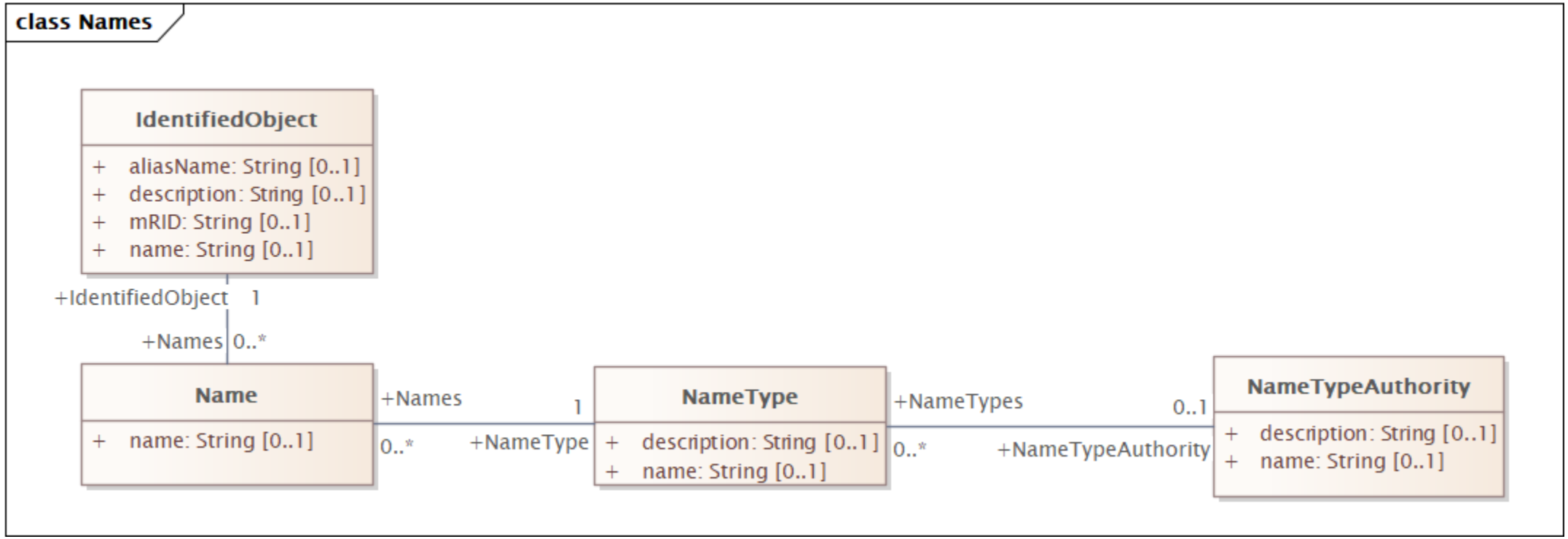
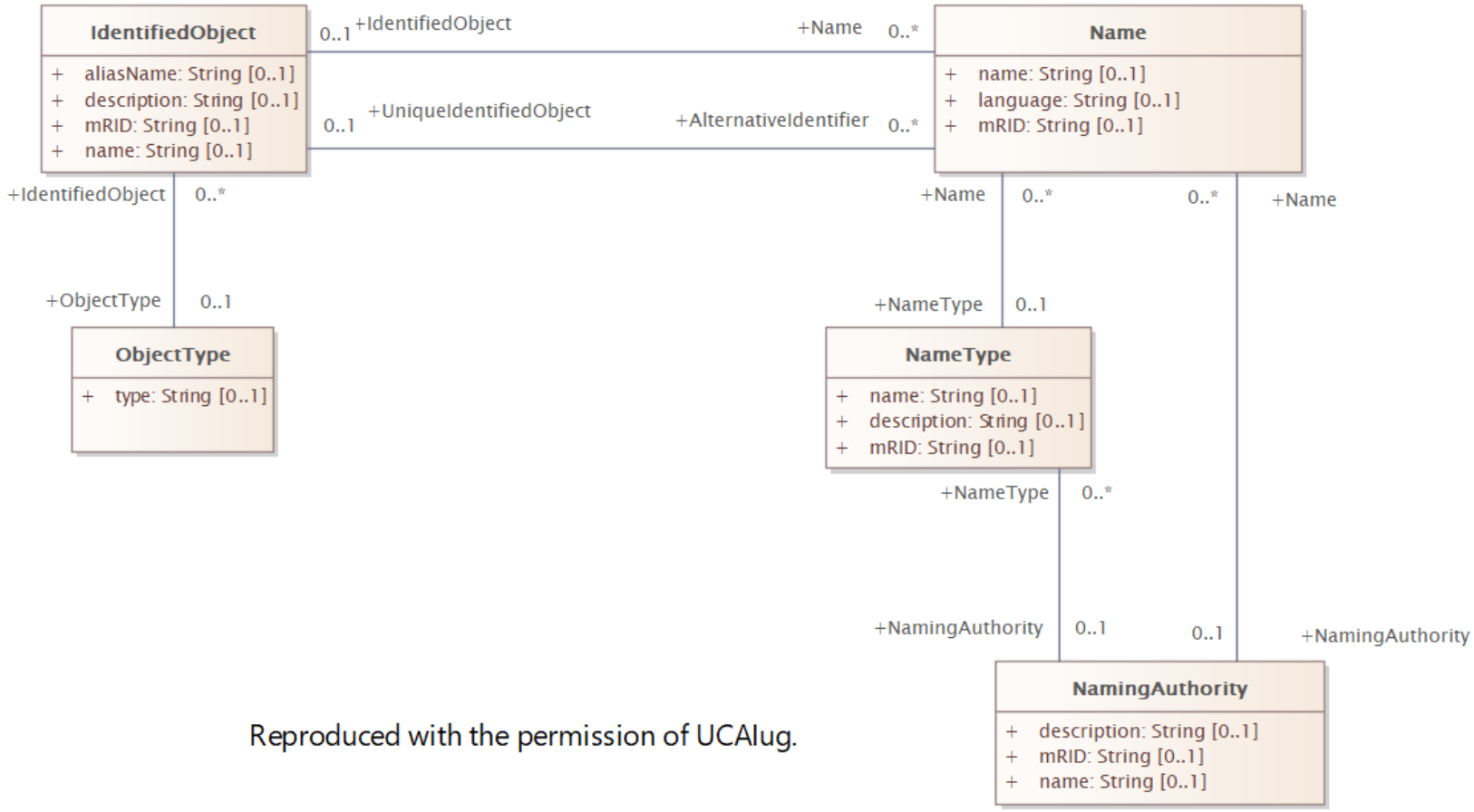
mRID

