Overview of differences between IFLA LRM and the FRBR-FRAD-FRSAD models

1. User Tasks

IFLA LRM is focused around five generic user tasks: find, identify, select, obtain, explore. As with FRBR and FRSAD, the IFLA LRM model is primarily concerned with the data and functionality required by end-users (and intermediaries working on behalf of end-users) to meet their information needs. The point-of-view of the FRAD model differed somewhat, as FRAD considered both end-user needs and library staff administrative uses in its definition of user tasks; this is reflected in the FRAD user tasks contextualize and justify.

The first four IFLA LRM tasks (find, identify, select, obtain) are defined as generalizations of the four FRBR tasks of the same names. The tasks find and identify are also generalized to cover the FRAD and FRSAD tasks of the same names; select is generalized so as to include the FRSAD select task as well. The explore task is drawn from FRSAD, but is defined in IFLA LRM so as to include aspects drawn from the FRAD task contextualize. The other aspects of the FRAD task contextualize are considered out of scope in IFLA LRM. The final task from FRAD (justify), as it is a task relating to the work of library staff, is out of scope in IFLA LRM.

2. Entities

IFLA LRM defines only 11 entities in total. Unlike the previous “flat” entity structures, in IFLA LRM entities are in a superclass/subclass structure which permits the transfer of attributes and relationships from the superclass to its subclasses. The FRSAD entity thema is generalized and renamed res (Latin for “thing”) to serve as the top entity in the hierarchy, the superclass of all other entities. Entities that are not declared in the superclass/subclass structure are all disjoint.

The FRBR group 1 entities (work, expression, manifestation, item) are retained, although the definitions are reworked to avoid using one entity in the definition of another, to avoid the term “alpha-numeric” in the definition of expression (viewed as not including ideographic writing systems), to clarify the nature of the manifestation as a set. A new superclass entity agent is defined to encompass the FRBR group 2 entities (person, corporate body) and the FRAD entity family. The entity person is retained using a rewording of the FRBR definition (not the FRAD definition). The new entity collective agent encompasses the family and corporate body entities from FRAD (and FRBR). These former entities are deprecated, but may be viewed as “types” or categories of collective agent. The FRBR group 3 entities (concept, object, event, place) are deprecated. The term place is reused for a new general place entity, and a new time-span entity is defined.

The FRAD entity name and the FRSAD entity nomen are merged into a single entity under the term nomen with a generalized definition. The distinction between a res and its nomen is implemented to its full potential. The FRAD entities identifier and controlled access point are deprecated, but may be viewed as “types” or categories of nomen.

The final two FRAD entities, agency and rules, served in the modelling of library-internal processes for the assignment of controlled access points and are deemed outside of the functional scope of the IFLA LRM model.
3. Attributes

IFLA LRM includes 37 attributes, relating to 10 entities (the entity collective agent has no attributes). Properties are declared as attributes only when the target of the property is not an instance of any of the entities in the model. Thus all attributes (generally named place of or date of) that could be recast as relationships involving the IFLA LRM entities place and time-span are replaced by the mechanism of creating refinements of the generic relationships (LRM-R33 and LRM-R35) to these entities. Similarly, the appellation relationship is preferred in all cases which involve linking a specific subclass of the entity nomen to any other entity. The result is that FRBR attributes such as title of work, manifestation identifier, name of person, term for the concept, and FRAD attributes such as name of agency, agency identifier are all modelled as instances of the appellation relationship (LRM-R13). IFLA LRM models the subject of works as a relationship (LRM-R12), replacing the FRAD work attribute subject of the work and the FRBR work attribute coordinates (cartographic work). Additionally, the FRAD affiliation of a person attribute implies membership and so is modelled using the membership relationship (LRM-R30).

Two attributes are declared for the IFLA LRM entity res: category (LRM-E1-A1) and note (LRM-E1-A2) which generalize the FRSAD attributes type of thema and scope note defined for the entity thema. As res is a superclass of all other entities in IFLA LRM, most type of and note-like attributes for other entities are merged into these general attributes.

