

Appendix D: Notation for Conceptual Data Reference Model

(Extracted from the *Functional Requirements For the Schedule Data Profile* (28 June 2006))

Symbols and Abbreviations

This section describes the symbols and abbreviations used in the CDRM.

An entity-relationship diagram is used to describe the relationship among entities. The entity-relationship notation connects entities with links representing various relationships between them. The relationships below are illustrated in Figure D-1.

Relationships/Links: The crow's feet on the links symbolize "many" while the one or two bars signify "one." The open circle indicates there is a "zero-to-one" or "zero-to-many" relationship between the entities or tables. The relationship between two entities is typically described on the link, for example, Figure D-2 shows the relationship between an Agency and Organizational Unit as "an Agency *has* an Organizational Unit", as well as the relationship between an Organizational Unit and an Agency -- "an Organizational Unit *is part of* an Agency."

Entities/Tables: The tables are entities. The "pi" in the table indicates that the attribute is a primary key or primary identifier which is used to uniquely identify the entity. Mandatory attributes are indicated with an "M". Mandatory attributes must be included in the entity, while optional attributes are not required. In Figure 2, agencyID is a primary identifier (signified by the "<pi>" and underline) and agencyAcronym is a mandatory ("<M>") attribute of Agency; all other attributes in the Agency entity are optional.

Entity/relationship notation connects entities with links representing one of four relationships between them. These relationships have properties that apply to both entities involved in the relationship

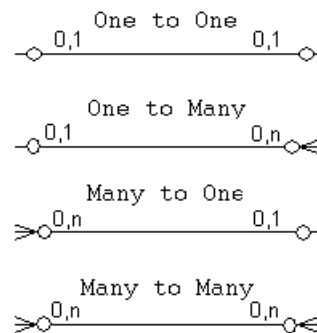


Figure D-1: Entity-Relationship Notation
[from PowerDesigner 12 CDM Users Guide, Notation]

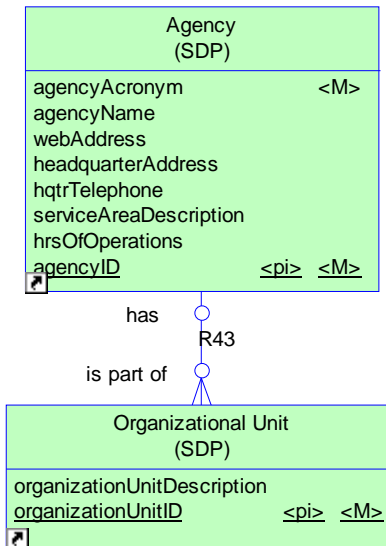


Figure D-2: Example of Entity and Relationship Diagram

Note: A conceptual data model does not explicitly identify the foreign key (or directly related primary keys). For example, in Figure 7, Organizational Unit is one of many units of a specific agency. In a physical data model, the Organizational Unit table will contain a mandatory field called “agencyID” which is a *foreign key*.

Element Naming Conventions

This section describes the naming conventions used for the CDRM data elements, concepts and entities.

An element naming convention helps a reader recognize the type of element referenced. In an entity-relationship conceptual model, there are four types of elements, three are defined in Table D-1 and described throughout this document (attribute, entity and relationship), and in addition, there is a *Domain* or reference data type name. These elements will use the following notation for their names:

Table D-1: Naming Conventions for CDRM

Attribute names	Attribute names are strung together using camel case, although they begin with a lower case letter. [attributeName]
Entity names	Entity names are camel case, strung together using underscores [Entity_Name]
Domain names	Domain names use all capital letters. (Note: in the implementation, a domain is substituted with a referenced data type). [DOMAIN]
Relationship names	No notation