Data Model for the Swiss Performing Arts Platform

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Edgar Degas, Arlequin danse (around 1890),
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1 Introduction

1.1 Purpose of this Document

The present document contains the data model for the future Swiss Performing Arts Platform (SPA Data Model). The data model's primary function is to serve as the data transfer and integration standard in view of the migration of the data held by the Swiss Theatre Collection and the Swiss Dance Collection into one common data platform. For this purpose, an RDF-based representation of the SPA Data Model has been created in form of the "Swiss Performing Arts" Ontology (SPA Ontology).

In addition to this primary purpose, the data model is intended as a data exchange standard in view of the ingestion of data from various sources into the Swiss Performing Arts Platform, and from there into various international data platforms, such as Europeana, Archives Portal Europe (APE), the European Collected Library of Artistic Performance (ECLAP), Wikimedia Commons, or Wikidata. And last, but not least, it is to facilitate the linking of data and content residing on the "Swiss Performing Arts" Platform with data held at other sites, such as the Dictionary of Swiss Theatre, VIAF, Wikipedia or the aforementioned international data platforms.

In order not to over-stretch its scope, the main focus of this first draft version of the data model is on representing the data structures found at the Swiss Theatre Collection and the Swiss Dance Collection. Given the fact that data integration at an international level is one of the stated goals of the Swiss Performing Arts Platform project, interoperability with existing and emerging standards at the international level has been main guiding principle when developing the model. In this vein, we hope that the model will help spurring further initiatives and are looking forward to enlarging the model's scope in view of the establishment of an International Performing Arts Data Model and Ontology in the future.

1.2 Target Audiences

The SPA Data Model's primary target audiences comprise people within the archival, museum, and library communities specializing in the performing arts as well as technical staff tasked with the implementation of data infrastructures related to the performing arts.

Given its ambition to bridge existing sectoral data models of the archival, museum, and library domain, the SPA Data Model may also be of interest to the experts involved in the development of these sectoral data models or people facing the challenge of developing integrated data models that equally take into account the perspectives of archives, museums and libraries.

1.3 Challenges When It Comes to Modelling the Performing Arts Domain

Developing a data model for the performing arts is a complex undertaking for at least two reasons:

First, among the heritage institutions covering the performing arts domain there is no unified tradition with regard to information management, as the performing arts are covered by different types of institutions. In fact, as Doerr et al. (2008) note, depending on the country, national performing arts collections are to be found in national theatre *museums* (Portugal, Austria, Slovenia, Greece, etc.), in national theatre *libraries* (Italy), in *documentation centres* (Andalusia), or in *theatre institutes* (The Netherlands, Barcelona). In addition, many important collections are held by *archives*. As a consequence, instead of standardizing their practice among each other at an international level, the institutions concerned have largely followed the information management approaches of their respective sector.

This positioning of the performing arts at the intersection of different sectors within the heritage domain can also be found in Switzerland, where two institutions representing two different information management traditions are being merged in the course of 2017: Whereas the Swiss Theatre Collection has mainly been focusing on systematically inventorying and collecting information about all performing arts productions in Switzerland, the focus of the Swiss Dance Collection has mainly been on building up a *fonds*-based archival collection, complemented by a video archive covering dance in Switzerland. While there are many thematic overlaps, there are also fundamental differences with regard to the structure of the core databases of the two institutions, with one relying on a relational database

with a flat data structure and the other on a hierarchically structured, provenance-oriented database as is typical for the archival domain.

The second challenge lies in the double structure of literary works and performance works that needs to be taken into account when modelling the performing arts domain. While the literary work which a performing arts production may be based on can easily be described using the data models of the library sector, the performance work needs to be modelled as a work apart that manifests itself in a theatre or dance production. While a literary work materializes in form of a printed book, a performance work takes the form of an ephemeral event, the theatre or dance performance[1].

1.4 Methodological Approach

In order to develop the model presented in this document, the following approach was pursued:

1. Analysis of the existing data structures at the Swiss Theatre Collection and the Swiss Dance Collection, leading to the description of a status quo data model for each of the institutions.
2. Review of existing standards in the archive, library, and museum sectors as well as scholarly publications specifically focusing on data models for the performing arts domain, leading to a draft data model.
3. Mapping of existing data structures to existing standards and complementing the model where necessary, leading to a complete version of the data model.
4. Further complementation of the data model by adding references to RDF-based ontologies that are the most widely used on the Internet, such as schema.org, foaf, or Dublin Core.
5. Expression of the data model in form of an RDF-based ontology.
6. Test publication of the data from the Swiss Theatre Collection and the Swiss Dance Collection in form of linked open data on the LINDAS triple store of the Swiss Confederation, from where it can be queried through a SPARQL endpoint.

The last step provided a first occasion to validate the SPA Data Model and Ontology. Based on the current version of the model feedback is solicited from various stakeholders throughout the world in view of the development of an international version of the data model. Furthermore, the cleansing of the data held by the Swiss Theatre Collection and the Swiss Dance Collection will be further pursued in order to make it all available as linked open data. In addition, in order to further validate the SPA Data Model and Ontology, performing arts related data from other Swiss heritage institutions may be ingested into the same triple store, and data from institutions from other countries may be examined in order to assess the possibility of transforming them into linked data by using the SPA Data Model.

1.5 Acknowledgements

This first draft model has benefitted from the contributions and guidance by Adrian Gschwend (Zazuko GmbH, Switzerland), Julia Beck (Specialised Information Service for the Performing Arts, University Library Frankfurt am Main), Urs Kaiser and Birk Weiberg (Swiss Theatre Collection), Katrin Oettli and Emilie Magnin (Swiss Dance Collection) as well as several members of the research team at the E-Government Institute of the Bern University of Applied Sciences, especially Katinka Weissenfeld, Andreas Spichiger, Daniel Burda, and Dominic Hurni. Analyses of the status quo data structures and initial mapping suggestions were provided by students of the Bern University of Applied Sciences (Eugene Khoroshutin, Mihrab Gizem Atilgan, René Vielgut, and Timm Stern).

[1] The same applies to music performances that heavily rely on improvisation or involve the playing of non-notated music, i.e. to the kinds of music that are not recorded or transmitted via music notation and printed scores as is typical for the traditional canon of Western art music (see Doty 2013 and Allison-Cassin 2016).

1.6 Structure of the Document

The remainder of the document is structured as follows:

- **Chapter 2** contains an overview of existing standards that have been drawn upon in view of the development of the model.

- **Chapter 3** sets out the presentation conventions and the terminology used throughout the document.

- **Chapter 4** contains a description of all the classes of the model and the way they relate to each other.

- **Chapters 5 to 7** contain inventories of the attributes, relations, and qualifiers included in the model.

- **Chapter 8** provides several modeling examples based on real cases from the Swiss Dance Collection and the Swiss Theatre Collection.

- **Chapter 9** contains a list of open issues that should be addressed in a future version of the data model.

2 Existing Standards the Model Draws Upon

The present section contains an overview of the standards the SPA Data Model draws upon and the existing vocabularies which it refers to. As a rule, the SPA Data Model defines its own classes and properties. To the extent possible, existing standards from the heritage sector are referenced. In order to increase the interoperability of the data with other data sources, existing vocabularies that are widely used within the linked data community are systematically referenced.

2.1 Core Standards from the Heritage Sector

Among the core standards the SPA Data Model mainly draws upon are RiC (Records in Context), FRBR (Functional Requirements for Bibliographic Records), and FRBRoo, an object-oriented version of FRBR which bridges the gap between FRBR and CIDOC CRM. The SPA Data Model is therefore well integrated with the data models widely used within the archival and library communities and interoperable with a reference model widely used within the museum community.

When developing the model, earlier endeavors to bridge the gap between the various heritage sectors, as exemplified by EDM and FRBRoo, have been drawn upon (Riva et al. 2008, Doerr et al. 2008, Doerr et al. 2010), while ECLAP, a specialized vocabulary for the performing arts, is referred to in order to cover some of the aspects that are not covered by the other ontologies (Bellini & Nesi 2015).

Table 1 contains an overview of the standards that are at the core of the SPA Data Model.

Standard	Description
Records in Context (RiC)	RiC is a conceptual model for archival description that is supposed to replace the existing ICA standards in the future, namely ISAD(G), ISAAR(CPF), ISDF, and ISDIAH. In contrast to its predecessor standards, RiC explicitly takes into account electronic records and is better suited for a digitized and increasingly inter-connected world, as it also supports graph-based data structures and facilitates the interlinking of data from the archival domain with data from other heritage domains. ***Publisher:*** International Council on Archives (ICA) ***Version:*** Draft v0.1 (September 2016)
Functional Requirements for Bibliographic Records (FRBR)	FRBR is not an actual standard, but a study report regarding the functional requirements for bibliographic records. These requirements are generally used as a basis for the development of library cataloguing standards. The FRBR study report comes along with a data model for bibliographic metadata. ***Publisher:*** International Federation of Library Associations and Institutions (IFLA) ***Version:*** Final Report (amended as of 2009)
FRBR – object-oriented (FRBRoo)	Providing an object-oriented definition and mapping from FRBR, FRAD and FRSAD, FRBRoo complements FRBR by defining additional classes, including classes that are highly relevant in the context of the performing arts, such as *F20 Performance Work*, *F25 Performance Plan,* or *F31 Performance*. Unlike FRBR it thus allows to model the double work structure typical for the performing arts domain (cf. Doerr et al. 2008). ***Publisher:*** International Working Group on FRBR and CIDOC CRM Harmonisation ***Version:*** Version 2.2 (March 2015)
Europeana Data Model (EDM)	The EDM contains the formal specification of the classes and properties that can be used in the context of Europeana. EDM takes a cross-sectoral view by

	taking into account the data structures typically present in the archival, the library, and the museum sectors. EDM heavily draws on already existing data models, such as Dublin Core. ***Publisher:*** Europeana ***Version:*** Version 5.2.7 (25 April 2016)
European Collected Library of Artistic Performance, Performing Arts Vocabulary (ECLAP)	The ECLAP vocabulary has been created in connection with the platform of the same name that is used as a content aggregator for Europeana covering the performing arts domain. It defines classes and properties used for the description of multimedia content, with a main focus on describing media objects, on the modelling of the users of the platform and its content, as well as on the annotation of media objects. ***Publisher:*** DISIT Lab, University of Florence, Italy ***Version:*** Version 1.0

Table 1: Standards from the heritage sector the SPA Data Model mainly draws upon

2.2 Further Ontologies and Vocabularies

As noted above, in order to increase the interoperability of the data with other data sources, existing vocabularies that are widely used are systematically referenced by the SPA Data Model and its corresponding RDF ontology. This will allow semantic reasoners to automatically map the data described by means of the SPA Data Model to a maximum of existing data sources making use of various data models. Table 2 contains an overview of all the data models, ontologies, and vocabularies referenced by the SPA Data Model and the SPA Ontology.

