

Mapping of the Music Ontology to the Media Value Chain Ontology and the PROV Ontology

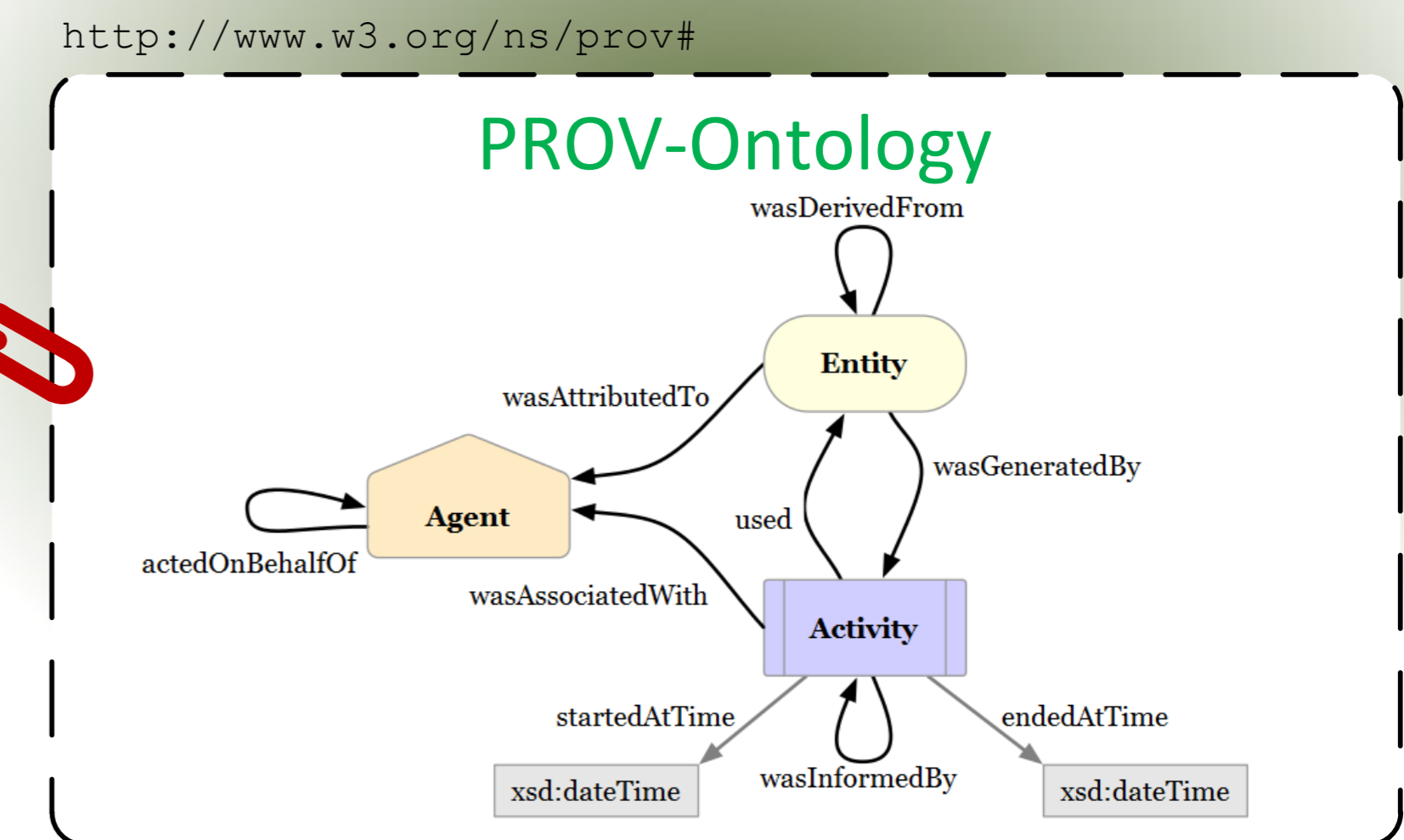
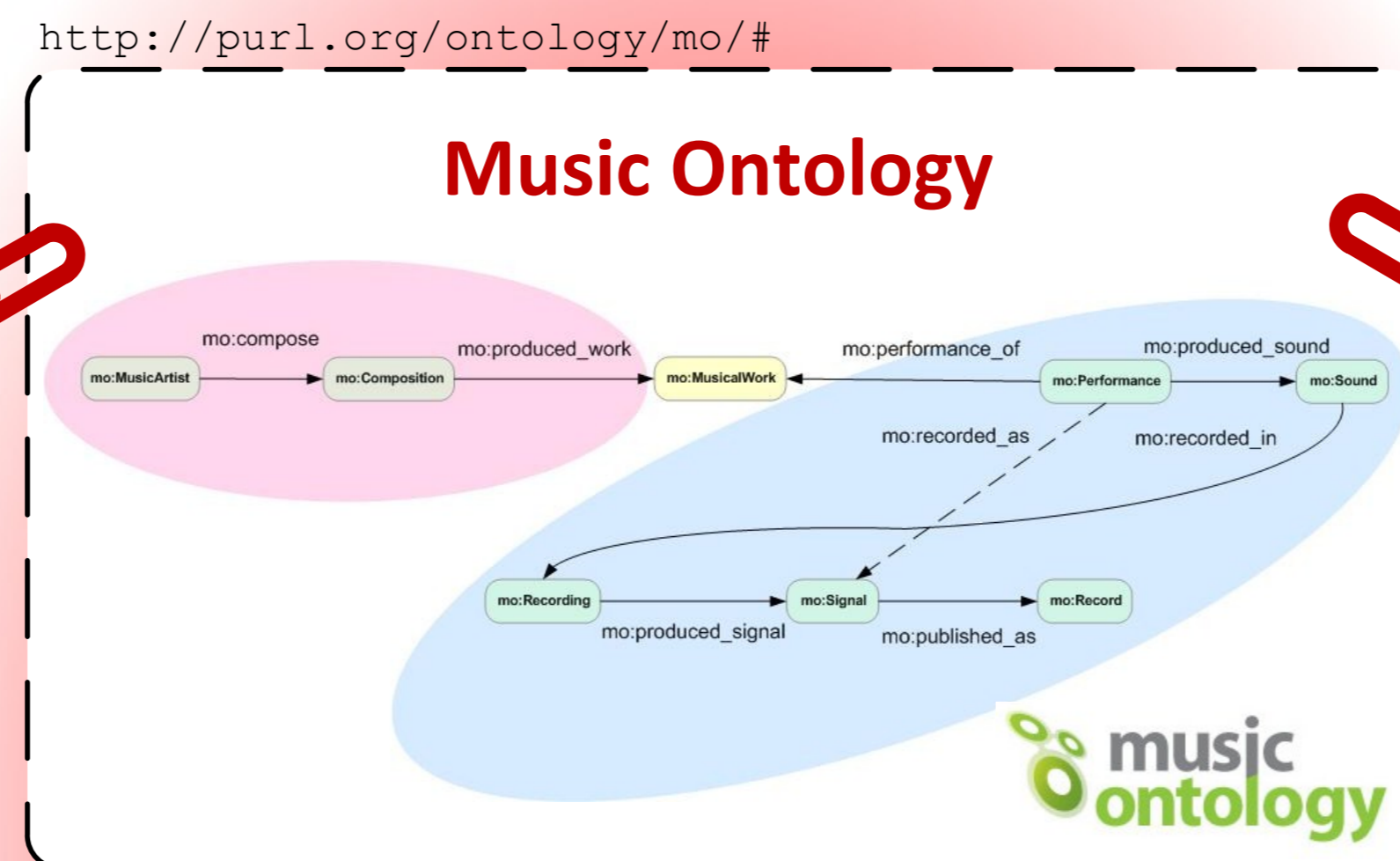
