

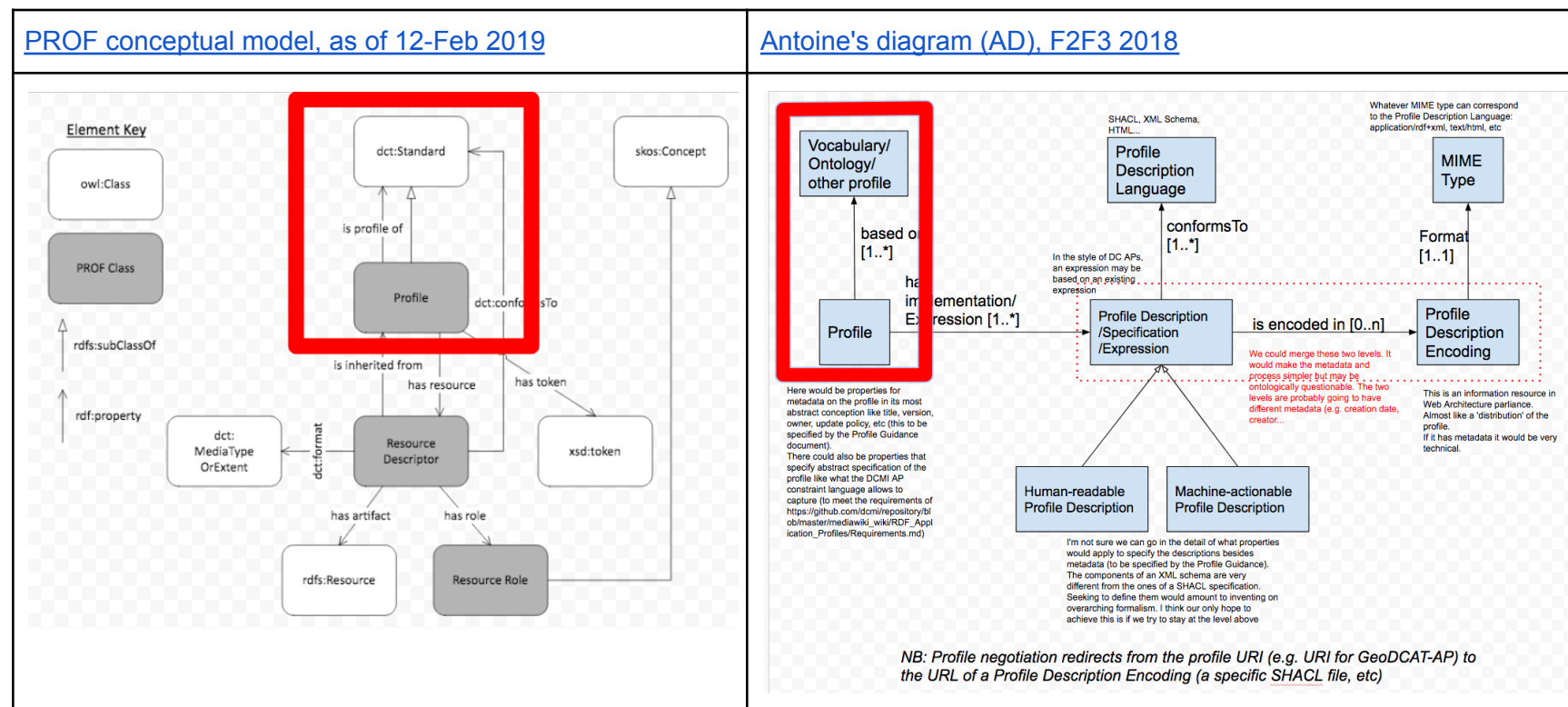
An attempt to align conceptual diagrams for the Profile Ontology

Antoine Isaac, 12 Feb 2019

This is in the context of <https://www.w3.org/2017/dxwg/track/actions/244>

To make it easier to compare/align approaches, I've repeated the diagram and tried to split the model in different (aligned!) parts: (i) the core notion of Profile; (2) resources that express a profile in "usable" terms (descriptions, specifications)