Prefix	Name	URL
cc	Creative Commons Rights Expression Language	https://creativecommons.org/ns#
CIDOC-CRM	Definition of the CIDOC Conceptual Reference Model, Version 6.2.1	http://www.cidoc-crm.org/sites/default/files/cidoc_crm_version_6.2.1.pdf
dc	Dublin Core Metadata Initiative, Metadata Terms, Elements 1.1 Namespace	http://purl.org/dc/elements/1.1
dcterms	Dublin Core Metadata Initiative, Metadata Terms, Terms Namespace	http://purl.org/dc/terms/
ebucore	EBU Core Ontology	https://www.ebu.ch/metadata/ontologies/ebucore/
eclap	ECLAP, Performing Arts Vocabulary	http://www.eclap.eu/schema/eclap/
edm	Europeana Data Model	http://www.europeana.eu/schemas/edm/
fabio	FaBiO, the FRBR-aligned Bibliographic Ontology	http://purl.org/spar/fabio/
foaf	FOAF Vocabulary Specification 0.99	http://xmlns.com/foaf/spec/
frbr	Expression of Core FRBR Concepts in RDF	http://purl.org/vocab/frbr/core#
FRBRoo	FRBRoo Model	http://iflastandards.info/ns/fr/frbr/frbroo/
geo	WGS84 Geo Positioning: an RDF vocabulary	http://www.w3.org/2003/01/geo/wgs84_pos#
ISAD(G)	General International Standard Archival Description, ISAD(G), Second Edition	http://www.icacds.org.uk/eng/ISAD%28G%29.pdf
mediaont	Ontology for Media Resources 1.0	https://dev.w3.org/2008/video/mediaann/mediaont-1.0/mediaont-1.0.htm
oa	Web Annotation Ontology	https://www.w3.org/ns/oa#
ore	Open Archives Initiative, Object Exchange and Reuse	http://www.openarchives.org/ore/terms/
owl	Web Ontology Language	http://www.w3.org/2002/07/owl#
premis	Preservation Metadata: Implementation Strate-	http://id.loc.gov/ontologies/premis.html

	gies (PREMIS) Ontology	
pq	Wikidata Qualifier	http://www.wikidata.org/prop/qualifier/
rdf	Resource Description Framework	http://www.w3.org/1999/02/22-rdf-syntax-ns#
rdfs	Resource Description Framework Schema	http://www.w3.org/2000/01/rdf-schema#
RiC	Records in Context, A Conceptual Model for Archival Description, Consultation Draft v0.1	Records in Context, A Conceptual Model for Archival Description, Consultation Draft v0.1
rdaa	Resource Description and Access (RDA), Agent Properties	http://www.rdaregistry.info/Elements/a/
rdac	RDA, Classes	http://www.rdaregistry.info/Elements/c/
rdae	RDA, Expression Properties	http://www.rdaregistry.info/Elements/e/
rdai	RDA, Item Properties	http://www.rdaregistry.info/Elements/i/
rdam	RDA, Manifestation Properties	http://www.rdaregistry.info/Elements/m/
rdan	RDA, Nomen Properties	http://www.rdaregistry.info/Elements/n/
rdap	RDA, Place Properties	http://www.rdaregistry.info/Elements/p/
rdat	RDA, Time-span Properties	http://www.rdaregistry.info/Elements/t/
rdau	RDA, Unconstrained Properties	http://www.rdaregistry.info/Elements/u/
rdaw	RDA, Work Properties	http://www.rdaregistry.info/Elements/w/
rdax	RDA, Entity Properties	http://www.rdaregistry.info/Elements/x/
schema	Schema.org	http://schema.org/
skos	Simple Knowledge Organization System, SKOS	http://www.w3.org/2004/02/skos/core#
wd	Wikidata Entity	http://www.wikidata.org/entity/
wdt	Wikidata Property	http://www.wikidata.org/prop/direct/

Table 2: Overview of the data models, ontologies, and vocabularies referenced by the SPA Data Model

3 Terminology Used / Presentation Conventions

3.1 Definition of Key Terms

The following definitions of key terminology used in this document are provided both as an aid to readers unfamiliar with modelling terminology, and to specify for the purpose of this document the precise usage of terms that are sometimes applied inconsistently across data model specifications. We thereby largely follow the definitions used in the context of CIDOC CRM (2015), using where applicable terminology that is compatible with that of the Resource Description Framework (RDF), a recommendation of the World Wide Web Consortium.

One notable difference with regard to the CIDOC CRM is the more nuanced definition of property, as the SPA Data Model does not follow a strictly object-oriented modelling approach. The SPA Data Model differentiates between attributes, relations, and qualifiers. By designating properties of properties as qualifiers it follows the naming conventions used within Wikidata.

class

„A class is a category of items that share one or more common traits serving as criteria to identify the items belonging to the class. These **properties** need not be explicitly formulated in logical terms, but may be described in a text (here called a **scope note**) that refers to a common conceptualization of domain experts. The sum of these traits is called the **intension** of the class. A class may be the **domain** or **range** of none, one or more properties formally defined in a model. The formally defined properties need not be part of the intension of their domains or ranges: such properties are optional. An item that belongs to a class is called an **instance** of this class. A class is associated with an open set of real life instances, known as the **extension** of the class. Here "open" is used in the sense that it is generally beyond our capabilities to know all instances of a class in the world and indeed that the future may bring new instances about at any time (Open World). Therefore a class cannot be defined by enumerating its instances. A class plays a role analogous to a grammatical noun, and can be completely defined without reference to any other construct" (CIDOC CRM 2015, pp. vii-viii).

subclass

"A subclass is a **class** that is a specialization of another class (its **superclass**). Specialization or the IsA relationship means that:

- all **instances** of the subclass are also instances of its superclass,
- the **intension** of the subclass extends the intension of its superclass, i.e. its traits are more restrictive than that of its superclass and
- the subclass inherits the definition of all of the **properties** declared for its superclass without exceptions (strict inheritance), in addition to having none, one or more properties of its own.

A subclass can have more than one immediate superclass and consequently inherits the properties of all of its superclasses (multiple inheritance). The [...] specialization between two or more classes gives rise to a structure known as a class hierarchy. The IsA relationship is transitive and may not be cyclic" (CIDOC CRM 2015, pp. viii).

superclass

"A superclass is a **class** that is a generalization of one or more other classes (its **subclasses**), which means that it subsumes all **instances** of its subclasses, and that it can also have additional instances that do not belong to any of its subclasses. The **intension** of the superclass is less restrictive than any of its subclasses. This subsumption relationship or generalization is the inverse of the IsA relationship or specialization" (CIDOC CRM 2015, p. viii).

intension

"The intension of a **class** or **property** is its intended meaning. It consists of one or more common traits shared by all **instances** of the class or property. These traits need not be explicitly formulated in logical terms, but may just be de-

	scribed in a text (here called a **scope note**) that refers to a conceptualisation common to domain experts" (CIDOC CRM 2015, p. viii).
extension	"The extension of a **class** is the set of all real life **instances** belonging to the class that fulfil the criteria of its **intension**. This set is "open" in the sense that it is generally beyond our capabilities to know all instances of a class in the world and indeed that the future may bring new instances about at any time (Open World)" (CIDOC CRM 2015, pp. viii-ix).
scope note	"A scope note is a textual description of the **intension** of a **class** or **property.** Scope notes […] refer to a conceptualisation common to domain experts and disambiguate between different possible interpretations. Illustrative example **instances** of classes and properties are also regularly provided in the scope notes for explanatory purposes" (CIDOC CRM 2015, p. ix).
instance	"An instance of a **class** is a real world item that fulfils the criteria of the **intension** of the class" (CIDOC CRM 2015, p. ix).
property	A property serves to provide further information about an item (taking the form of an **attribute**), to express the relationship between two items (taking the form of a **relation**), or to provide further information about a property of the type attribute or relation (taking the form of a **qualifier**). Similar to a **class**, a property is characterized by an **intension**, which is conveyed by a **scope note.** Properties can also be specialized in the same manner as classes, resulting in IsA relationships between **subproperties** and their **superproperties**.
attribute	An attribute is a type of **property** that serves to provide further information about an item. An attribute plays a role analogous to a grammatical attribute, typically expressing an IsA or HasA statement. An attribute may be applied to the instances of a large number of **classes** or its use may be restricted to only one or a small number of classes.
relation	A relation is a type of **property** that serves to define a relationship of a specific kind between the instances of two **classes.** A relation plays a role analogous to a grammatical verb, in that it must be defined with reference to both its **domain** and **range**, which are analogous to the subject and object in grammar. It is arbitrary, which class is selected as the domain, just as the choice between active and passive voice in grammar is arbitrary. In other words, a relation can be interpreted in both directions, with two distinct, but related interpretations. In some cases, further information is provided concerning a given relation in form of a **qualifier** that plays a role analogous to a grammatical adverb. Relation names in the SPA Data Model are designed to be semantically meaningful and grammatically correct when read from domain to range. In addition the inverse relation name, sometimes given in parentheses, is also designed to be semantically meaningful and grammatically correct when read from range to domain.
qualifier	A qualifier is a type of **property** that serves to provide further information about an **attribute** or a **relation**. A qualifier plays a role analogous to a grammatical adverb. A qualifier may be applied to the instances of a large number of **attributes** and/or **relations** or its use may be restricted to only one or a small number of them.
inverse relation	The inverse relation is the reinterpretation of a **relation** from **range** to **domain** without more general or more specific meaning, similar to the choice between active and passive voice in some languages.
subproperty	"A subproperty is a **property** that is a specialization of another property (its **superproperty**). Specialization or IsA relationship means that: • all **instances** of the subproperty are also instances of its superproperty, • the **intension** of the subproperty extends the intension of the superproperty, i.e. its traits are more restrictive than that of its superproperty, • the **domain** of the subproperty is the same as the domain of its super-

property or a **subclass** of that domain,

- the **range** [if applicable] of the subproperty is the same as the range of its superproperty or a subclass of that range,
- the subproperty inherits the definition of all of the properties declared for its superproperty without exceptions (strict inheritance), in addition to having none, one or more properties of its own.

