National Library of Australia

Handling process history information
Section 5.1.4 states that, when an Archival Information Package undergoes a Digital Migration that involves Transformation, the process history is recorded in the Preservation Description Information of the new Archival Information Package. In contrast, when an Archival Information Package undergoes a Digital Migration that does not involve Transformation, the Preservation Description Information does not get updated, but OAIS still tracks such migration. Presumably, this information would be stored as Data Management Data. If so, this means that process history information is managed separately depending on the process performed. We are not sure if this is an issue, but it is an area where we have found it difficult to make a clean mapping between our model for the PANDORA Archive and the OAIS Reference Model.

US: *** agree in principle- this is current situation

National Library of Australia
It would assist if examples of this kind of Data Management Data were included in Sections 1.7.2 and 4.2.3. (See NLA Comment under 5.1.4)

US: Agree in principle
We agree but the name may be Preservation Process History and will be added in Data Management.

Editors: In response to RID 81, change definition of Data Management Data: The data created and stored in Data Management persistent storage that refer to operation of an archive. Some examples of this data are accounting data for Consumer billing and authorization, policy data, Event Based Order (subscription) data for repeating requests, preservation process history data, and statistical data for generating reports to archive management.

Also in response to RID 81, add a bullet to section 4.2.3 and a corresponding box in original figure 4-26 Data Management Data, as follows: "Preservation process history information that tracks the migrations of AIPs, including media replacements and AIP transformations." Note, however, that we don't currently address this in section 4.1 and there are no flows from archival storage to data management. Nor is there this specific flow from administration to data management.

==========

8.1.1 SECTION 6

R-82: AGENCY RID NUMBER NARA
Section 6.1 Bullets

The use of the phrase "A Local Community..." to begin the bullets is confusing.
Suggest changing to:
"- Independent - Archives motivated by local concerns, with no management or technical interaction among them
- Cooperating - Archives with potential common producers, common submission standards, and common dissemination standards, but no common finding aids.
- Federated - Archives with both Local and Global Communities, and having both local and global finding aids. The Local Community usually has priority over the Global Community. Global dissemination and Ingest are optional features.
- Shared resources - Archives that have entered into agreements with other archives to share resources, perhaps to reduce cost. This requires various standards internal to the archive (such as ingest-storage and access-storage interface standards), but does not alter the community's view of the archive."
AGREED

Add definitions of Local Community and Global Community to Glossary
AGREED

Editors: completed

==========

R-83: CCSDS REVIEW ITEM DISPOSITION (RID) :
RID INITIATION FORM

AGENCY RID NUMBER : -6
SUBMITTING ORGANIZATION (Agency, Center) : CNES

REVIEWER'S NAME : Claude HUC CODE :
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DOCUMENT NUMBER : CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME : Reference Model for an Open Archival Information System
DATE ISSUED : April 2000
PAGE NUMBER : 6-2
PARAGRAPH NUMBER : 2, 3, 4 and 5
RID SHORT TITLE : clarification about terms global and local

DESCRIPTION OF REQUESTED CHANGE :
The terms global or local community, global or local access, Global producer need to be clarified. These termes have not been understood by the readers.

CATEGORY OF REQUESTED CHANGE :
Technical Fact _____ Recommended : ___X____ Editorial :
NOTES :
TECHNICAL FACT : Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected . Supporting analysis/rationale is essential)
RECOMMENDED : Change of a nature that would, if incorporated produce a marked improvement in document quality and acceptance.
EDITORIAL : Typographical or other factual error needing correction. (this type of change will be made without feedback to submitter).

SUPPORTING ANALYSIS :

DISPOSITION :
Define 'local' and 'global' early in chapter 6. Local and global producer needs review and revision. Alternatively use other terms to convey the distinctions.
AGREED

Editors: completed

==========

R-84: 6.1 Technical levels .....
DAVID HOLDSWORTH
under Federated, last sentence - too much optionality!

US:ACCEPT: Delete the first 'Optional'
AGREED

Editors: completed

==========

R-85: 6.1.3Federated Archives
 DAVID HOLDSWORTH
The section on unique AIP names would benefit from the introduction of a glossary-level term for such a name (e.g. CRID, ADID).

US: We feel that 'unique AIP name' is adequate.
REJECT

Editors: no action needed

==========

9 Addendum – Nov 15 Additional RIDS from GSFC

R-86: Representation software vs. access software
AGENCY RID NUMBER: Wed Nov 15 17:14:52 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: 2-4 PARAGRAPH NUMBER: last
RID SHORT TITLE: Representation software vs. access software

DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

Clarify the distinction between software used to display representation information and access software - the latter being software that 'displays' some or all of the meaning of the Information Object.

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact _____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

Does Representation Information include software used to display the the Rep. Info, or not? This is not clear.

DISPOSITION:

Editors: Paragraph on software added. Check if adequate.

======

R-87: Meaning of 'modify representation info'?
AGENCY RID NUMBER: Wed Nov 15 17:29:15 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: 3-2 PARAGRAPH NUMBER: 4th under 3.2.2

RID SHORT TITLE: Meaning of 'modify representation info'?

DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

What does 'modify representation information' mean in this context? It appears to equate modifying representation information with a modification to the Content Information. Depending on what is really meant by 'representation information', this may not be correct.

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact ____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

If representation information is understood to include not just the meaning of the representation information but also its container or wrapper, as in the case of using a Word file (the wrapper) to hold a text description of a data structure, then one can alter the container (by going to word perfect, for example) without altering the description of the data structure - i.e., without altering the significant meaning of the representation information. When representation information is used here, does it include the notion of the container or not? Apparently not. Clarify and try to use this consistently.

DISPOSITION:

Editor (DMS): No changes made to this paragraph under the assumption that we should NOT include the container or packaging information surrounding Representation Information as part of the Representation Information. Keep this all in Packaging Information. Therefor we assume that changes to a Content Data Object will be reflected in the Representation Information, and vice versa.

======

R-88: what is 'part of the digital object'?
AGENCY RID NUMBER: Wed Nov 15 17:36:03 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: 4-18 PARAGRAPH NUMBER: 2nd, 2nd sentence
RID SHORT TITLE: what is 'part of the digital object'?

DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

The sentence can be misleading depending on what 'part of the digital object' is intended to convey. Clarify between part of the representation info. and part of the primay digital object.

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact ____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

If it means part of the Rep. Info, then I think it is correct, but if it means part of the PDO, is is not correct as it mixes up Access Software working on the digital object with representation software working on representation bits.. This has implications for the rest of the discussion in this section. I think this needs clarification.

DISPOSITION:

Editor (DMS): Paragraph was deleted in favor of new text that attempts to simplify and clarify this section.

=====

R-89: Digital Content Info.
AGENCY RID NUMBER: Wed Nov 15 17:47:22 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999

PAGE NUMBER: 4-23 PARAGRAPH NUMBER: 1st full, 3rd sentence
RID SHORT TITLE: Digital Content Info.

DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

Replace 'digital object' with 'digital Content Information'

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact _____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

The focus here is on access software, which provides access to the Content Information, and it is not on representation information, which would be allowed under the use of 'digital object'.

DISPOSITION:

Editor: (DMS): replaced it with ‘digital Content Data Object’

R-90: Revise series of steps
AGENCY RID NUMBER: Wed Nov 15 17:51:58 2000

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: 4-23 PARAGRAPH NUMBER: 4th, all bullets
RID SHORT TITLE: Revise series of steps

DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

Revise these to start with a single 'representation info. object that can be composed of multiple objects, as follows:

a) Identify the bits comprising the Primary Digital Object of the Content Information.

b) Identify a Representation Information object that, in some way, addresses all the bits of the PDO and converts them into more meaningful information.

c) For the Representation Information object identified, examine its content to identify if it is a Referencing Representation Information object. If it is, identify the Representation Information objects it incorporates by reference. Repeat this step until no additional Representation Information objects are identified.

d) For each Representation Information object addressed in Step c above, that is held as a Digital Object, identity its Representation Information object and repeat Steps c and d until no new Representation Information objects are identified.

e) The Content Information consists of the Primary Digital Object and each of the Representation Information objects identified in Steps b through d.

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact ____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

Otherwise we don't have any place to put the information that aggregates the initial set of Rep. Info. objects.

DISPOSITION:

Editor (DMS): Inserted suggested steps as given, but modified slightly at 19th US/ISO meeting.

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R-91: use of representation information
AGENCY RID NUMBER: Wed Nov 15 18:05:22 2000

SUBMITTING ORGANIZATION (Agency, Center): NASA, GSFC

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DOCUMENT NUMBER: CCSDS 650.0-R-1 Red Book, Issue 1
DOCUMENT NAME: OAIS Reference Model
DATE ISSUED: May 1999
PAGE NUMBER: 5-6 PARAGRAPH NUMBER: 3rd, 2nd sentence
RID SHORT TITLE: use of representation information

DESCRIPTION OF REQUESTED CHANGE: (Use From: '...' To '...' format)

Clarify what is meant by representation information because this implies that it only includes the meaning and not its container. How does this impact what is meant by Content Information?

CATEGORY OF REQUESTED CHANGE: Recommended
Technical Fact ____ Recommended: _____ Editorial: _____
NOTES:
TECHNICAL FACT: Major technical change of sufficient magnitude as to render the Recommendation inaccurate and unacceptable if not corrected. (Supporting analysis/rationale is essential.)
RECOMMENDED: Change of a nature that would, if incorporated, produce a marked improvement in document quality and acceptance.
EDITORIAL: Typographical or other factual error needing correction. (This type of change will be made without feedback to submitter.)

SUPPORTING ANALYSIS:

If representation information also includes its container, then sentence is not always correct. It says that if the Content Info or PDI change, then there must have been changes to the primary digital object as well as the representation information. But one can change a part of the Rep info without changing the primary Digital Object. Is this not a change to the Content Information? How about if the part of the Rep. Info. that changes is its container (assuming this is considered part of the Rep. Info.)?

DISPOSITION:

Editor (DMS): No change made under the view that Rep Info does NOT include its container.

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