1. Representation of the core Profile notion

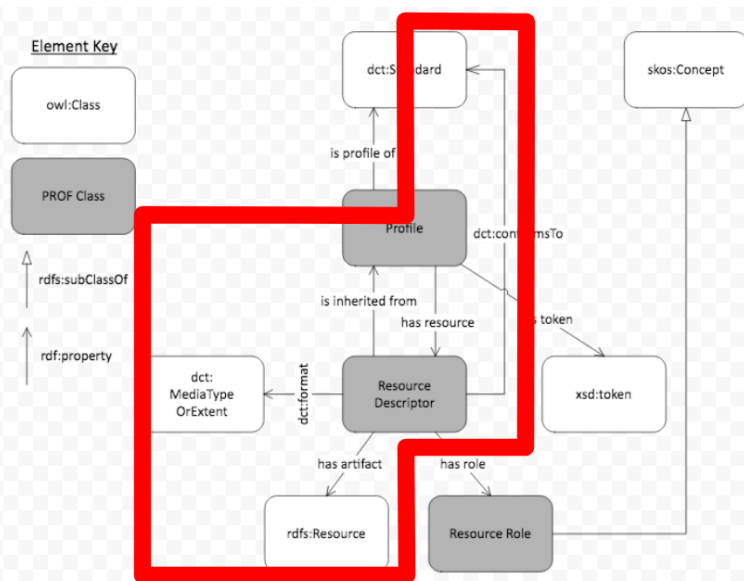


Element in PROF	Corresponding element in AD	General observation on (mis)alignment	Comments/suggestions
prof:Profile	Profile	This is the profile as a nearly conceptual	

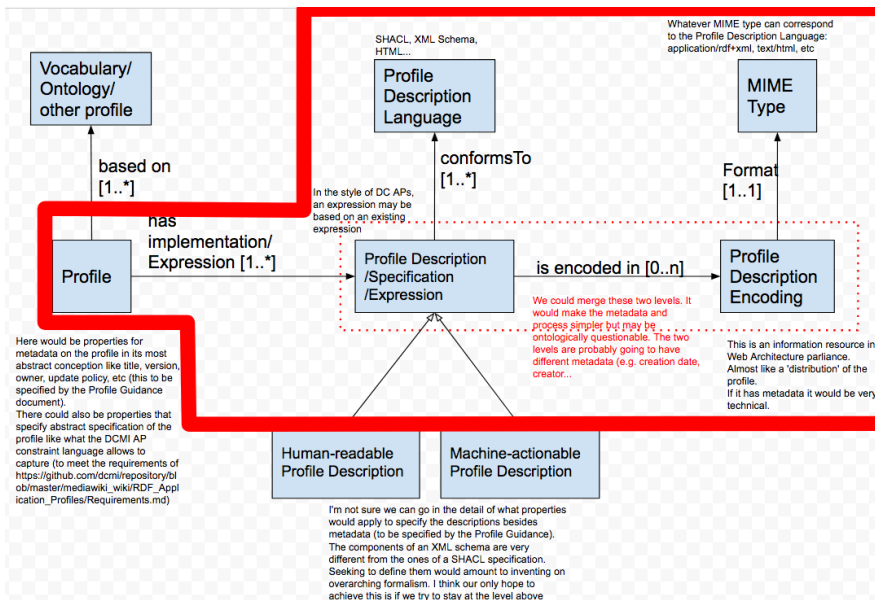
		resource, a "hub". PROF and AD are aligned.	
dct:Standard (of which a prof:Profile is a profile)	Vocabulary/ Ontology/ Other profile	This is the "base specification" for a profile. PROF and AD are aligned conceptually but not on the terminological level.	AD could be updated to reflect that its element is a standard in the DC sense. Indeed, I'm hesitant to recommend using something else than dct:Standard for now. PROF has tried to mint a prof:BaseSpecification class, but it proved to be clearly suboptimal
prof:isProfileOf		This is the link between a profile and (one of) its "base specification(s)" mentioned in our official definition. PROF and AD are aligned conceptually but not on the terminological level. NB: the definition of prof:isProfileOf ("The subject of 'is profile of' defines constraints on the object which plays the role of a base specification") is rather vague about which "constraints" there can be. For now I'm interpreting it as being void of meaning - or more precisely, it is up to the creators of profiles to judge what these constraints could be. #507 seeks to make things more precise but in any case I believe that the vision behind AD is flexible to accomodate any outcome of this for PROF.	The discussion on BaseSpecification ended up in the removal of the class in PROF. But the question remains, whether we want to reflect this "base" wording of our profile definition. I.e. whether we should have something like prof:isBasedOn. isProfileOf is not appealing, as it's quite tautological, but it nicely avoids unnecessary interpretations. isBasedOn would be quite neutral too. But maybe too much as it lacks power to discriminate from other possible 'is based on' relationships, if we wish to discriminate some day. So I'd tend to keep isProfileOf for now. NB: this discussion is different from #507 #485 as it seems we can go for either (neutral) wording independently on the decision on semantics