A subproperty can have more than one immediate superproperty and consequently inherits the properties of all of its superproperties (multiple inheritance). The IsA relationship or specialization between two or more properties gives rise to the structure we call a property hierarchy. The IsA relationship is transitive and may not be cyclic" (CIDOC CRM 2015, pp. ix-x).

superproperty "A superproperty is a **property** that is a generalization of one or more other properties (its **subproperties**), which means that it subsumes all **instances** of its subproperties, and that it can also have additional instances that do not belong to any of its subproperties. The **intension** of the superproperty is less restrictive than any of its subproperties. The subsumption relationship or generalization is the inverse of the IsA relationship or specialization" (CIDOC CRM 2015, p. x).

domain The domain comprises the **class**(es) for which a **property** is formally defined. This means that **instances** of the property are applicable to instances of its domain class(es). The domain class is analogous to the grammatical subject of the phrase for which the property is analogous to the verb.

range "The range is the **class** that comprises all potential values of a [**relation].** That means that **instances** of the [relation] can link only to instances of its range class. […] The range class is analogous to the grammatical object of a phrase for which the property is analogous to the verb. It is arbitrary, which class is selected as **domain** and which as range, just as the choice between active and passive voice in grammar is arbitrary" (CIDOC CRM 2015, p. x).

equivalent class An equivalent class is a **class** defined as part of another ontology that can be considered as equivalent to a given class defined as part of the SPA Data Model.

equivalent property An equivalent property is a **property** defined as part of another ontology that can be considered as equivalent to a given property defined as part of the SPA Data Model.

3.2 Naming Conventions

The following naming conventions have been applied throughout the SPA Data Model:

- All elements of the SPA Data Model are preceded by the letters "SPA-" (in analogy to RiC 2016).
- Classes are identified by numbers preceded by the letter "E" (for "Entity", in analogy to CIDOC CRM 2015 and RiC 2016) and are named using noun phrases (nominal groups) using title case (initial capitals).
- Properties of the type attribute are identified by the letter "P" (for "Property").
- Properties of the type relation are identified by the letter "R" (for "Relation").
- Properties of the type qualifier are identified by the letter "Q" (for "Qualifier").
- Relation names in graphics should be read in their non-parenthical form for the domain-to-range direction, and in parenthical form for the range-to-domain direction. Reading a relation in range-to-domain direction is equivalent to the inverse of that relation.
- Properties that have identical domain and range are either symmetric or transitive.

3.3 References to Existing Data Models and Ontologies

The core classes and properties of the SPA Data Model are self-contained in that the model fully describes these classes and properties. The SPA Data Model however draws extensively on the work accomplished by existing standardization bodies in two ways:

- In providing class and property definitions, examples, etc. the SPA Data Model uses as much as possible direct quotations from existing standardization documents. Direct quotations from other standardization documents are provided in quotation marks. As names of classes of the SPA Data Model are rendered using title case (initial capitals), quotations from other standardization documents have been redacted to comply with this convention without specifically indicating these adaptations in the quoted text. In order to avoid confusion, explicit references to existing standardization documents have only been included when no substantial changes to the content have been made. Yet, even in cases with substantial changes to some of the content, many of the formulations have been inspired by or have been directly copied from existing standardization documents without indicating the provenance for every detail. This should allow the quick reader to rapidly spot the similarities and the differences with regard to other data models, while sticking as much as possible to the terminology and formulations used in similar standardization documents in order to facilitate the use of the SPA Data Model.
- Providing a standalone data model and RDF ontology allows us to express a maximum of equivalent classes and properties for the elements defined by the SPA Data Model. The SPA Data Model thus contains the mapping information needed to map its core classes and properties to the classes and properties specified in other data models used in the heritage domain (such as FRBR 2009, CIDOC CRM 2015, FRBRoo 2015, ECLAP 2015, EDM 2016, and RiC 2016) or in ontologies that are otherwise widely used within the linked data community (such as Dublin Core, RDA, schema.org, foaf, etc.). To refer to other standardization documents, the prefixes listed in table 2 are used, when applicable in combination with the identifier of the given element in the source document.

3.4 Modelling Principles

3.4.1 Monotonicity

As the SPA Data Model's role is the meaningful integration of information in an Open World, it aims to be monotonic in the sense that existing model constructs and the deductions made from them must always remain valid and well-formed, even as new constructs are added by extensions to the model.

Properties, such as having a part, an owner or a location, may change many times for a single item during its existence. Stating instances of such properties for an item in terms of the SPA Data Model only means that these properties existed during some particular time-span. Therefore, one item may have multiple instances of the same property reflecting an aggregation of these instances over the time-span of its existence. If details regarding the temporal validity or other precisions are required, the SPA Data Model foresees the use of qualifiers. By virtue of this principle, the data model achieves monotonicity with respect to an increase of knowledge about the states of an item at different times, regardless of their temporal order (cf. CIDOC CRM 2015, p. xv).

3.4.2 Minimality

Although the scope of the SPA Data Model is rather broad, the model itself is constructed as economically as possible.

Thus, a class is not declared unless it is required because the domain or range of a property is not appropriate to its superclass, or unless it is a key concept within the performing arts and/or heritage domain.

Subclasses and superclasses are only referred to if they are defined within the context of the SPA Data Model itself or if they are of particular relevance. Extensive reference is however made to equivalent classes in other data models from which further subclasses or superclasses may be inferred; thus classes from the FRBRoo data model typically link to relevant superclasses of the CIDOC CRM and to various subclasses within the FRBRoo data model itself.

3.4.3 Extensions via Type Attributes

Since the intended scope of the SPA Data Model is a subset of the "real" world and is therefore potentially infinite, the model has been designed to be extensible through the linkage of compatible type hierarchies. Such type hierarchies, that can be referred to through "type" attributes of various classes, may be defined as controlled vocabularies within a given institution or as shared vocabularies within a given community, i.e. they do not necessarily need to reflect a shared consensus among all the users of the SPA Data Model.

3.4.4 Coverage

Of necessity, some concepts covered by the SPA Data Model are less thoroughly elaborated than others. This is a natural consequence of staying within the data model's stated practical scope in an intrinsically unlimited domain of discourse. If the need arises, the SPA Data Model may be extended in future versions.

The SPA Data Model provides several mechanisms to ensure that coverage of the intended scope is complete (cf. CIDOC CRM 2015, p. xviii):

1. Existing high level classes can be extended, either structurally as subclasses or dynamically using type hierarchies (controlled vocabularies).
2. Existing high level properties can be extended, either structurally as subproperties, or in some cases, dynamically, using qualifiers (properties of properties).
3. Additional information that falls outside the semantics formally defined by the SPA Data Model can be recorded as unstructured data using the *SPA-P general note* attribute or may be described thanks to the generic attribute *SPA-P local attribute* or the generic relation SPA-R is associated with, using qualifiers to further specify the given property.

In mechanisms 1 and 2, the SPA Data Model's concepts subsume and thereby cover the extensions. In mechanism 3, the information is accessible at the appropriate point in the respective knowledge base. The approach using the *SPA-P general note* attribute is preferable when detailed, targeted queries are not expected; in general, only the concepts used for formal querying need to be explicitly modelled.

4 Classes

4.1 Overview

The organization of most classes of the SPA Data Model is inspired by the categorization of the FRBR Data Model, thus:

- **Group 1 Classes** comprise the "products of intellectual or artistic endeavor that are named or described in bibliographic records" (FRBR 2009, p. 13) as well as their equivalents in the domain of performance works. In addition, they comprise the core structural elements of museal collections and archives, namely collection items and collections, as well as records and groupings of records.

- **Group 2 Classes** comprise "those entities responsible for the intellectual or artistic content, the physical production and dissemination, or the custodianship" (FRBR 2009, p. 13) of entities belonging to the first group.

- **Group 3 Classes** in turn comprise "an additional set of entities that serve as the subjects of intellectual or artistic endeavor" (FRBR 2009, p. 13).

- **Classes for the Description of Agents' Roles in Social Settings:** These classes serve the description of occupations, positions, functions, and performance roles Agents may take on. Regarding the description of the classes Occupation, Position, and Function, the SPA Data Model follows the RiC Data Model (RiC 2016), whereas the class Performance Role has an equivalent in the schema vocabulary (schema:Performance Role).

- **Components of Items:** At the level of individual items (or records) the SPA Data Model follows the Europeana Data Model in that it models an individual item as a "set of related resources, grouped together such that the set can be treated as a single resource" (EDM 2016). In the context of the SPA Data Model, this allows for the grouping of all digital and analogue resources pertaining to the same original item.

- **Further Classes:** And finally, a few further classes are defined, such as Date (for non-standard indications of dates), Nomen (for designations referring to entities), Documentary Form (to describe different types of artefacts documenting facts or events, as they can typically be found in archives), Reference Database (for the description of online databases), Thesaurus (for the description of thesauri), and Contact Point (for the description of agents' contact points).

