

Global Digital Format Registry (GDRF) Data Model

v2, 2003/May/29

Notation

Within the data model element multiplicity is indicated with the following notation: a question mark (?) indicates a multiplicity of zero or one (0..1) and an asterisk (*) indicates a multiplicity of zero or more (0..*); both indicating *optional* elements. A plus sign (+) indicates a multiplicity of one or more (1..*) and the default multiplicity is one and only one (1..1); both indicating *mandatory* elements.

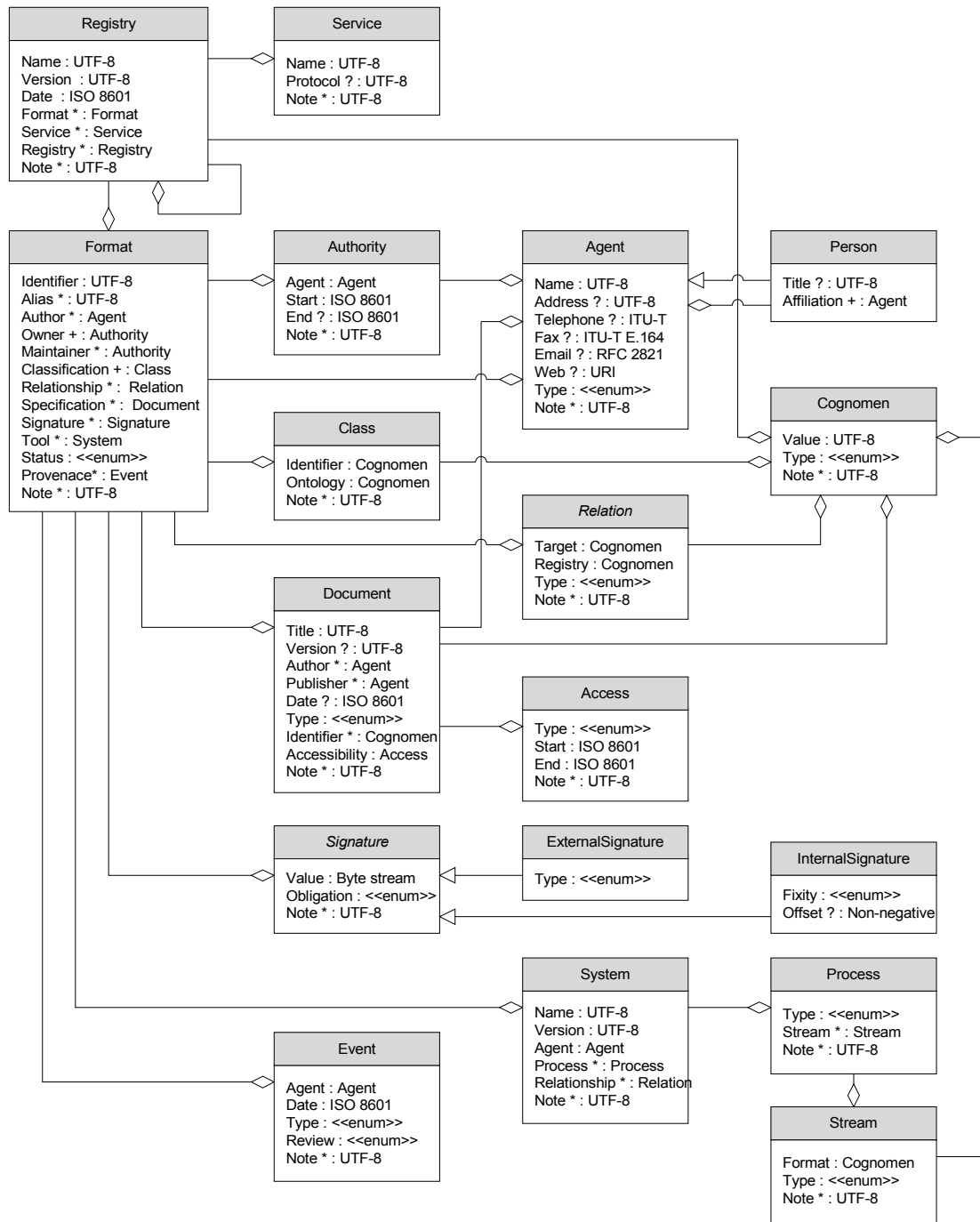
A connector with an open arrow head indicates inheritance (“IS-A”), pointing towards the super-type. A connector with an open diamond head indicates aggregation (“HAS-A”).