2. Profile "resource descriptors"/descriptions/specifications/expressions and their encodings/artifacts

PROF conceptual model, as of 12-Feb 2019



Antoine's diagram (AD), F2F3 2018



NB: Profile negotiation redirects from the profile URI (e.g. URI for GeoDCAT-AP) to the URL of a Profile Description Encoding (a specific SHACL file, etc)

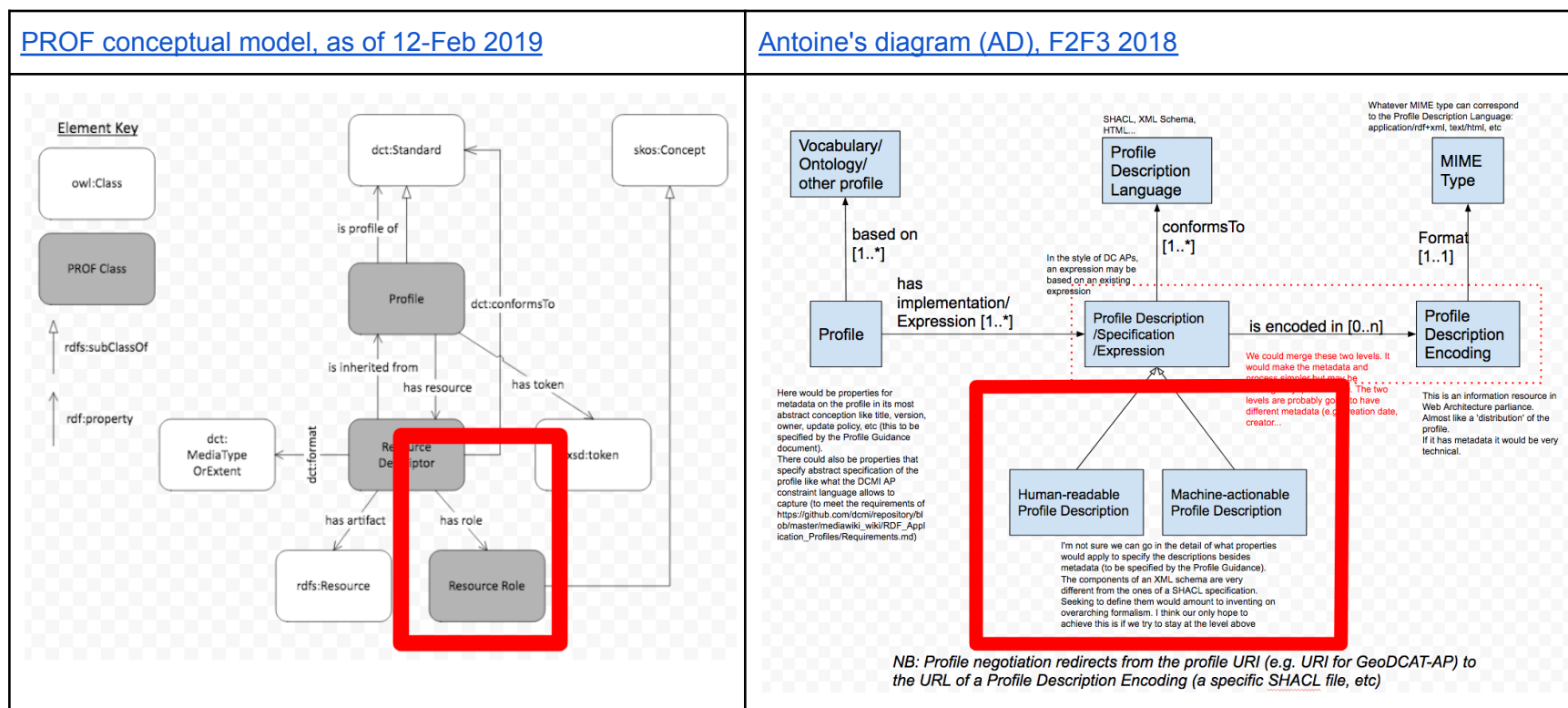
<i>Element in PROF</i>	<i>Corresponding element in AD</i>	<i>General observation on (mis)alignment</i>	<i>Comment/suggestion</i>
ResourceDescriptor or + hasResource	Profile Description/ Specification/ Expression	PROF and AD seem rather well aligned. The PROF example, where a ResourceDescriptor can be a SHACL expression of a profile, or a PDF document serving as guidance a profile, corresponds to the sort of Machine-Readable descriptions and and human-readable descriptions that AD wanted to express.	The name of prof:ResourceDescriptor has been criticized for its vagueness. AD's choice is less vague. This said I think that among the AD options, the word "description" is not fit, as it messes up with the core mission of PROF, which is to describe profiles (including the