4.2 Group 1 Classes

Group 1 Classes comprise the "products of intellectual or artistic endeavor that are named or described in bibliographic records" (FRBR 2009, p. 13) as well as their equivalents in the domain of performance works. In addition, they comprise the core structural elements of archives, namely records and groupings of records. At the core of the SPA Data Model is the Item element, which represents an individual heritage object, i.e. a copy of a literary text, a theatrical text, music scores, an archival record, or some other item documenting the conception, the realization, or the reception of a performing arts production.

The group 1 classes integrate the three main perspectives relevant to heritage institutions specializing in the performing arts domain and that are at the centre of the SPA Data Model:

- the **perspective of the literary, musical, or choreographic work** having its physical manifestation in a physical artefact and which may serve as a basis for a performing arts production;

- the **perspective of the performance work** having its physical manifestation in an ephemeral performing arts production;
- the **archival or documentation perspective**, documenting performing arts productions and the people involved in their creation by collecting various kinds of physical artefacts related to the conception, realization, and the reception of a performing arts production.

Depending on the perspective that is dominant, an Item may primarily be described from the perspective of a Work, relating the Item to the Expression and Manifestation of a given Work or from the perspective of a record, belonging to a Record Set. Furthermore, performing arts productions may be described from the perspective of a Performance Work, relating a given Performance to a Performance Plan and a specific Performing Arts Production.

Two further perspectives could be added:

- the **perspective of the detailed description of museum objects**, pertaining to various types of physical artefacts related to performing arts productions or the people involved in their creation;
- the **perspective of the recording work** (FRBRoo-F21 Recording Work), which applies to audiovisual works that are meant as standalone works, such as the Hamlet movie by Kenneth Branagh (1996).

As both perspectives play a minor role for the Swiss Theatre Collection and the Swiss Dance Collection, the two institutions that served as a reference for the development of the SPA Data Model, these perspectives are not specifically taken into account by the data model; it should however be possible to extend the data model accordingly if such a need arises.

Within the framework of the SPA Data Model, documentary audio-visual recordings of theatre plays or dance performances are modelled from an archival or documentation perspective, and not from the perspective of a standalone work, while motion pictures are modelled in the same way as a literary or musical work.

A sixth perspective, the **preservation perspective**, pertaining to the preservation of physical or digital artefacts, is addressed at the sub-item level (see section 4.6).

Figure 1 gives an overview of all the group 1 classes included in the SPA Data Model: While the classes Work, Expression, Manifestation, and Item correspond to the same classes of the FRBR model, the classes Performance Work, Performance Plan, Performing Arts Production, and Performance build an analogous strand for works of the performing arts. They are mainly inspired by the FRBRoo data model. Note however that at the difference to the FRBRoo model, the SPA Data Model distinguishes between the classes Performing Arts Production and Performance. While the former describes a set of similar (theoretically identical) performances, the latter describes an individual performance. In order to facilitate the description of series of similar Performances as part of a given Performing Arts Production, a class Series of Performances has been defined. And finally, the data model comprises the classes Collection and Record Set which may contain any number of elements of the class Item, which from a museum perspective correspond to a collection item and from an archival perspective to a record. The SPA Data Model follows the approach taken by RiC in that the different classes used according to ISAD(G) to represent the hierarchical structure of an archive, are reduced to the number of two, Record Set and Item (record), while ensuring compatibility with ISAD(G) by rendering the different classes, such as ISAD(G):Fonds, ISAD(G):Series, ISAD(G):File, and all the in-between-classes, such as sub-series, etc. in form of a *SPA-P type* attribute of Record Set.

The figure also shows the main relationships between the group 1 classes. Here, the SPA Data Model mainly follows the logic of the FRBR, FRBRoo, and the RiC data models, complementing them where necessary.

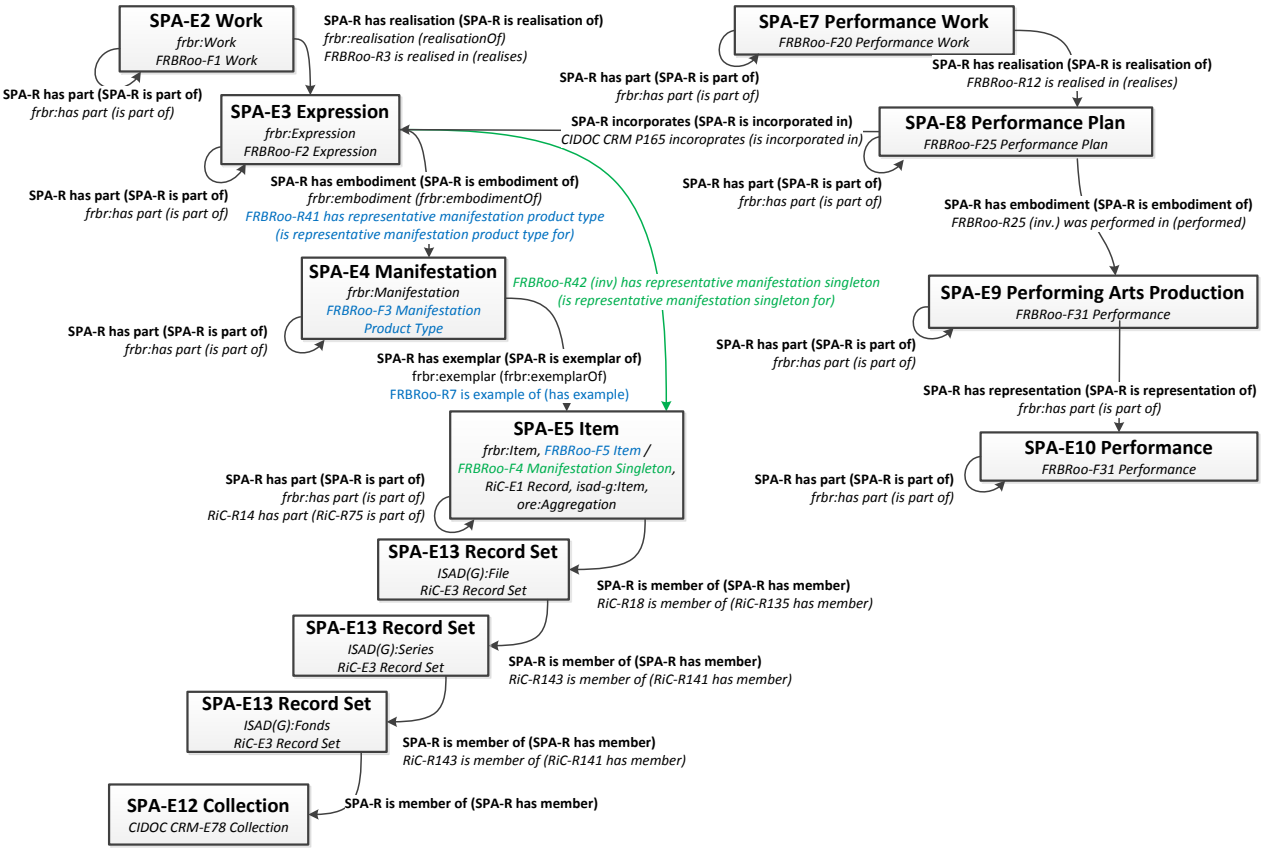

Figure 1: Group 1 classes and the main relationships between them

#	Name	Definition
SPA-E1 Endeavour		any of the FRBR group 1 entities
	Subclass of	SPA-E25 Concept
	Superclass of	SPA-E2 Work SPA-E3 Expression SPA-E4 Manifestation SPA-E5 Item SPA-E6 Endeavour of the Performing Arts
	Equivalent Class	frbr:Endeavour
	Scope Note	This class represents any one of the FRBR group one entities (Work, Expression, Manifestation, Item) or a combination thereof.
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-E2 Work		distinct intellectual or artistic creation
	Subclass of	SPA-E25 Concept
	Superclass of	SPA-E7 Performance Work
	Equivalent Classes	frbr:Work FRBRoo-F1 Work rdac:C10001 “work”
	Scope Note	“A Work is an abstract entity; there is no single material object one can point to as the Work. We recognize the Work through individual realizations or Expressions of the Work, but the Work itself exists only in the commonality of content between and among the various Expressions of the Work. When we speak of Homer’s *Iliad* as a Work, our point of reference is not a particular recitation or text of the Work, but the intellectual creation that lies behind all the various

		Expressions of the Work" (FRBR 2009, p. 17). "This class comprises distinct concepts or combinations of concepts identified in artistic and intellectual expressions, such as poems, stories or musical compositions. Such concepts may appear in the course of the coherent evolution of an original idea into one or more expressions that are dominated by the original idea. A Work may be elaborated by one or more [Agents] simultaneously or over time. The substance of Work is ideas. A Work may have members that are works in their own right" (FRBRoo 2015, p. 44). In the context of the SPA Data Model, various types of works (e.g. literary works, musical works, motion pictures) are assigned to this class; no sub-classes are used for works whose physical manifestation can typically be thought of as physical artefacts. In the case of performance works, in contrast, the subclass Performance Work is used; here the principal physical manifestation of the work lies in the ephemeral performing arts production.
	Examples	William Shakespeare's *Romeo and Juliet* Franco Zeffirelli's motion picture *Romeo and Juliet* Baz Luhrmann's and Craig Pearce's motion picture *William Shakespeare's Romeo and Juliet*
	Comment	"Because the notion of a Work is abstract, it is difficult to define precise boundaries for the entity. The concept of what constitutes a Work and where the line of demarcation lies between one Work and another may in fact be viewed differently from one culture to another. Consequently the bibliographic conventions established by various cultures or national groups may differ in terms of the criteria they use for determining the boundaries between one Work and another" (FRBR 2009, p. 17).
#	**Name**	**Definition**
SPA-E3 Expression		intellectual or artistic realization of a Work in the form of alpha-numeric, musical, or choreographic notation, sound, image, object, movement, etc., or any combination of such forms
	Subclass of	SPA-E25 Concept
	Superclass of	SPA-E8 Performance Plan
	Equivalent Classes	frbr:Expression FRBRoo-F2 Expression rdac:C10006 "expression"
	Scope Note	"An Expression is the specific intellectual or artistic form that a Work takes each time it is "realized." Expression encompasses, for example, the specific words, sentences, paragraphs, etc. that result from the realization of a Work in the form of a text, or the particular sounds, phrasing, etc. resulting from the realization of a musical work. The boundaries of the entity Expression are defined, however, so as to exclude aspects of physical form, such as typeface and page layout, that are not integral to the intellectual or artistic realization of the Work as such. When an Expression is accompanied by augmentations, such as illustrations, notes, glosses, etc. that are not integral to the intellectual or artistic realization of the work, such augmentations are considered to be separate Expressions of their own separate Work(s). Such augmentations may, or may not, be considered significant enough to warrant distinct bibliographic identification" (FRBR 2009, p. 19-20). "This class comprises the intellectual or artistic realisations of Works in the form of identifiable immaterial objects, such as texts, poems, jokes, musical or choreographic notations, movement pattern, sound pattern, images, multimedia objects, or any combination of such forms that have objectively recognisable