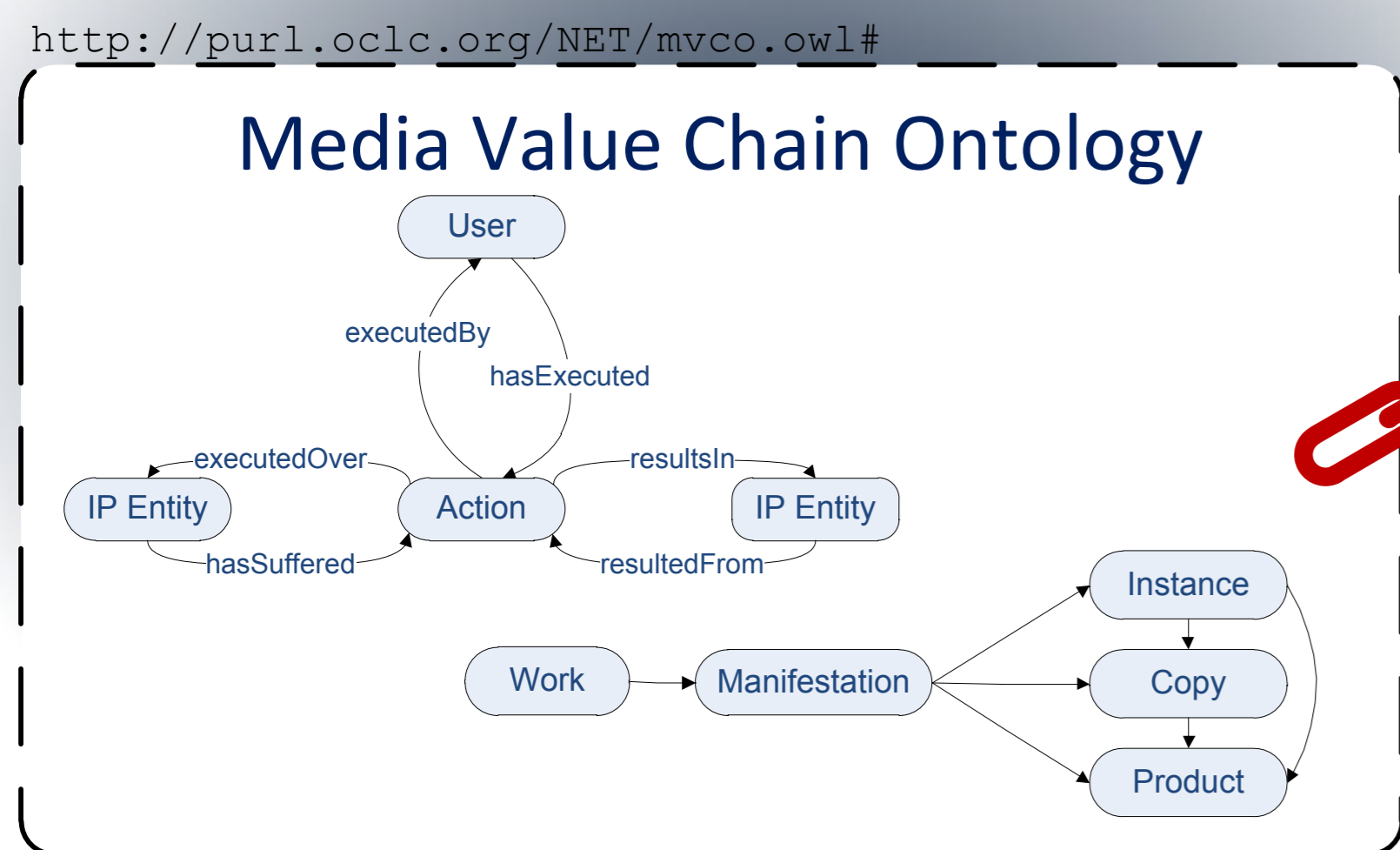
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The ISO/IEC 21000-19 **Media Value Chain Ontology** (MVCO), conceived within the MPEG-21 standard, formalizes the representation of the Media Value Chain covering the Intellectual Property aspects of the creation workflow.