		There is a lot of work needed to agree on terminology, though, as per #573. I've tried to gather arguments about this on the right column here. One thing is sure: the current definition of prof:ResourceDescriptor ("A resource that defines an aspect - a particular part or feature - of a Profile") is vague and doesn't help making a choice. Making a decision may rather benefit from a resolution on how prof:ResourceDescriptor (and PROF artifacts) and their AD counterparts align with DCAT's dcat:Distribution. This is discussed in #529 and #573 (NB: doing such alignment 'for real' causes some debate, see e.g. Karen's point or Nick's arguing about descriptors not being necessarily about the whole of a profile. So it may be better to just use DCAT constructs as a mere analogy). Makx suggested <i>`prof:Profile` is on the same level as `dcat:Dataset` and `prof:ResourceDescriptor` is on the level of `dcat:Distribution`, with `prof:hasArtifact` being the equivalent of `dcat:downloadURL`</i>. Andrea agreed. I am not sure that this is correct. ResourceDescriptor may be more conceptual, while DCAT distributions are format-specific.	'descriptions', thus PROF would produce metadescriptions). Even though some of these resources (e.g. documentation) do "describe", I believe "specification" or "expression" are less confusing. Stephen Richard suggested supportingResource (for prof:hasResource but it can be adapted to prof:ResourceDescriptor of course). I think this is already better than the current name. Nick suggested ProfilingResource, which I'm not fond of. "Implementation" is an alternative that is tempting but is in fact confusing too, as in AD "encodings" (see later) can be thought of forms of implementations. Makx and Andrea agreed to using prof:ProfileDistribution but may not be possible depending on how PROF aligns with DCAT (see left column) Our UCR mentions "distributions of representations/expressions", which sorts of confirms "expression" (and suggests "representation") for the level of prof:ResourceDescriptor. Tom Baker & ShEx friends suggested "hasExpression" or "documentedIn", which would align with AD's use of "expression".
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		This also matches Stephen Richard's view, where distributions would rather be the "encodings" of "expressions" in AD. Maybe PROF considers that the format is intrinsic to the ResourceDescriptor, but I think this which I find to create an issue (see below on dct:format). Stephane Fella said that Profile Description Encoding should be a dcat:Distribution (and that it would be useful to use it with adms:representationTechnique) Finally, our UCR uses "distribution" to refer to the level of (what seems to be) PROF's artifacts.	Makx (comment in #572) suggestion for the definition would be: "a specification of the profile with a certain role in a certain format" or more generic (if the ResourceDescriptor is more loosely associated to the profile) "an object associated with the profile with a certain role and in a certain format". Maybe 'data object' and 'profile object' would work better? I (and others in #573) think ProfileObject could be ok, but "specification of a profile with a certain role" sounds much more appealing (and precise) to me. In the end I prefer ProfileSpecification and (even more) ProfileExpression.
conformsTo + Standard (that a ResourceDescriptor or conformsTo)	conformsTo + ProfileDescriptionLanguage	The question is whether a prof:ResourceDescriptor is expected to conforms to the "Profile Description Languages' kind of Standards (AD's Profile Description Languages are standards of course) I am optimistic that there is alignment, though: for example for a SHACL expression of a profile, both PROF and AD seem to admit <http://www.w3.org/ns/shacl#> as value of conformsTo.	The dct:conformsTo arrow between prof:ResourceDescriptor and dct:Standard is confusing as one may understand that the ResourceDescriptor conformsTo the standard that is profiled!
dct:format (on ResourceDescriptor or)	Format (on ProfileDescriptionEncoding)	Both represents a Media Type, but they're predicated at different levels of PROF and AD (ResourceDescriptor and ProfileDescriptionEncoding respectively).	Karen and Nick have explored using dct:hasFormat between instances of prof:ResourceDescriptor (or the renaming prof:Object) in different formats. If AD's