		structures. The substance of Expression is signs" (FRBRoo 2015, p. 45). "Expressions cannot exist without a physical carrier, but do not depend on a specific physical carrier and can exist on one or more carriers simultaneously. Carriers may include human memory" (FRBRoo 2015, p. 45). "Inasmuch as the form of Expression is an inherent characteristic of the Expression, any change in form (e.g., from alpha-numeric notation to spoken word) results in a new Expression. Similarly, changes in the intellectual conventions or instruments that are employed to express a Work (e.g., translation from one language to another) result in the production of a new Expression. If a text is revised or modified, the resulting Expression is considered to be a new Expression. Minor changes, such as corrections of spelling and punctuation, etc., may be considered as variations within the same Expression" (FRBR 2009, p. 20). "On a practical level, the degree to which distinctions are made between variant expressions of a work will depend to some extent on the nature of the F1 Work itself, and on the anticipated needs of users" (FRBRoo 2015, p. 45). "The genre of the Work may provide an indication of which features are essential to the Expression. In some cases, aspects of physical form, such as typeface and page layout, are not integral to the intellectual or artistic realisation of the Work as such, and therefore are not distinctive criteria for the respective expressions. For another work, features such as layout may be essential. For instance, the author or a graphic designer may wrap a poem around an image" (FRBRoo 2015, p. 45). "An Expression of a Work may include Expressions of other Works within it. For instance, an anthology of poems is regarded as a Work in its own right that makes use of Expressions of the individual poems that have been selected and ordered as part of an intellectual process. This does not make the contents of the aggregated Expressions part of this Work, but only parts of the resulting Expression" (FRBRoo 2015, p. 45).
	Examples	The Italian text of Dante's 'Inferno' as found in the authoritative critical edition *La Commedia secondo l'antica vulgata a cura di Giorgio Petrocchi*, Milano: Mondadori, 1966-67 (= Le Opere di Dante Alighieri, Edizione Nazionale a cura della Società Dantesca Italiana, VII, 1-4) The musical notation of Franz Schubert's lied known as 'Ave Maria' The musical notation of Franz Schubert's lieder cycle entitled 'Seven Songs after Walter Scott's The Lady of the Lake', of which 'Ave Maria' is a distinct part The musical notation of Franz Liszt's piano transcription of Franz Schubert's lied known as 'Ave Maria'
	Comment	-
#	**Name**	**Definition**
SPA-E4 Manifestation		physical embodiment of an Expression of a Work
	Subclass of	SPA-E25 Concept
	Superclass of	SPA-E9 Performing Arts Production
	Equivalent Classes	frbr:Manifestation FRBRoo-F3 Manifestation Product Type rdac:C10007 "manifestation"
	Scope Note	"The entity defined as Manifestation encompasses a wide range of materials, including manuscripts, books, periodicals, maps, posters, sound recordings, films, video recordings, CD-ROMs, multimedia kits, etc. As an entity, Manifestation represents all the physical objects that bear the same characteristics, in respect to both intellectual content and physical form" (FRBR 2009, p. 21)

		"When a Work is realized, the resulting Expression of the Work may be physically embodied on or in a medium such as paper, audio tape, video tape, canvas, plaster, etc. That physical embodiment constitutes a Manifestation of the work. In some cases there may be only a single physical exemplar produced of that Manifestation of the Work (e.g., an author's manuscript, a tape recorded for an oral history archive, an original oil painting, etc.). In other cases there are multiple copies produced in order to facilitate public dissemination or distribution. In those cases there is normally a more formal production process involved, and a publisher, producer, or distributor takes responsibility for the process. In other cases there may be only a limited number of copies made of an original exemplar for purposes such as private study (e.g., a dubbing of an original recording of a piece of music), or preservation (e.g., a photocopy produced on permanent paper of an author's original typescript). Whether the scope of production is broad (e.g., in the case of publication, etc.) or limited (e.g., in the case of copies made for private study, etc.), the set of copies produced in each case constitutes a Manifestation. All copies produced that form part of the same set are considered to be copies of the same Manifestation" (FRBR 2009, pp. 21-22). "The boundaries between one Manifestation and another are drawn on the basis of both intellectual content and physical form. When the production process involves changes in physical form the resulting product is considered a new Manifestation. Changes in physical form include changes affecting display characteristics (e.g., a change in typeface, size of font, page layout, etc.), changes in physical medium (e.g., a change from paper to microfilm as the medium of conveyance), and changes in the container (e.g., a change from cassette to cartridge as the container for a tape). Where the production process involves a publisher, producer, distributor, etc., and there are changes signaled in the product that are related to publication, marketing, etc. (e.g., a change in publisher, repackaging, etc.), the resulting product may be considered a new Manifestation. Whenever the production process involves modifications, additions, deletions, etc. that affect the intellectual or artistic content, the result is a new Manifestation embodying a new Expression of the Work" (FRBR 2009, p. 22).
	Examples	The publication product containing the text entitled 'Harmonie universelle' (authored by the person named 'Marin Mersenne'), issued in 1636 in Paris by the publisher named 'Sébastien Cramoisy' The publication product containing a modern reprint of Marin Mersenne's 'Harmonie universelle', issued in 1986 in Paris by the publisher named 'Les éditions du CNRS', and identified by ISBN '2-222-00835-2' The publication product containing the third edition of the combination of texts and graphics titled 'Codex Manesse: die Miniaturen der großen Heidelberger Liederhandschrift, herausgegeben und erläutert von Ingo F. Walther unter Mitarbeit von Gisela Siebert', issued by the publisher named 'Insel-Verlag' in 1988
	Comment	"Changes that occur deliberately or even inadvertently in the production process that affect the copies result, strictly speaking, in a new Manifestation. A Manifestation resulting from such a change may be identified as a particular "state" or "issue" of the publication" (FRBR 2009, p. 23). "Changes that occur to an individual copy after the production process is complete (e.g., the loss of a page, rebinding, etc.) are not considered to result in a new Manifestation. That copy is simply considered to be an exemplar (or item) of the Manifestation that deviates from the copy as produced" (FRBR 2009, p. 23).
#	**Name**	**Definition**
SPA-E5 Item		physical embodiment of any linguistic, symbolic, or graphic information by any method; single exemplar of a Manifestation

	Subclass of	SPA-E23 Object ore:Aggregation dcterms:BibliographicResource
	Superclass of	-
	Equivalent Classes	frbr:Item FRBRoo-F4 Manifestation Singleton * FRBRoo-F5 Item * RiC-E1 Record rdac:C10003 “item”
	Scope Note	“The entity defined as Item is a concrete entity. It is in many instances a single physical object (e.g., a copy of a one-volume monograph, a single audio cassette, etc.). There are instances, however, where the entity defined as Item comprises more than one physical object (e.g., a monograph issued as two separately bound volumes, a recording issued on three separate compact discs, etc.)” (FRBR 2009, p. 24). “In terms of intellectual content and physical form, an Item exemplifying a Manifestation is normally the same as the Manifestation itself. However, variations may occur from one Item to another, even when the Items exemplify the same Manifestation, where those variations are the result of actions external to the intent of the producer of the Manifestation (e.g., damage occurring after the Item was produced, binding performed by a library, etc.)” (FRBR 2009, p. 24). In the context of an archive, an Item is the equivalent of a record, i.e. the “linguistic, symbolic, or graphic information represented in any persistent form, on any durable carrier, by any method, by an Agent in the course of life or work events and activities” (RiC 2016, p.13). Both from a Work perspective and from an archival perspective, Items may be created by incorporating other pre-existing items. Thus, Items may contain other Items. From an archival point of view, such ‘compound records’ should not be confused with a Record Set, as they are evidence of a single transaction by an Agent rather than a grouping of distinct records as part of their management and use (cf. RiC 2016, p. 13). Note that within the SPA Data Model, Items are modelled as aggregations comprising the set of analog objects and digital resources related to a single cultural heritage object that collectively represent that object in the context of one or several heritage collections (see figure 5). Such a set consists of the original cultural heritage object (Cultural Heritage Object) as well as all available descriptions, analog copies (Analog Copy), and digital representations (Digital Resource) of the object.
	Examples	The video recording of "Le coq est mort", part of the series "Le coq est mort (Suanne Linke) within the fonds "Sammlung: Brunner Wolfgang" in the section "Sammlung" of the Swiss Dance Collection. Model of the thatre in the «Hôtel de Musique» in Bern by Niklaus Sprüngli, held by the Swiss Theatre Collection.
	Comment	* The FRBRoo data model distinguishes between FRBRoo-F4 Manifestation Singleton and FRBRoo-F5 Item; while both are sub-classes of CIDOC CRM-E24 Physical Man Made Thing, the latter is in addition modeled as a sub-class of FRBRoo-F54 Utilized Information Carrier. Inasmuch as this distinction is not relevant in a given context, they can both be treated as equivalent classes of SPA-E4 Item. In an archival context, the description level “item” is to be modelled as Item.