The **Music Ontology** provides main concepts and properties for describing music (i.e. artists, albums, tracks, but also performances, arrangements, etc.) on the Semantic Web. It includes the *Music Creation Workflow*

The **PROV Ontology** (PROV-O) is a soon-to-be W3C Recommendation which provides a standard for representing provenance information. PROV-O adoption allows representing and interchanging provenance information generated in different systems and under different contexts



The Music Ontology is based on other models: FRBR, Event Ontology, FOAF, etc.

Mapped elements

Music Ontology	Media Value Chain Ontology	PROV-O	FRBR	Media Value Chain Ontology
frbr:Endeavour	equivalent to mvco:IPEntity	subclass of prov:Entity	frbr:Work	equivalent to mvco:Work
event:Event	superclass of mvco:Action	superclass of prov:Activity	frbr:Expression	superclass of mvco:Manifestation
foaf:Agent	superclass of mvco:User	equivalent to prov:Agent	frbr:Expression	superclass of mvco:Instance
			frbr:Manifestation	equivalent to mvco:Copy
			frbr:Item	equivalent to mvco:Product

Music Ontology	Media Value Chain Ontology	MO	MVCO	PROV-O
mo:Composer	equivalent to mvco:Creator	event:factor	superproperty of mvco:actedOver	superproperty of prov:used
mo:Conductor	subclass of mvco:Instantiator	event:producedIn	superproperty of mvco:resultedFrom	superproperty of prov:wasGeneratedBy
mo:SoundEngineer	subclass of mvco:Producer	event:agent	superproperty of mvco:actedBy	superproperty of prov:wasAssociatedWith
mo:Listener	equivalent to mvco:EndUser	(no equiv)	superproperty of mvco:hasRightsOwner	superproperty of prov:wasAttributedTo
mo:Arranger	subclass of mvco:Creator			

Music Ontology	Media Value Chain Ontology
mo:Composition	equivalent to mvco:CreateWork
mo:Arrangement	subclass of mvco:MakeManif.
mo:Performance	subclass of mvco:MakeInstance
mo:Recording	subclass of mvco:MakeInstance
mo:MusicalWork	subclass of mvco:Work
mo:MusicalExpression	superclass of mvco:Manifestation
mo:MusicalExpression	superclass of mvco:Instance
mo:MusicalManif.	equivalent to mvco:Copy
mo:MusicalItem	equivalent to mvco:Product

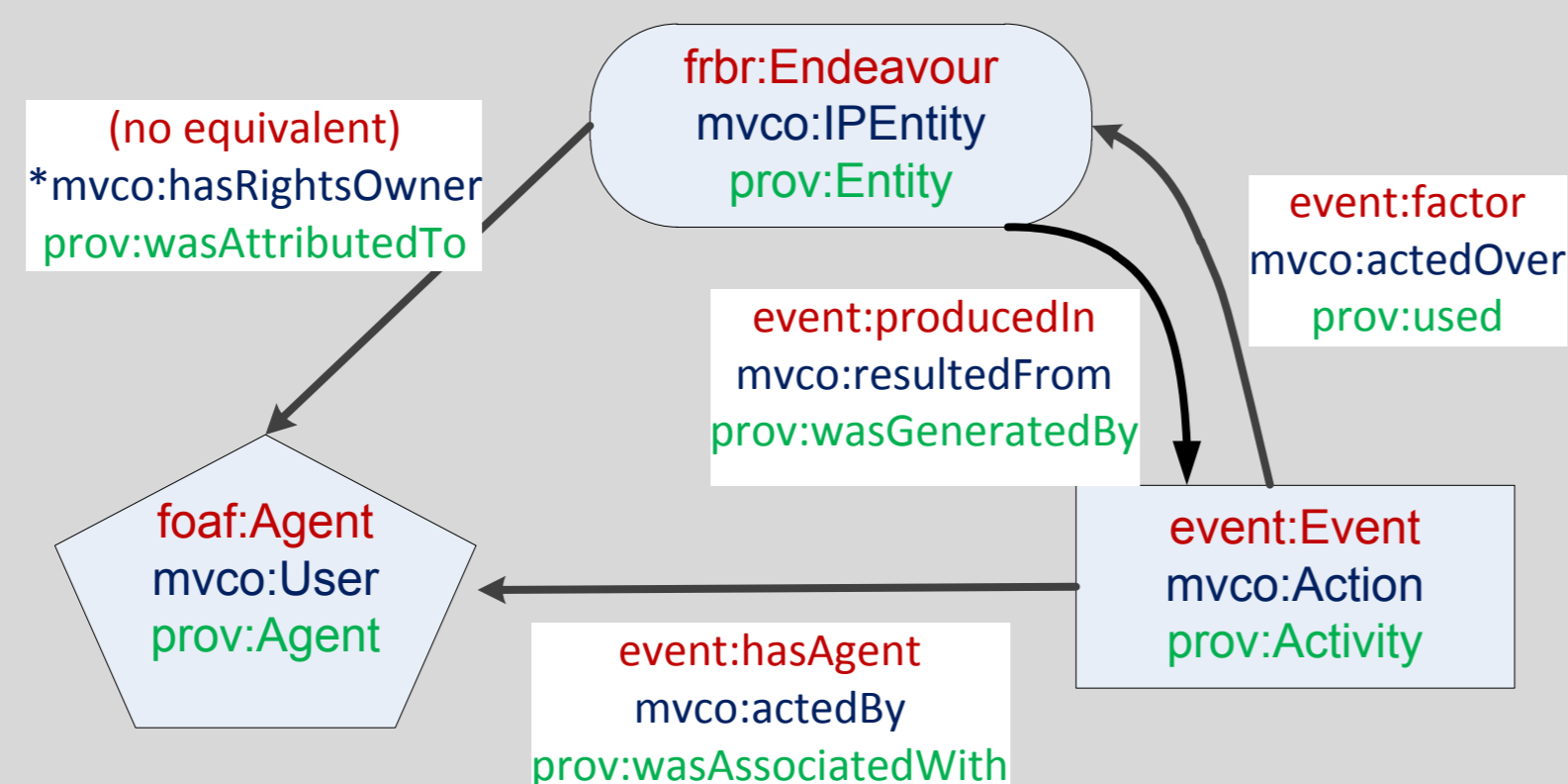
MO	PROV-O
mo:performance_of	subproperty of prov:used
mo:performed	subproperty of prov:wasAssociatedWith
mo:recording_of	subproperty of prov:used
mo:publication_of	subproperty of prov:wasDerivedFrom
event:produced_in	subproperty of prov:wasGeneratedBy