FRBR attributes for group 1 entities (work, expression, manifestation, item) are considerably reduced in IFLA LRM (to 18 attributes) through the application of the mechanism of preferring relationships, and through generalization to the attributes of the res entity. Additionally, only the most essential, commonly-found attributes are explicitly declared in IFLA LRM. A number of highly-specialized or class-of-material-specific attributes, particularly for expression and manifestation, are omitted; their definition is relegated to those implementations that find these attributes relevant. The attribute category (LRM-E2-A1), defined in IFLA LRM for the entity work, subsumes a number of FRBR work attributes whose essence is to provide sub-typing mechanisms for works (such as form of work, intended termination). Similarly, the category attribute is defined for the entity expression (LRM-E3-A1), subsuming such FRBR expression attributes as form of expression, extensibility, and revisability. The FRBR expression attribute extent is retained (LRM-E3-A2), as is use restrictions (renamed use rights, LRM-E3-A4).

IFLA LRM adopts a new mechanism involving the new work attribute representative expression attribute (LRM-E2-A2). Selected expression attributes (for example, intended audience, cartographic scale, language, key, medium of performance, LRM-E3-A3 and LRM-E3-A5 through LRM-E3-A8) may be deemed significant for the identification of works. Representative values of these attributes function as though they are imputed to the work itself. In FRBR these attributes were declared for either works or expressions, and in some cases for both of these entities.

The essence of a great many of the FRBR attributes for the manifestation entity is that they consist of statements transcribed from a representative exemplar of a self-describing manifestation. In IFLA LRM a single manifestation statement attribute (LRM-E4-A4) is declared which subsumes all these attributes, which would most likely be implemented as sub-types of this attribute. Other attributes serve to categorize manifestations in different ways; in IFLA LRM the category of carrier attribute (LRM-E4-A1) incorporates FRBR manifestation attributes such as form of carrier, physical medium, and
The extent attribute (LRM-E4-A2) is retained and merged with dimensions. Several FRBR attributes are merged into the access conditions (LRM-E4-A5) attribute, while access restrictions is renamed use rights (LRM-E4-A6). Intended audience, defined only for works in FRBR, is also defined (LRM-E4-A3) for the entity manifestation.

The item attribute location (LRM-E5-A1) is retained, as is access restrictions which is renamed use rights (LRM-E5-A2). Provenance and ownership attributes are modelled through the ownership relationship to agents (LRM-R10). Certain FRBR and FRAD item attributes (exhibition history, treatment history, scheduled treatment) concern library administrative metadata and are deemed out of scope for IFLA LRM.

Due to the superclass/subclass structure of the entities in IFLA LRM, an attribute defined for a superclass entity (such as agent) can automatically be applied to the subclass entities (in this case person, collective agent) without requiring separate declaration in the model. This permits the merger of the FRAD attributes contact information, language, field of activity for person, family, and corporate body into attributes defined for the entity agent (LRM-E6-A1 through LRM-E6-A3). However, the attribute profession / occupation (LRM-E7-A1) remains defined for the entity person as it cannot logically apply to collective agents. The FRAD attribute gender, although correctly placed with the entity person, is not defined in IFLA LRM as it is not seen as an essential attribute for most implementations.

The FRSAD attributes for the entity nomen are merged, when possible, with the FRAD attributes for the entities name, identifier, and controlled access point, resulting in nine IFLA LRM attributes for the entity nomen (LRM-E9-A1 through LRM-E9-A9).

Finally, new attributes are defined for the IFLA LRM entities place (LRM-E10-A1 and LRM-E10-A2) and time-span (LRM-E11-A1 and LRM-E11-A2).