ENTSO-E Proposal

Current model – CIM17



Current model – CIM18



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mRID description– CIM18

- Master resource identifier issued by a model authority. The mRID is unique within an exchange context. Global uniqueness is easily achieved by using a UUID, as specified in IETF RFC 4122, for the mRID. The use of UUID is strongly recommended.
- For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

Problem statement

The current mRID in CIM does not work correctly.

- We have failed to define consistent rules for serialization and deserialization
- We have failed to define consistent rules for comparison
- We have failed to define consistent rules for content

As a result, the same object may have differently-appearing mRIDs in different serializations across multiple RDF files and multiple XSD messages. There is currently no reliable way to match an object in an XSD to the corresponding object in RDF. All currently-working implementations are relying on business process restrictions that are applied at either the installation level (across multiple profiles) or the profile level (restricted to a single data silo) or a the regional level (e.g. ENTSO-E).

The goals are to have object identifiers which can be

- Serialized/deserialized in RDF
- Serialized/deserialized in JSON
- Serialized/deserialized in XSD
- Persistent and referenceable across messages

Different alternatives

	Options:
1	Exisiting state of affairs without business rules
2	Exisiting state of affairs with **local** business rules for UUID
3	Pattern matching **standard** that governs all WG/serializations/profiles
4	change MRID to IRI data type with local business rules/profile rules
5	change MRID to UUID data type
6	Add superclass with new UUID typed "globalID" UML attribute
7	Add new UUID "globalID" UML typed attribute to IdentifiedObject
8	XML attribute "adornments" (outside of UML) to define coding scheme
9	Turn mrid into a compound class
10	Add "mridCodingScheme" attribute to IdentifiedObject (enumerated or
	Majority of attendees at end of meeting are leaning towards 6 or 7