Typically, instead of event:produced_in, its inverses mo:produced_signal and mo:produced_sound are used.

What's next?

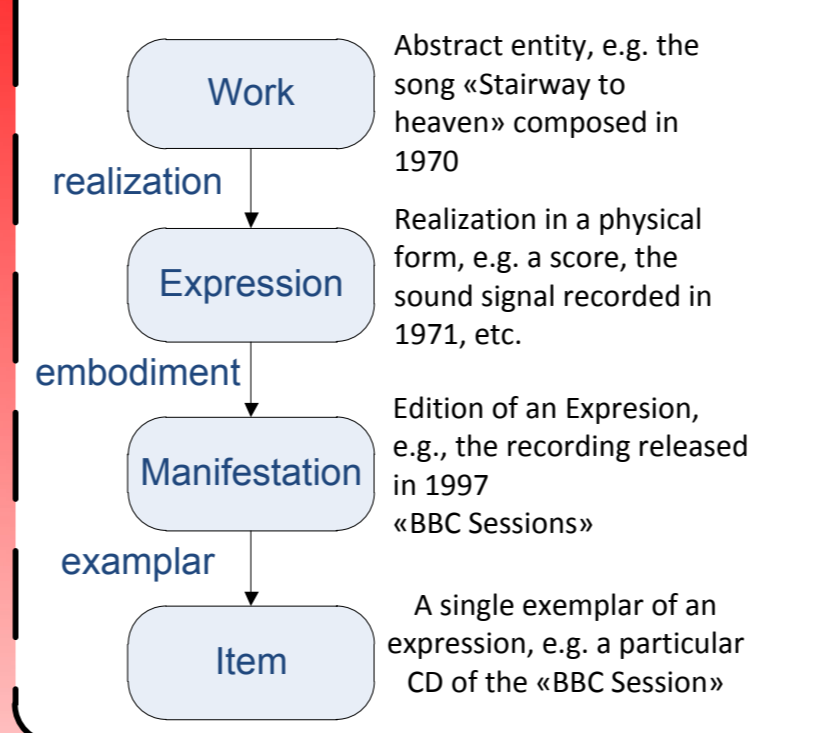
Mapping to MusicBrainz NGS: MusicBrainz, a database with half million of artists and a million of releases, is based on a different (but similar) schema...

Main elements in the music workflow



FRBR is a conceptual entity-relationship model that relates user tasks of retrieval and access in online library catalogues and bibliographic databases. The Music Ontology music workflow is based on a RDF version of FRBR.

FRBR Model



Benefits of the mapping

- To improve **interoperability** between systems, specially when querying over different domains
- To track the **intellectual property** value chain
- To **validate the provenance chain**
- Use in many different application scenarios: to better study musical influences, to measure the impact of artists and their works, the success of derivative works, etc.

Example