		I don't think that using <code>dct:format</code> on <code>prof:ResourceDescriptor</code> is . For example a SHACL expression of profile can have as formats both (RDF)XML, Turtle, etc. Therefore, attaching <code><https://w3id.org/mediatype/text/turtle></code> as <code>dct:format</code> of the <code>prof:ResourceDescriptor</code> in Example 1 seems a conceptual mismatch. Such statement seems to better fit the level of the "ex1:constraints.ttl" artifact	approach prevails, then this won't be really possible, as <code>dct:hasformat</code> is to be used between resources "at the same level" not between an expression and a more concrete implementation/encoding of it. But this is a minor concern, as using <code>dct:hasFormat</code> is probably not a key requirement.
prof:hasArtifact	Is encoded en	These two relationships seem conceptually aligned. Terminology should be aligned, but this depends on discussion about the terms chosen for the classes these properties will relate.	The usage note for <code>prof:hasArtifact</code> is quite confusing: "A property to link from a Resource Descriptor to an actual resource (<code>rdfs:Resource</code>; an individual) that implements it". In RDF, any resource at instance level (i.e. not at ontology level) is an <code>rdfs:Resource</code> and an individual, so the second part of the sentence doesn't say much.
Artifact	ProfileDescriptionEncoding	As said above for AD, "description" doesn't sound good in retrospect; "specification" is certainly better. Besides this, PROF and AD seem aligned here: they both target an information resource that practically "implements" (and is available at a given URL) the profile specifications. The one possible misalignment is on the alignment with DCAT's distribution (see above) and the position of <code>dct:format</code> (see above). But in any case either PROF and AS can be easily fixed to solve this.	Are these 'distributions'? For AD, yes. For others, not. See discussions above and at #529.

3. Roles for profiles "resource descriptors" / expressions



Element in PROF	Corresponding element in AD	General observation on (mis)alignment	Comment/suggestion
hasRole + ResourceRole	Subtypes of the class above, e.g. "Human-Readable Profile Description" or "Machine-Readable Profile Description"	The two approaches to describing the functionality served by a profile expression/ResourceDescription are very different. But I believe that PROF's role pattern is a much better approach than the subtyping pattern of AD.	The name of prof:ResourceRole may need to be changed depending on the discussion on the naming of prof:ResourceDescriptor (see above)

NB: this document does not address the case of `prof:isInheritedFrom`, `prof:hasToken`. They're not in AD, and I believe they're less crucial for an alignment.