ENTSO-E Proposal

1. Update the description on the mRID – this should be done regardless for which option are chosen
2. Add mRID to the missing classes as done in CIM18 for Name

- Alternative (not prefered) is to add a new class BaseObject and move the mRID from IdentifiedObject.mRID to BaseObject.mRID

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- ~~For CIMXML data files in RDF syntax conforming to IEC 61970-552, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.~~

The identifier as a non-case sensitive string which conforms to W3C (ISO 8859-1:1998, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*, http://www.w3.org/MarkUp/html3/specialchars.html). This is required so that the identifier can be part of a W3C Internationalized Resource Identifiers (IRIs).

Example of mRID valid as UUID

- a87ba8fc-069d-4c9a-92e9-97b61a267b3e (prefered)
- A87BA8FC-069D-4C9A-92E9-97B61A267B3E

Example of mRID not valid as UUID

- _a87ba8fc-069d-4c9a-92e9-97b61a267b3e
- a87ba8fc069d4c9a92e997b61a267b3e

Example of valid mRID that is not UUID

- _a87ba8fc-069d-4c9a-92e9-97b61a267b3e
- A87ba8fc069d4c9a92e997b61a267b3e
- 11XNORDHORNVBV8T
- This_is_my_identifier

Example of not valid mRID

- urn:uuid:a87ba8fc-069d-4c9a-92e9-97b61a267b3e
- urn:eic:11XNORDHORNVBV8T
- This is my identifier

Valid IRI

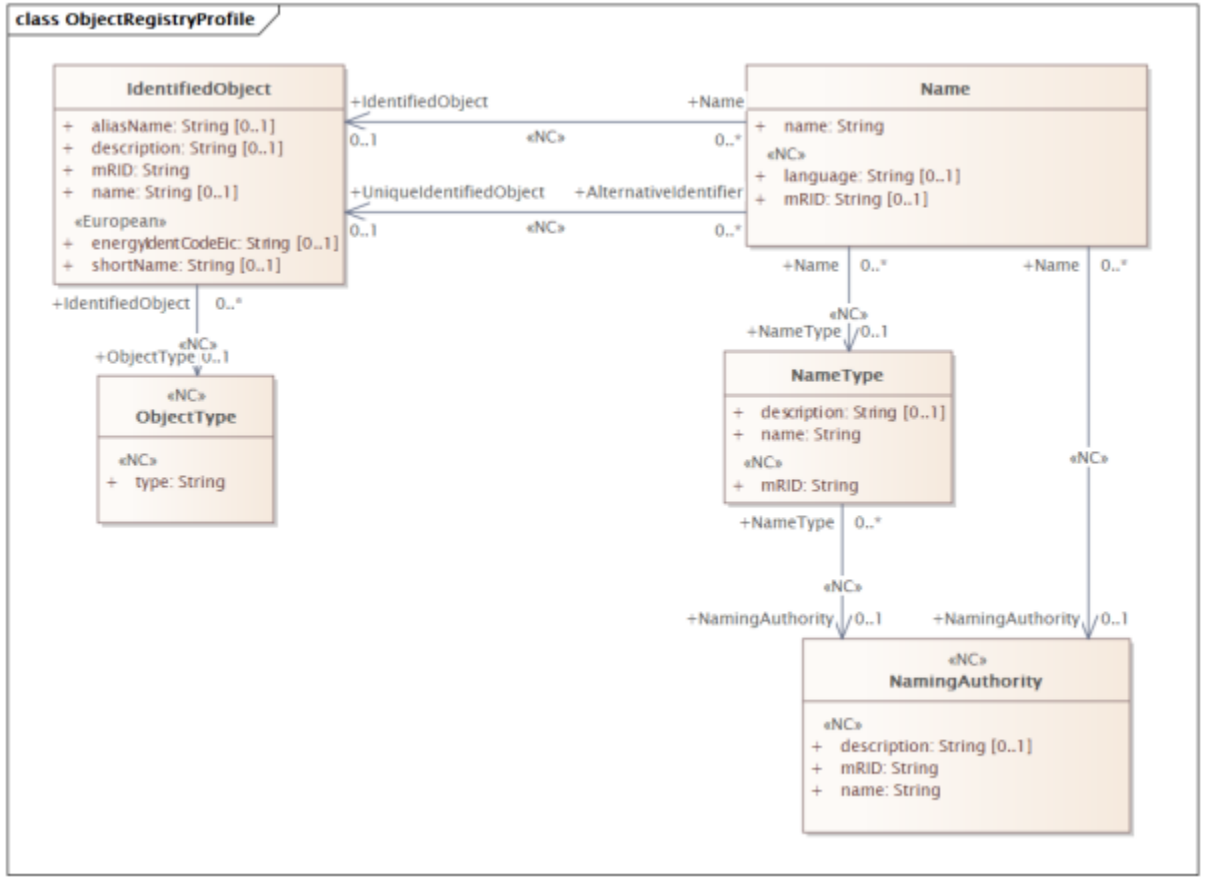
- urn:uuid:a87ba8fc-069d-4c9a-92e9-97b61a267b3e
- urn:eic:11XNORDHORNVBV8T
- http://entsoe.eu/urn:eic:11XNORDHORNVBV8T
- http://entsoe.eu/11XNORDHORNVBV8T
- http://entsoe.eu/urn:uuid:a87ba8fc-069d-4c9a-92e9-97b61a267b3e
- http://entsoe.eu/a87ba8fc-069d-4c9a-92e9-97b61a267b3e