4. Relationships

IFLA LRM declares 36 relationships (which explicitly have both relationship names and inverse names, when relevant). Unlike the previous “flat” relationship structure, IFLA LRM defines a new “top” relationship, res is associated with res (LRM-R1); all other relationships are refinements of this relationship. Relationships are streamlined by declaring the domains and ranges at the highest superclass possible, rather than repeating the same relationships for multiple entities. This applies particularly to relationships involving the FRBR group 2 entities, which in IFLA LRM are subclasses of the new entity agent.

The basic FRBR relationship structure is retained, including the three group 1 primary relationships (LRM-R2 to LRM-R4), the group 2 agent relationships (LRM-R5 through LRM-R11), and the work has-subject relationship (LRM-R12). However, the subject relationship is declared by using the entity res, and the group 2 responsibility relationships are declared using the entity agent. IFLA LRM provides new relationships for responsibility for the creation (LRM-R7) and distribution (LRM-R9) of manifestations, and the modification (LRM-R11) of items, which can be used to account for item reconfiguration as well as other modifications.

The FRAD and FRSAD appellation relationship is retained using entities res and nomen (LRM-R13),
while the *nomen* assignment relationship (LRM-R14) generalizes several FRAD relationships concerning the creating or assignment of FRAD entities *controlled access point and identifier*. The FRAD *is-basis-for* relationships are merged into a general *nomen* derivation relationship (LRM-R17).

The FRBR additional WEMI relationships are retained, although in most cases renamed, merged or generalized (LRM-R18 through LRM-R29). In FRBR certain relationships are declared multiple times (those appearing in tables 5.1 (Work-to-Work), and 5.4 (Expression-to-Expression, different Works), and 5.6 (Expression-to-Work)); in IFLA LRM their equivalents are declared only once (between *works*), as the link to specific *expressions* can be made with a path that also uses LRM-R2 (*expression realizes work*), and an implementation can declare a shortcut if desired. The reproduction relationship is declared between *manifestations* (LRM-R27), or between an *item* and a *manifestation* (LRM-R28) when the link to a specific *item* used as the source of a reproduction is desired. However, in IFLA LRM no reproduction relationship is declared between *items* as it is considered that the process of reproduction always creates a new *manifestation*, even when that *manifestation* consists only of a single *item*.

The modeling of aggregates as *manifestations embodying multiple distinct expressions* makes use of the existing *is-embodied-in* relationship (LRM-R3) between the *expressions* and the aggregate *manifestation*. To provide an explicit link with the *expressions* chosen by the aggregating *expression* to produce the aggregate *manifestation*, IFLA LRM defines a new relationship, *expression was aggregated by expression* (LRM-R25).

FRAD relationships between *persons* were analyzed into those relating to the *nomens* of *persons* (all these are refinements of the appellation relationship, LRM-R13) and those between *persons* in the IFLA LRM definition. FRAD relationships between *names* and between *controlled access points* are all modeled as refinements of the *nomen* equivalence relationship (LRM-R15) retained from FRSAD. The *nomen* whole-part relationship (LRM-R16) is also retained from FRSAD.

IFLA LRM declares three relationships among the entities *agent* and its subclasses *person* and *collective agent*. The membership relationship (LRM-R30) links an *agent* to a *collective agent*, and includes the membership of a *person* in a family (a type of *collective agent*) or corporate body (another type of *collective agent*) as declared in FRAD. Whole-part (LRM-R31) and predecessor/successor (LRM-R32) relationships are declared between *collective agents*, covering the FRAD corporate body hierarchical and sequential relationships and the *family* genealogical relationships. FRAD additionally defined founding and ownership relationships specifically between the entities *family* and *corporate body*; neither of these are declared in IFLA LRM.

Finally, new relationships are declared involving the new entities *place* and *time-span*: whole-part relationships (LRM-R34 and LRM-R36), and the general association to *res* relationships (LRM-R33 and LRM-R35) which are designed to be refined for specific types of associations and subsume many former *date of* and *place of* attributes.