#	Name	Definition
SPA-E6 Endeavour of the Performing Arts		any of the FRBR group 1 entities applied to a performance work
	Subclass of	SPA-E1 Endeavour
	Superclass of	SPA-E7 Performance Work SPA-E8 Performance Plan SPA-E9 Performing Arts Production SPA-E10 Performance
	Equivalent Class	-
	Scope Note	This class represents any one of the FRBR group one entities related to the creation, realization, and the production of a performance work (Performance Work, Performance Plan, Performing Arts Production, Performance) or a combination thereof.
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-E7 Performance Work		distinct performing arts creation at a conceptual level
	Subclass of	SPA-E2 Work SPA-E6 Endeavour of the Performing Arts
	Superclass of	-
	Equivalent Class	FRBRoo-F20 Performance Work
	Scope Note	"This class comprises the sets of concepts for rendering a particular or a series of like performances" (FRBRoo 2015, p. 54).
	Examples	The conceptual content of Sergei Radlov's mise-en-scène of a Yiddish translation of the textual work entitled 'King Lear' in Moscow in 1935. The conceptual content of Pina Bausch's choreography of the ballet entitled 'Rite of spring' in Wuppertal in 1975. The conceptual content of Bruno Walter's performance of Gustav Mahler's 9th symphony in 1961. The conceptual content of the "performance handbook" for Luigi Nono's musical work entitled 'À Pierre'. "Die Grönholm-Methode", a performance work based on the theatre play "El mètode Grönholm" by Jordi Galceran produced by "Theater Matte" in Bern and directed by Oliver Stein during the theatre season 2016/2017.
	Comment	Within FRBRoo, Performance Work is declared as a subclass of Container Work. This implies that the incorporated expressions (such as the text of the staged play, the text of the argument for the ballet, the recorded music to be used for the ballet, or the content of the musical score to be used for a concert, etc.) are not by themselves a part of the expression of the Performance Work. Rather, the corresponding expression (Performance Plan) consisting of the instructions for the stage production, choreography, or musical performance incorporates (SPA-R incorporates) that textual or musical content. "In other words, the text of 'Hamlet' is not a component of the concepts that underlie a given mise-en-scène of 'Hamlet', but any staging directions (Performance Plan) that convey a given director's vision of 'Hamlet' must necessarily incorporate the text of 'Hamlet'" (FRBRoo 2015, p. 54).
#	**Name**	**Definition**
SPA-E8 Performance Plan		artistic realization of a Performance Work expressed in a set of directions to which individual performances of theatrical, choreographic, or musical works and their combinations should conform

	Subclass of	SPA-E3 Expression SPA-E6 Endeavour of the Performing Arts
	Superclass of	-
	Equivalent Class	FRBRoo-F25 Performance Plan
	Scope Note	"This class comprises sets of directions to which individual performances of theatrical, choreographic, or musical works and their combinations should conform. In the case of theatrical performances, such directions incorporate, but are not limited nor reducible to, the text of a given version of the play performed (e.g., a translated text, some passages of which are deliberately omitted, with some rephrased lines, etc.). In the case of choreographic performances, such directions may incorporate, but are neither limited nor reducible to, the notation of choreographic movements in systems such as labanotation. In the case of musical performances, such directions may incorporate, but are neither limited nor reducible to, the musical score. In case of electronic music, they may incorporate software instructions. These directions may or may not completely determine the form of the intended performance. Depending on the nature of the directions, the form of the intended performance, such as the sets of movements or the sound characteristics, may or may not be predictable from the directions" (FRBRoo 2015, p. 57-58).
	Examples	The set of instructions for the production of a Yiddish translation of the textual work entitled 'King Lear', as directed by Sergei Radlov in Moscow in 1935. The set of instructions for the production of the ballet entitled 'Rite of spring', as choreographed by Pina Bausch in Wuppertal in 1975. The set of instructions by Bruno Walter for performing Gustav Mahler's 9th symphony, delivered by him to the Columbia Symphony Orchestra during rehearsals in Hollywood in 1961 (as partially documented in the CD entitled 'Bruno Walter conducts and talks about Mahler symphony No. 9: rehearsal & performance'). The set of instructions contained in the "performance handbook" for Luigi Nono's musical work entitled 'À Pierre'. The artistic realization of the performance work "Die Grönholm-Methode" by Jordi Galceran, based on a Swiss-German adaptation of the play.
	Comment	"Note that a performance plan may be more or less elaborate, and may even foresee just improvisation" (FRBRoo 2015, p. 58).
#	**Name**	**Definition**
SPA-E9 Performing Arts Production		physical embodiment of a Performance Plan of a Performance Work in form of one or several supposedly identical Performances; a complete run of contiguous Performances
	Subclass of	SPA-E4 Manifestation SPA-E28 Activity SPA-E6 Endeavour of the Performing Arts
	Superclass of	schema:TheaterEvent * *(see also SPA-E9 Performance)* schema:DanceEvent * *(see also SPA-E9 Performance)*
	Equivalent Class	FRBRoo-F31 Performance * *(see also SPA-E9 Performance)*
	Scope Note	This class comprises a set of one or several Performances that follow the direc-

		tions of the same Performance Plan, such as a theatrical play, an expression of a choreographic work or a musical work. "A complete run of Performances may comprise an original run plus any of its extensions and tours" (FRBRoo 2015, p. 60).
	Examples	Performing of the operatic work entitled 'Dido and Aeneas', as directed by Edward Gordon Craig and conducted by Martin Shaw, in London, Hampstead Conservatoire, on May 17, 18, and 19, 1900 (run of performances). Performing of the theatre play "Die Grönholm-Methode" by Jordi Galceran, staged at "Theater Matte" in Bern under the direction of Oliver Stein between 5 April and 7 May 2017.
	Comment	* Note that FRBRoo (2015) does not distinguish between Performing Arts Productions and single Performances. Rather, several instances of FRBRoo-F31 Performance may be grouped together as parts of an overarching instance of FRBRoo-F31 representing a complete run of performances. The same applies to schema.org with regard to Theatre Event and Dance Event. "Note that a performance plan may be more or less elaborate, and may even foresee just improvisation. (FRBRoo 2015, p. 61)"
#	**Name**	**Definition**
SPA-E10 Performance		individual representation of a Performance Work according to a Performance Plan in the context of a Performing Arts Production
	Subclass of	SPA-E28 Activity SPA-E6 Endeavour of the Performing Arts
	Superclass of	schema:TheaterEvent * *(see also SPA-E8 Performing Arts Production)* schema:DanceEvent * *(see also SPA-E8 Performing Arts Production)*
	Equivalent Class	FRBRoo-F31 Performance * *(see also SPA-E8 Performing Arts Production)*
	Scope Note	This class comprises activities that follow the directions of a Performance Plan, such as a theatrical play, an expression of a choreographic work or a musical work; i.e., they are intended to communicate directly or indirectly to an audience. Any individual performance (with or without intermissions) is an instance of Performance (cf. FRBRoo 2015, p. 61). Taken together, all Performances following the same Performance Plan, and thus forming a complete run of Performances, constitute a Performing Arts Production.
	Examples	First performance of a Yiddish translation of the textual work entitled 'King Lear', as directed by Sergei Radlov, in Moscow, at the Moscow State Jewish Theatre, on February 10, 1935 (individual performance). Individual performance of the ballet entitled 'Rite of spring', as choreographed by Pina Bausch, in Avignon, at the Popes' Palace, on July 7. The guest performance of Liberté provisoire by Michel Duran at Stadttheater Bern on 18 March 1935, produced by the touring theatre company "Les Galas Karsenty" based on an original production by the "Théâtre Saint-Georges" in Paris and directed by Jacques Baumer.
	Comment	* Note that FRBRoo (2015) does not distinguish between Performing Arts Productions and single Performances. Rather, several instances of FRBRoo-F31 Performance may be grouped together as parts of an overarching instance of FRBRoo-F31 representing a complete run of performances. The same applies to schema.org with regard to Theatre Event and Dance Event.

#	Name	Definition
SPA-E11 Series of Performances		several individual representations of a Performance Work according to a Performance Plan in the context of a Performing Arts Production
	Subclass of	SPA-E28 Activity SPA-E6 Endeavour of the Performing Arts
	Superclass of	schema:TheaterEvent* *(see also SPA-E8 Performing Arts Production)* schema:DanceEvent* *(see also SPA-E8 Performing Arts Production)*
	Equivalent Class	FRBRoo-F31 Performance* *(see also SPA-E8 Performing Arts Production)*
	Scope Note	This class comprises a subset of individual Performances in the context of the same Performing Arts Production. It is used to describe sets of performances that have something in common, e.g. all the performances of a touring production taking place in the same venue. This class is also to be used if it is unknown if there was just one or several Performances of the same kind. Thus, the series may contain just one Performance.
	Examples	The six representations of the guest performance at the Théâtre de Carouge (Carouge, Switzerland) of "Le Roi Lear" ("King Lear") by William Shakespeare, produced by the Théâtre Populaire Romand (La Chaux-de-Fonds, Switzerland) and directed by Charles Joris during the theatre season 1976/1977 (starting on 1 March 1977).
	Comment	* Note that FRBRoo (2015) does not distinguish between Performing Arts Productions and single Performances. Rather, several instances of FRBRoo-F31 Performance may be grouped together as parts of an overarching instance of FRBRoo-F31 representing a complete run of performances. The same applies to schema.org with regard to Theatre Event and Dance Event.
#	**Name**	**Definition**
SPA-E12 Collection		aggregation of Objects that are assembled and maintained (curated and preserved) by one or more Agents over time for a specific purpose and audience, and according to a particular collection development plan
	Subclass of	SPA-E23 Object
	Superclass of	SPA-E13 Record Set
	Equivalent Class	CIDOC CRM-E78 Collection
	Scope Note	"Items may be added or removed from a Collection in pursuit of this plan. This class should not be confused with the [Agent] maintaining the Collection often referred to with the name of the Collection (e.g. 'The Wallace Collection decided…')" (CIDOC CRM 2015, p. 36). "Collective objects in the general sense, like a tomb full of gifts, a folder with stamps or a set of chessmen, should be documented as instances of [Object], and not as instances of Collection. This is because they form wholes either because they are physically bound together or because they are kept together for their functionality" (CIDOC CRM 2015, p. 36).
	Examples	the John Clayton Herbarium the Wallace Collection Mikael Heggelund Foslie's coralline red algae Herbarium at Museum of Natural History and Archaeology, Trondheim, Norway the section "Sammlung" of the Swiss Dance Collection
	Comment	In an archival context, the archival units (sections) above the "fonds" level according to ISAD(G) are to be modelled as Collection, while the description levels from the "fonds" level downwards ("fonds" / "series" / "file") are to be modelled as Record Set.