- RFC 3987 - Internationalized Resource Identifiers (IRIs) (ietf.org)

ENTSO-E Business processs

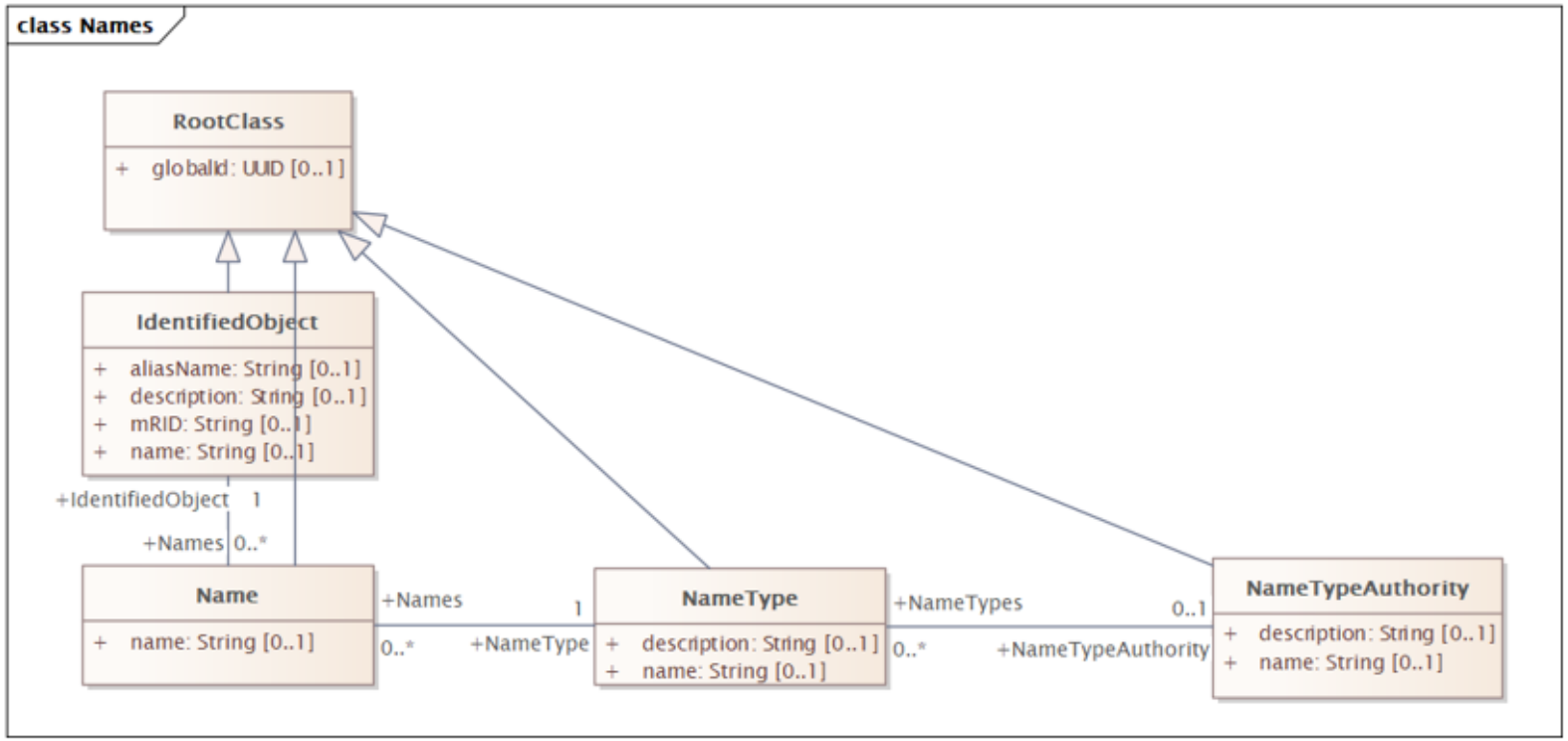
- Even if ENTSO-E is trying to harmonize the use of mRID as UUID and persisten in any given process and across processes, there will take time before this is in place.
- There is therefor a need to have a ObjectRegistryProfile based on the same model that is used by 61968-100 that can map the different identifiers.

