[CCB-256] Need method for providing permissible value definitions for external namespaces in Ingest_LDD. Created: 17/Apr/19 Updated: 21/Aug/19

Status:	Open
Project:	PDS4 Standards Change Control Board
Component/s:	Concepts Document, Information Model, PDS Tools, schematron rules
Affects Version/s:	1.D.0.0
Fix Version/s:	None

Type:	Enhancement / Improvement	**Priority:**	Urgent
Reporter:	Anne Raugh	**Assignee:**	Emily Law
Resolution:	Unresolved		
Labels:	Queued_for_Implementation		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Attachments:	SPmockup.txt strawmen.txt
Problem Statement:	There is no way to provide permissible value definitions in Ingest_LDD when a local dictionary needs to define permissible values for attributes defined in external namespaces.
target date:	01/Sep/19
Proposed Solution:	After discussion in the DDWG, the preferred solution is "Method 1" as shown in the attached "strawmen.txt" file. Specifically, this involved defining a new class based on the existing <DD_Associate> class to be used for the specific case of associating a class from an external namespace as a component of a class in the new namespace. This class allows for defining standard values of any attribute within the external class by specifying the path from the external class to the attribute as the context, and then defining permissible values with their definitions in the same manner as for attributes defined in the local namespace. This would enable LDDTool to create the Schematron rules needed to enforce the permissible value list as well as documenting the definitions of those values. In addition, this class also formalizes the method for referencing classes in external namespaces, superseding the syntactical convention currently used. A mock-up showing the proposed solution structure in use is attached in the "SPmockup.txt" file.
Additional Information:	There is a larger problem of how a user would discover the meaning of any standard values from a local dictionary, but upgrades in documentation production for local dictionaries may address that automatically. How the permissible values for core attributes are documented should be discussed - should the HTML for the IM core, for example, also show the values defined in discipline name spaces?
Requested Changes:	Implement the structure illustrated in the SPmockup.txt attached file for the Ingest_LDD structure, and make any necessary changes to LDDTool to process the additional information.
Impact Statement:	Impact: -- Information Model -- The requested change has moderate impact on the IM. -- PDS Tools - The requested change has moderate impact on LDDTool. No Impact: -- Standards Reference -- Concepts Document -- APG -- DPH -- External Agencies -- ISO Standards -- PDS Website -- PAG
Technical Assessment:	The request is to define a new class in Ingest_LDD that references a class and attribute in an external namespace and subsequently allows the definition of permissible values with their definitions in the local namespace. This change provides a more consistent method to locally define permissible values for attributes defined an external namespaces. This change request is reasonable.
System Impact:	backwards compatible
DDWG Notes:	DDWG vote item: -- Item Passed: 8 Yes (atm, cis, en, geo, ipda, ppi, rms, sbn), 2 abstain (naif, rs)
CCB Processing Summary:	CCB e-Vote item: -- Item Passed: 7 Yes (ATM, GEO, CIS, IPDA, PPI, RMS, SBN);

Description

When a permissible value list is defined for an attribute in a namespace, definitions are required as part of the DD_Attribute class. But in cases in which a local dictionary needs to define permissible values for an attribute in another namespace. This occurs regularly, for example, when the pds:Local_Identifier_Reference class is used to associate discipline classes with a specific data object in the label, and a pds:local_identifier_reference type must be defined.

Unlike the case of defining an attribute with a permissible value list, when the values must be defined for an external namespace they must (currently) be defined via a Schematron rule. This method does not provide a means for providing a definition of the standard value.