#	Name	Definition
SPA-E13 Record Set		one or more records (Items) that are intellectually brought together at some point by an Agent, wherever the records (Items) may reside and whatever the shared properties or relations among them may be
	Subclass of	SPA-E12 Collection
	Superclass of	-
	Equivalent Class	RiC-E3 Record Set
	Scope Note	"In a particular context, an Agent (e.g. administrator, records manager, archivist, end-user, etc.) selects the member records [Items] of a Record Set based on a shared property or properties, or a shared relation or relations. The grouping of the records [Items] serves a purpose or purposes specific to the context of the Agent. By exception, some records are brought together based on their not belonging in the context of selection to other designated groups: a 'Miscellaneous' series for example" (RiC 2016, p. 13). "The selection and grouping, for example, may represent the act of classifying the records in accordance with a formal classification scheme that may be based on function, subject, organizational structure, or other criteria; an act of archival arrangement (e.g. based on common provenance); or some other selection and grouping that fulfils a particular purpose or purposes (e.g. a classification that reflects or supports the purposes of a researcher). The Record Set created by an Agent in the course of life or work events and Activities should be kept in a manner that preserves context and evidential value" (RiC 2016, pp. 13-14). "Records Sets may also contain other Records Sets. Both a Record Set and a record [Item] may simultaneously be a member of more than one Record Set, and over the course of its existence, a Record Set or record [Item] may be a member of an indeterminate number of Record Sets in an indeterminate number of contexts" (RiC 2016, p. 14). "One or more records [Items] in one context may be subsumed or incorporated into a record [Item] in another context to form a new record [Item]. Such a 'compound record' should not be confused with a Record Set" (RiC 2016, p. 14).
	Examples	Fonds "Sammlung: Brunner, Wolfgang" in the section "Sammlung" of the Swiss Dance Collection; Series "Le coq est mort (by Susanne Linke)" as part of the fonds "Sammlung: Brunner, Wolfgang" in the section "Sammlung" of the Swiss Dance Collection.
	Comment	In an archival context, the archival units (sections) above the "fonds" level according to ISAD(G) are to be modelled as Collection, while the description levels from the "fonds" level downwards ("fonds" / "series" / "file") are to be modelled as Record Set.

4.3 Group 2 Classes

Group 2 classes pertain to agents, i.e. "those entities responsible for the intellectual or artistic content, the physical production and dissemination, or the custodianship" (FRBR 2009, p. 13) of the entities belonging to the first group. Like RiC, FRAD, and ISAAR(CPF), the SPA Data Model distinguishes between three sub-classes of Agent, namely Person, Family, and Corporate Body. Note that other data models, such as CIDOC CRM, only distinguish between Person and Group, while FRBR only distinguishes between Person and Corporate Body. Figure 2 gives an overview of all the group 2 classes and their ontological relationships.

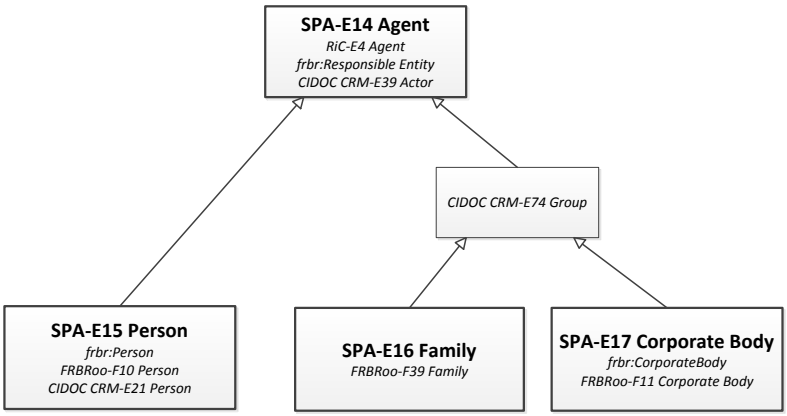

Figure 2: Overview of group 2 classes

#	Name	Definition
SPA-E14 Agent		a person or group, or an entity created by a person or group, that is responsible for actions taken and their effects
	Subclass of	-
	Superclass of	SPA-E15 Person SPA-E16 Family SPA-E17 Corporate Body
	Equivalent Class	RiC-E4 Agent frbr:ResponsibleEntity CIDOC CRM-E39 Actor dcterms:Agent edm:Agent foaf:Agent premis:Agent rdac:C10002 “agent”
	Scope Note	“An Agent is known by one or more identities; an identity is a constellation of properties or relations that together “identify” the Agent. Persons or groups commonly have one identity, though they also may have one or more assumed or fictitious identities. Such assumed identities may be shared by more than one person or group. Assumed identities include but are not limited to pseudonyms, heteronyms, DBA (Doing Business As), and trade identities” (RiC 2016, p. 14). “An assumed identity should not be confused with Positions in corporate bodies, for example, presidents, prime ministers, governors, popes, royalty, or bishops. Nor should an assumed identity be confused with a variant of the same identity. Agent also includes entities created by a person or group that act on behalf of the creating Agent in an autonomous or semi-autonomous manner. Examples of such delegate-agents are software agents, robots, and space and underwater probes that generate data (records) in fulfilment of the function assigned to and the instructions given to them by the creating person or group” (RiC 2016, p. 14).
	Example	*See examples for the subclasses.*
	Comment	“Typically archivists will want to attribute responsibility for acting to the person or persons, or group or groups ‘behind’ the assumed identity, but documentation of assumed identities and relating them to the persons or groups whom they represent is important for several reasons: an assumed identity may be the only one known by a user, and thus documentation of an assumed identity and

		relating it to the person or group identity represented by it facilitates access; an assumed identity may be a significant component of the history of the person or group it represents; an assumed identity may be the subject of records; and, an assumed identity may elide the given identity of the person or group it represents, thus effectively eclipsing or replacing the given identity" (RiC 2016, pp. 14-15). When modelling data, more specific sub-classes (Person, Family, Corporate Body) should be used to the extent possible.
#	**Name**	**Definition**
SPA-E15 Person		an individual
	Subclass of	SPA-E14 Agent
	Superclass of	-
	Equivalent Class	frbr:Person FRBRoo-F10 Person CIDOC CRM-E21 Person foaf:Person rdac:C10004 "person" schema:Person
	Scope Note	This class comprises real persons who live or are assumed to have lived. It does not include bibliographic identities or personae assumed by an individual or a group (cf. FRBRoo 2015, p. 49).
	Example	Maurice Béjart Igor Stravinsky William Shakespeare
	Comment	-
#	**Name**	**Definition**
SPA-E16 Family		group of two or more persons presented as a family or family members
	Subclass of	SPA-E14 Agent
	Superclass of	-
	Equivalent Class	FRBRoo-F39 Family rdac:C10008 "family"
	Scope Note	"This class comprises groups of two or more persons presented as a family justified by relationships of birth, marriage, adoption, civil union, or similar social or legal status and an assumed common tradition, including examples such as royal families, dynasties, houses of nobility, etc." (FRBRoo 2015, p. 64).
	Examples	House of Tudor The Grimm brothers The Knie dynasty
	Comment	-
#	**Name**	**Definition**
SPA-E17 Corporate Body		an organization or group of individuals and/or organizations acting as a unit
	Subclass of	SPA-E14 Agent
	Superclass of	foaf:Organization schema:Organization foaf:Group

		schema:PerformingGroup
	Equivalent Class	frbr:CorporateBody FRBRoo-F10 Corporate Body rdac:C10005 “corporate body”
	Scope Note	“This class comprises organisations and groups of two or more people and/or organisations acting as a unit” (FRBRoo 2015, p. 50). “The [class] also encompasses organizations that act as territorial authorities, exercising or claiming to exercise government functions over a certain territory, such as a federation, a state, a region, a local municipality, etc.” (FRBR 2009, p. 25). “To be considered a Corporate Body a gathering of people needs to bear a name and exhibit organisational characteristics sufficient to allow the body as a whole to participate in the creation, modification or production of information objects. Groups such as conferences, congresses, expeditions, exhibitions, festivals, fairs, etc. are modelled as Corporate Bodies when they are named and can take collective action, such as approving a report or publishing their proceedings” (FRBRoo 2015, p. 50). “The [class] encompasses organizations and groups that are defunct as well as those that continue to operate” (FRBR 2009, p. 26).
	Examples	Swiss Theatre Collection Swiss Dance Collection Municipal Archive of the City of Zurich
	Comment	-

4.4 Group 3 Classes

Group 3 classes represent an additional set of entities that may serve as the subjects of works or records, or have any relevance with regard to their conception, creation, performance, reception, curation or management. The group includes SPA-E14 Place (a location), SPA-E15 Object (a material thing), SPA-E16 Concept (an abstract notion or idea), and SPA-E17 Event (an action or occurrence) (cf. FRBR 2009, p. 17).

Note that both group1 and group 2 classes may also be the subjects of works or records. Figure 3 gives an overview of group 1 and group 3 classes and their ontological relationships; group 2 classes are not represented in the figure.