NC v2.1 have created Object Registry



Proposal 6

6 Add a new superclass to add a new “globalID” UML attribute having the UUID data type



Issue with proposal 6

- It is inconsistent with what is part of CIM18 and has been published with 61968-100.
- An addition identifier need to be managed by all system. If the mRID is already a UUID, there can then be two identical identifiers for all IdentifiedObject.
- To make any change and use, all 62325-451 profiles would need to be updated with an additional identifier
- This does not solve the problem of the use of different mRID in difference processes.

5.1.3.44 IfcRoot

AbRV ⓘ RV ⓘ

ABSTRACT This definition may not be instantiated

5.1.3.44.1 Semantic definition

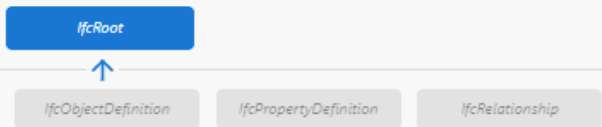
IfcRoot is the most abstract and root class for all entity definitions that roots in the kernel or in subsequent layers of the IFC specification. It is therefore the common supertype of all IFC entities, beside those defined in an IFC resource schema. All entities that are subtypes of *IfcRoot* can be used independently, whereas resource schema entities, that are not subtypes of *IfcRoot*, are not supposed to be independent entities.

NOTE View definitions and implementation agreement may impose additional restrictions on the use of the *OwnerHistory* to handle object versioning.

HISTORY New entity in IFC1.0

IFC4-CHANGE The attribute *OwnerHistory* has been made OPTIONAL.

5.1.3.44.2 Entity inheritance



5.1.3.44.3 Attributes

#	Attribute	Type	Description
IfcRoot (4)			
1	GlobalId	IfcGloballyUniqueId	Assignment of a globally unique identifier within the entire software world.
2	OwnerHistory	OPTIONAL IfcOwnerHistory	Assignment of the information about the current ownership of that object, including owning actor, application, local identification and information captured about the recent changes of the object, NOTE only the last modification in stored - either as addition, deletion or modification. IFC4-CHANGE The attribute has been changed to be OPTIONAL.
3	Name	OPTIONAL IfcLabel	Optional name for use by the participating software systems or users. For some subtypes of IfcRoot the insertion of the Name attribute may be required. This would be enforced by a where rule.
4	Description	OPTIONAL IfcText	Optional description, provided for exchanging informative comments.

Table 5.1.3.44.A