Primitive Data Types

The data model assumes the existence of the following primitive data types:

- Byte stream
- ISO 8601-formatted date
- ITU-T E.164-formatted telephone number
- Non-negative integer: 0, 1, 2, ...
- RFC 2396-formatted URI
- RFC 2821-formatted SMTP email address
- UTF-8 character stream

Model Diagram



Class Details

Access		
Type	enum	Access type: Public Public access On-site Accessible copy on file with registry for public on-site use License Publicly accessible by license Escrow In-accessible copy on file with registry None No public access Other Other access type described in Note field
Start ?	ISO 8601	Start date for access
End ?	ISO 8601	End date for access
Note *	UTF-8	Informative note

Agent		
Name	UTF-8	Personal or corporate name of agent
Address ?	UTF-8	Postal address
Telephone ?	ITU-T E.164	Telephone number
Fax ?	ITU-T E.164	Facsimile number
Email ?	RFC 2821	SMTP email address
Web ?	URI	Web site
Type	enum	Agent type: Commercial Commercial (for-profit) entity Government Governmental agency Non-profit Non-profit (not-for-profit) entity Standard Accredited standards body Other Other agent type described in Note field
Note *	UTF-8	Informative note

Authority		
Agent	Agent	Agent exercising authority
Start	ISO 8601	Start date for authority
End ?	ISO 8601	End date for authority
Note *	UTF-8	Informative note

Class		
Identifier	Cognomen	Class identifier drawn from an ontology
Ontology	Cognomen	Class ontology identifier
Note *	UTF-8	Informative note

Cognomen		
Value	UTF-8	Identifier value
Type	<i>enum</i>	Identifier type: ANSI ANSI standard Dewey Dewey call number DOI Digital Object Identifier Handle CNRI identifier GDFR Global digital format registry identifier ISBN International Standard Book Number ISO ISO standard LC Library of Congress call number LCCN Library of Congress catalog number MIME IANA MIME registry NISO NISO standard PII Publisher Item Identifier PURL Persistent URL RFC IETF Request for Comment SICI Serial Item and Contribution Identifier URI Uniform Resource Identifier Other Other identifier type described in Note field
Note *	UTF-8	Informative note

Document		
Title	UTF-8	Title of the documentary work
Version ?	UTF-8	
Author *	Agent	
Publisher *	Agent	
Date ?	ISO 8601	Publication date
Type	<i>enum</i>	Type of document: Authoritative Authoritative specification Informative Informative specification
Identifier *	Cognomen	Identifier of document
Accessibility	Access	Accessibility of document
Note *	UTF-8	Informative note

Event		
Agent	Agent	Agent effecting event
Date	ISO 8601	Date of event
Type	<i>enum</i>	Event type: Initial Initial registration Update Update to existing registration Obsolescence Declaration of obsolescence Delete Deletion from registry Other Other type described in Note field
Review	<i>enum</i>	Event technical review:
		Full Full technical review
		Partial Partial technical review, described in Note field
		None No technical review
Note *	UTF-8	Informative note

ExternalSignature IS-A Signature		
Type	<i>enum</i>	Signature type: Extension File extension Type MacOS data fork type Other Other type described in Note field

