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**V3 Technical Editorial Services**

**For HL7 Contract Work Announcement  
"V3 Technical Editor"**

**RIM Document Editorial Assessment**

8 June 2007

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## 2 ***RIM Document Editorial Assessment***

### 3 **Document Purpose**

4 This document summarizes the initial findings of the V3 Technical Editing Project regarding the *RIM*  
5 document as published in the *2006 Normative Edition*. These findings may be used by the document  
6 owner, the Modeling and Methodology committee, to guide revision, whether through the existing  
7 Harmonization process or some other process of its choice. If the editing team's engagement is  
8 extended, the committee may work with the team to revise, refine, or extend these findings.

9

10 [Version 8 of this document—this version—is posted to the Mayo Wiki for peer review. In the interest  
11 of efficiency, detailed emendations have been removed: this document focuses on the principles to be  
12 used in making and assessing emendations. Items in square brackets “[ ]” have been added for  
13 reference during this review.]

### 14 **Assessment**

15 The Reference Information Model (RIM) document is the most focused of the four documents the team  
16 examined. It clearly sets out to specify the data model upon which the V3 family of specifications are  
17 founded. Still, there are two fundamental questions around content scope and the effective date of  
18 publication that will require fairly significant changes to current practice.

19

20 First, a great deal of the explanatory text in the RIM document is extraneous, neither specifying the  
21 actual boundaries of the data element in question nor providing examples of its use. Key examples of  
22 this practice are outlined in recommendation 2, below, but the committee should come to agreement on  
23 the kinds of content appropriate for publication in this foundational specification.

24

25 Second, the *2006 Normative Edition* contains a *RIM* document based on the last balloted RIM: this gap  
26 creates the opportunity for conceptual conflict between the document and current practice. A reader  
27 must choose between a normative edition of the RIM published for ANSI, which contains nothing  
28 extraneous but is out of date; an extract of the current RIM as maintained by MnM, which will be the  
29 most up-to-date, but which is not readily available to the membership at large; or, which is most  
30 probable, the RIM document published in the Normative Edition, which both contains extraneous  
31 information and is out of date.

32

### 33 **Recommendations**

34 1. Publish an up-to-date RIM.

35 The Reference Information Model currently lives in at least four different places:

36

37 1. The balloted and normative RIM document that describes parts of the RIM designated as  
38 normative at a point in time (currently June, 2003).

39 2. An ANSI publication based on that balloted document.

40 3. The living RIM UML model regularly updated through harmonization. This RIM contains

1 content that existed at the time of balloting but that was not balloted as well as the  
2 cumulative changes of harmonization (currently at four years). Some of this material is  
3 intended to be balloted in the future; some is not (e.g. CoreInfrastructure subject area).

- 4 4. The living RIM UML model in combination with the set of changes harmonization that  
5 have passed harmonization but not yet been incorporated into the model.  
6

7 We propose a fifth:

- 8 5. A “current RIM” document similar to #1, but based on the living RIM model (#3).  
9

10 Document 1, the RIM document in the published ballot and normative edition of V3, is based on the  
11 last balloted RIM, dated June of 2003. Members interested in analyzing artifacts developed from the  
12 current RIM or in developing new artifacts may be misled by this document.  
13

14 The RIM document included in any publication of the V3 standard should be based on the latest  
15 working version of the model as maintained by the Modeling and Methodology (MnM) committee.  
16 The publication label, “Normative Edition,” may cause confusion, suggesting to a reader that the  
17 contents are all normative, but this problem should be addressed in the document preface. Such a  
18 preface should distinguish and provide references for at least documents 1, 3, and 5.  
19

20 Re-publication of document 1 with each edition can be supported by automated methods: while this  
21 may expose operational and synchronization issues, the publication process itself may be an effective  
22 strategy for prioritizing those issues.  
23

24 The publication of the current RIM does not remove the necessity of publishing the normative (i.e.  
25 Balloted) RIM.  
26

- 27 2. Limit RIM specification prose to defined categories.  
28

29 Once a class or attribute is described, the RIM specification is not responsible for explaining the  
30 choices made to readers not familiar with the decision process. Text that specifies or constrains the  
31 model is appropriate; other content is not.  
32

33 Specifically, we found procedural discussion distracts from crisp definition. Discussion of decision-  
34 making processes, open issues, status qualifications, and other temporal concerns are external to the  
35 definitive nature of the RIM specification. Such discussion may suggest alternative interpretations that  
36 confuse the unambiguous specification of conceptual boundaries, and it should be relegated to  
37 committee minutes or other background documentation. [E.g. Act.id discussion of historical rationale]  
38

39 In addition, text that repeats content specified elsewhere endangers conceptual integrity. Structural  
40 vocabulary, for instance, is enumerated and explained in the Vocabulary documentation; enumeration  
41 and explanation in the RIM document is redundant, necessitating additional maintenance and creating  
42 opportunity for contradiction. [E.g. act.moodcode discussion inclusion of mood code value definitions]  
43

44 Finally, text that explains model design features extending beyond the class or attribute (e.g. workflow)  
45 complicates the specification of the element. Model design should be explained in a section explicitly  
46 dedicated to design. See recommendation 6, below, for a list of identified design decisions. [E.g.  
47 context conduction or workflow explanations within attribute definitions]

1  
2 3. Update and use the style guide.  
3

4 The RIM style guide (circa 1995-2001) specifies five categories of text:

- 5 ● Definition, per ISO standard 11179-4 *Specification and standardization of data elements*
- 6 ● Rationale(s)
- 7 ● Constraint(s)
- 8 ● Discussion
- 9 ● Example(s)

10  
11 Only the “definition” category carries a detailed explanation of what it should include. The other  
12 categories should be similarly specified, both to clarify what they should contain and to exclude things  
13 that they should not.

14  
15 The MIF supports annotations, which can carry their own labels, hence the inclusion of “Design  
16 Advisories” and other invented topics for some attributes. These *ad hoc* annotations should be added  
17 to the style guide with explicit criteria for use, or prevented.

18  
19 There are considerations by which some elements may be appropriate for a “current” RIM that would  
20 not be appropriate for a normative publication. The style guide should stipulate which categories are to  
21 be included in any normative publication, and which may be important enough for inclusion in a  
22 current RIM document but not sufficiently decisive for inclusion in a normative standard.

23  
24 4. Define the RIM document's audiences and objectives in concrete detail. Include these  
25 definitions in the document introduction.  
26

27 The identification of goals and users will facilitate maintenance of the document by providing a clear  
28 ground for editorial decisions.  
29

30 The following suggestions are examples only; the committee should define these.

- 31 ● Audience: what sort of reader the document is written for
    - 32 ○ The RIM Reference Guide [new title: the document is not the RIM itself] is designed for
    - 33 people who have a working knowledge of HL7 standards development processes and
    - 34 artifacts, but who require more detailed or current information.
  - 35 ● Uses: things a reader may wish to accomplish
    - 36 ○ A ballot voter wishes to confirm an assumption
    - 37 ○ A specification developer wishes to establish the rules to which a proposed class clone
    - 38 or attribute must conform
    - 39 ○ Specification developers or methodologists wish to confirm mutual understanding of a
    - 40 model design feature
  - 41 ● Objective: what a reader should use it for
    - 42 ○ The RIM Reference Guide is designed to provide the current RIM specifications for
    - 43 modelers and voters. A given version should accurately reflect the ballot cycle or
    - 44 normative edition of which it is a part. It does not describe the specification process for
    - 45 which the RIM is used (for which see the HDF).
    - 46 ○ [Or, a specification vs. a comprehensive collection of annotations]
- 47

1       5. Reorganize the document.