Format		
Identifier	UTF-8	Canonical format identifier
Alias *	UTF-8	Variant identifiers
Author *	Agent	Author
Owner +	Authority	Owner
Maintainer *	Authority	Maintenance agency
Classification +	Class	Ontological classification
Relationship *	FormatRelation	Typed relationship with another format, either registered internally or externally
Specification *	Document	Specification document
Signature *	Signature	Internal or external signature
Tool *	System	Process or service having format as input or output
Status	<i>enum</i>	Status: Active Withdrawn Withdrawn by owner Unknown Other Other status described in Note field
Provenance *	Event	Provenance event
Note *	UTF-8	Informative note

FormatRelation IS-A Relation		
Type	<i>enum</i>	Relationship type: Equivalent Target format is equivalent Encapsulation Target can be encapsulated Previous Target is previous version Subsequent Target is subsequent version Sub-type Target is sub-type Super-type Target is super-type

InternalSignature IS-A Signature		
Fixity	<i>enum</i>	Signature positional fixity: Fixed Signature at fixed position Float Signature at arbitrary position
Offset ?	Non-negative integer	Byte offset from the beginning of the content stream to the first byte of a fixed signature

Person IS-A Agent		
Title ?	UTF-8	Personal title
Affiliation +	Agent	Personal affiliation

Process			
Type	<i>enum</i>	Process type	
		Creation	Create new formatted stream
		Validation	Validate formatted stream
		Delivery	Deliver formatted stream
		Transform-from	Transform from
		Transform-to	
	Other	Other type described in Note field	
Stream *	Stream	Formatted input/output stream for process	
Note *	UTF-8	Informative note	

Registry		
Name	UTF-8	Registry name
Version	Agent	Version identifier for the registry code base and data model
Date	ISO 8601	Build date for the registry code base and data model
Format *	Format	Format registration entries
Service *	Service	Registry service
Registry *	Registry	External registry
Note *	UTF-8	Informative note

Relation		
Target	Cognomen	Target identifier
Registry	Cognomen	Target registry identifier
Type	<i>enum</i>	Relationship type: Dependency Target is a dependency Encapsulates Target can encapsulate Previous Target is previous version Subsequent Target is subsequent version Sub-type Target is a sub-type (child) Super-type Target is a super-type (parent) Other Other type described in Note field
Note *	UTF-8	Informative note

Service		
Name	UTF-8	Service name
Protocol ?	UTF-8	Service-specific protocol information
Note *	UTF-8	Informative note

Signature		
Value	Byte stream	Value of signature
Obligation	<i>enum</i>	Signature obligation: Mandatory Signature must be present Optional Signature may be present
Note *	UTF-8	Informative note

Stream		
Format	Cognomen	Stream format
Type	<i>enum</i>	Stream type: Input Input stream Output Output stream
Note *	UTF-8	Informative note

System		
Name	UTF-8	System name
Version	UTF-8	Version
Agent	Agent	Agent (vendor, author, etc.) of system
Process *	Process	System process
Relation *	SystemRelation ship	Typed relationship with another system, either registered locally or externally
Note *	UTF-8	Informative note

SystemRelation IS-A Relation		
------------------------------	--	--

Type	<i>enum</i>	Relationship type: OS Target is operating system
------	-------------	--

References

Berners-Lee, T., R. Fielding, and L. Masinter, *Uniform Resource Identifiers (URI): Generic Syntax*, RFC 2396, August 1998 <<http://www.ietf.org/rfc/rfc2396.txt>>.

ISO 8601:1997, *Data elements and interchange formats – Information interchange – Representation of dates and times*.

ITU-T E.164, *The international public telecommunication numbering plan*, May, 1997.

Klensson, J., *Simple Mail Transfer Protocol*, RFC 2281, April 2001 <<http://www.ietf.org/rfc/rfc2281.txt>>.

Unicode Consortium, *The Unicode Standard*, Version 3.0 (Reading: Addison-Wesley, 2000) <<http://www.unicode.org/>>.