2  
3 The organization is difficult to follow. We recommend the following order:

- 4       I. Document purpose, as suggested above  
5       II. History and uses of the RIM (current 1.1.1 “history” excluding harmonization, 1.1.2 “uses”,  
6       1.1.3 “external uses”)  
7       a. The RIM as a standard (1.2 ballot and the meaning of “normative”)  
8       III. RIM process (“harmonization” from 1.1.1)  
9       IV. RIM framework (Use Appendix A “overview,” 1.3 “understanding,” new section on  
10       “concepts” per recommendation 6 below)  
11       V. Data dictionary (2-4)

12  
13       6. Provide a section to articulate model design features and concepts.

14  
15 An orientation on design features and other concepts will provide a way for readers to resolve  
16 questions concerning these concepts without subjecting class and attribute definitions to the task of  
17 providing such orientation. The following concepts were identified, either as conceptual gaps or as  
18 passages currently included in attribute descriptions:

- 19  
20       • Required external knowledge: object and information modeling, UML notation  
21       • Relationship of vocabulary, data types, & RIM  
22       • Divisions of content: Subject areas, foundation classes, backbone, core  
23       • Cardinality and optionality  
24       • Mood, including emphasis on fundamental change to standard modeling practice, 'speech acts'  
25       analogy, and inert and descriptive attributes  
26       • Workflow control attributes  
27       • Context conduction  
28       • Standard, normative, and reference documents  
29       • Negation and uncertainty  
30       • Entity determiner  
31       • Role scoping and role link  
32       • Types of act relationships

33  
34  
35       7. Provide an index of usage

36  
37 Each class entry should include, in addition to selected examples of intended usage, a generated catalog  
38 of the places it is used in actual specifications. This would be too large a dataset to manage in a  
39 document, but provision of a tool (e.g. via URL) to provide this information might be feasible.

40  
41       8. Provide a list of known issues

42  
43 Between editions, it is necessary to determine whether an identified error has already been recognized.  
44 There should be an errata page on the web site, and the document should refer to it so that a reader  
45 knows how to check it. (This is now addressed on the “Known Issues” page in the ballot.)  
46

1 9. Remove the version 2.x references

2  
3 These references were included for educational purposes early in the initial adoption of the RIM. They  
4 were never completed for most attributes, almost certainly contain errors, and should be removed.

5  
6 10. Remove Model status

7  
8 This is task tracking material that does not belong in a model

9  
10 11. Include an “anatomy of an entry,” explaining the various parts of a class or attribute description

11  
12 Some authors have included information in text that is already represented in other entry fields—e.g.  
13 the stipulation that a field is required, though the cardinality is indicated in the attribute header.

14  
15 Readers, too, may benefit from clear explanation of the entry structure.

16  
17 12. Add metadata for global attributes

18  
19 The following attributes are global and important: they should be part of a standard entry. A standard  
20 representation will allow a reader to confirm, e.g., that an entry that does not indicate that it is  
21 structural is in fact not structural.

- 22  
23 ● Normative (boolean). This information is already represented by a graphical dot (red/green),  
24 but it is not searchable, nor is it readable on a black-and-white printout.
- 25  
26 ● Structural (boolean). This information can often be inferred from the extensibility code on  
27 coded entries, but it cannot be inferred for boolean attributes.

28  
29 13. Modify structure of class attribute subheadings.

30  
31 The current organization uses “attributes” to mean both “dimensions of description” and “attributes.”  
32 Remove the redundant superheading “Attributes.”

33  
34 Ensure congruency of entries by using the following entries, whether they contain entries or not:

- 35 ● Attributes of X
  - 36 ○ list
- 37 ● Associations of X
  - 38 ○ list, or “No associations”
- 39 ● Specializations of X
  - 40 ○ list, or “No specializations”
- 41 ● Generalization of X
  - 42 ○ “X specializes [class]”

43  
44 14. Include illustrative diagrams in data dictionary

45  
46 Because this text is generated from the model, graphics cannot be included directly. It may be possible  
47 to create a graphics repository and use URIs in the text; however, this will introduce additional

1 complexity and maintenance effort into an already difficult process. Graphics would make complex  
2 categorical or procedural explanations clearer (e.g. the context conduction example for  
3 ActRelationship.contextControlCode).

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