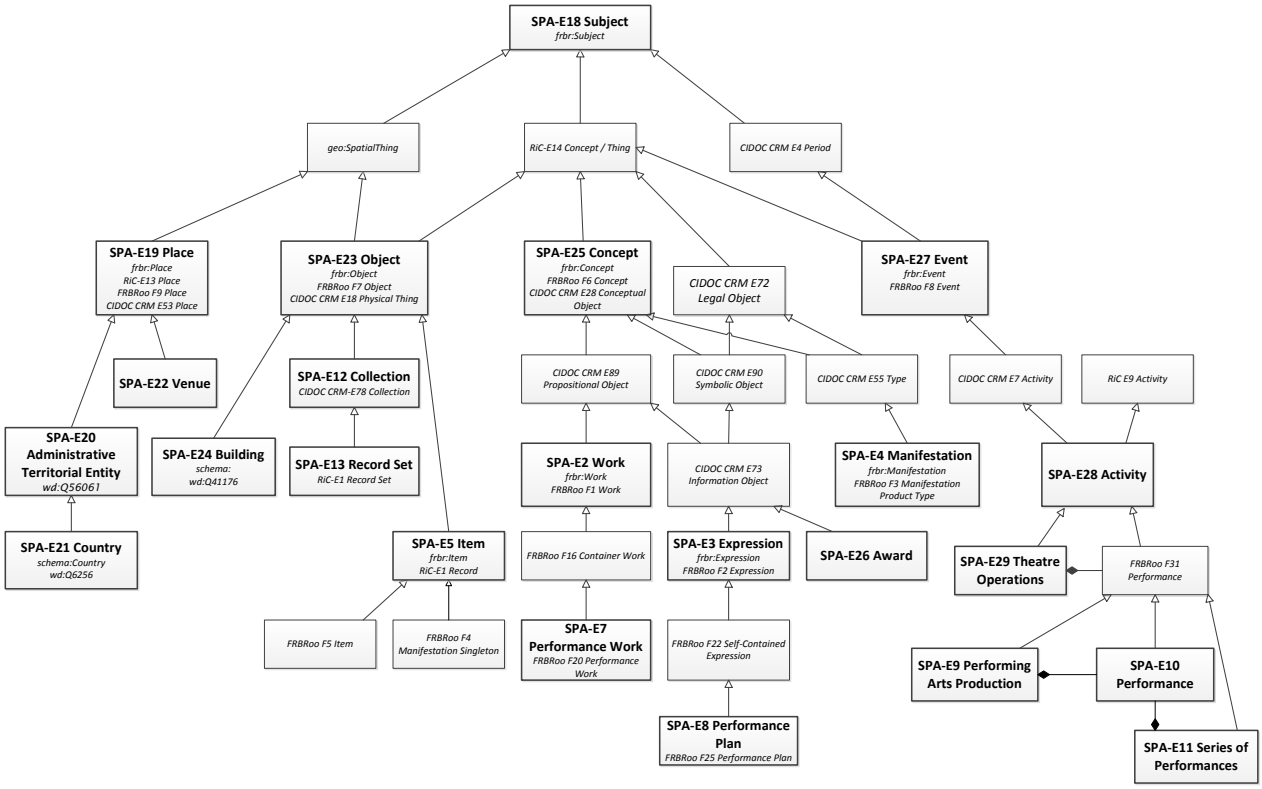

Figure 3: Overview of group 1 and group 3 classes and their ontological relationships

The various existing ontologies model some of the entities in a slightly different manner. In most of the cases, this is of no relevance in the context of the SPA Data Model, as the various entities can be mapped onto each other without any major contradictions. In the case of "Activity", however, RiC (2016) and CIDOC CRM (2015) approach the concept from slightly different angles. The SPA Data Model therefore defines its own class SPA-E18 Activity (*"a set of coordinated actions or transactions performed by an Agent"*) that can be modelled as a subclass of the two above-mentioned classes. In addition, the SPA Data Model defines a specific sub-class of SPA-E18 Activity comprising the activities related to the exploitation of one or several theatre venues (SPA-E19 Theatre Operations).

#	Name	Definition
SPA-E18 Subject		any of the FRBR group three entities (Place, Object, Concept, Event)
	Subclass of	-
	Superclass of	SPA-E19 Place SPA-E23 Object SPA-E25 Concept SPA-E27 Event
	Equivalent Class	frbr:Subject
	Scope Note	This class represents any of the FRBR group three entities. No member of this class can also be a member of Agent or Endeavour.
	Example	-
	Comment	-
#	**Name**	**Definition**
SPA-E19 Place		a location, jurisdiction or any geographic or administrative point or area
	Subclass of	SPA-E18 Subject
	Superclass of	SPA-E22 Venue

	Equivalent Class	frbr:Place RiC-E13 Place FRBRoo-F9 Place CIDOC CRM-E53 Place dcterms:Location edm:Place rdac:C10009 “place” schema:Place
	Scope Note	The class Place encompasses a comprehensive range of locations: terrestrial and extra-terrestrial; historical and contemporary; geographic features and geo-political jurisdictions (cf. FRBR 2009, p. 28).
	Example	London, England Auerbach’s Cellar
	Comment	-
#	**Name**	**Definition**
SPA-E20 Administrative Territorial Entity		territorial entity for administration purposes, with or without its own local government
	Subclass of	SPA-E19 Place
	Superclass of	SPA-E21 Country
	Equivalent Class	wd:Q56061
	Scope Note	
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-E21 Country		a country
	Subclass of	SPA-E20 Administrative Territorial Entity
	Superclass of	-
	Equivalent Class	schema:Country wd:Q6256
	Scope Note	
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-E22 Venue		a place where an organized event takes place
	Subclass of	SPA-E19 Place
	Superclass of	schema:EventVenue schema:PerformingArtsTheater
	Equivalent Class	
	Scope Note	The class Venue encompasses any type of location where an event, such as a concert, conference, or sports competition, takes place. This includes permanent or temporary structures as well as outdoor sites. A Venue may (but does not have to) correspond to or form a part of a building. A building may contain one or several venues (e.g. several theatre stages).
	Example	Seebühne Thun (a temporary stage erected on Lake Thun for the purpose of the annual summer open-air musical production “Thunerseespiele”)

		Opéra Bastille, Paris Main Auditorium of Opéra Bastille, Paris Amphiteatre of Opéra Bastille, Paris Studio Theatre of Opéra Bastille, Paris
	Comment	A venue may itself contain one or several venues.
#	**Name**	**Definition**
SPA-E23 Object		a material thing
	Subclass of	SPA-E18 Subject
	Superclass of	SPA-E5 Item SPA-E12 Collection SPA-E24 Building SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Equivalent Class	frbr:Object FRBRoo-F7 Object CIDOC CRM-E18 Physical Thing
	Scope Note	The class Object encompasses a comprehensive range of material things that may be the subject of a Work, a record (Item) or a Record Set: animate and inanimate objects occurring in nature; fixed, movable, and moving objects that are the product of human creation; objects that no longer exist (cf. FRBR 2009, p. 27).
	Example	Buckingham Palace The Eiffel Tower The Mona Lisa (the painting)
	Comment	-
#	**Name**	**Definition**
SPA-E24 Building		a structure with a roof and walls standing more or less permanently in one place
	Subclass of	SPA-E23 Object
	Superclass of	-
	Equivalent Class	wd:Q41176
	Scope Note	The class Building encompasses any structure with a roof and walls standing more or less permanently in one place.
	Example	Buckingham Palace The Eiffel Tower Berner Stadttheater (theatre building in Bern)
	Comment	-
#	**Name**	**Definition**
SPA-E25 Concept		an abstract notion or idea
	Subclass of	SPA-E18 Subject
	Superclass of	SPA-E2 Work SPA-E3 Expression SPA-E4 Manifestation

		SPA-E26 Award
	Equivalent Class	frbr:Concept FRBRoo-F6 Concept CIDOC CRM-E28 Conceptual Object skos:Concept
	Scope Note	The class Concept encompasses a comprehensive range of abstractions that may be the subject of a Work, a record (Item) or a Record Set: fields of knowledge, disciplines, schools of thought (philosophies, religions, political ideologies, etc.), theories, processes, techniques, practices, etc. A concept may be broad in nature or narrowly defined and precise (cf. FRBR 2009, p. 26).
	Example	Economics Romanticism Beethoven's "Ode an die Freude" (Ode to Joy) the definition of "ontology" in the Oxford English Dictionary the knowledge about the victory at Marathon carried by the famous runner
	Comment	-
#	**Name**	**Definition**
SPA-E26 Award		a prize or other mark of recognition given in honor of an achievement.
	Subclass of	SPA-E25 Concept
	Superclass of	-
	Equivalent Class	-
	Scope Note	The class Award encompasses all types of prizes or other marks of recognition given in honor of an achievement, be it as part of a competition or not.
	Example	Evening Standard Theatre Award for the best play Evening Standard Theatre Award for the best actor Charles Wintour Award for Most Promising Playwright Prix de Lausanne
	Comment	-
#	**Name**	**Definition**
SPA-E27 Event		an action or occurrence
	Subclass of	SPA-E18 Subject
	Superclass of	SPA-E28 Activity
	Equivalent Class	frbr:Event FRBRoo-F8 Event schema:Event
	Scope Note	The class Event encompasses a comprehensive range of actions and occurrences that may be the subject of a Work, a record (Item) or a Record Set: historical events, epochs, periods of time, etc. (cf. FRBR 2009, p. 28)
	Example	The death of Johann Wolfgang von Goethe on 22 March 1832 in Weimar The writing of "Faust" by Goethe The staging of Charles Gounod's opera "Faust" by Konzert Theater Bern during the theatre season 2016-2017
	Comment	-

#	Name	Definition
SPA-E28 Activity		a set of coordinated actions or transactions performed by an Agent
	Subclass of	SPA-E27 Event
	Superclass of	SPA-E9 Performing Arts Production SPA-E10 Performance SPA-E29 Theatre Operations
	Equivalent Class	-
	Scope Note	The class Activity encompasses any set of coordinated actions or transactions performed by an Agent. Agents typically perform their activities in the fulfilment of a Function, or in the pursuit of an Occupation.
	Examples	The writing of "Faust" by Goethe The staging of Charles Gounod's opera "Faust" by Konzert Theater Bern during the theatre season 2016-2017
	Comment	RiC (2016) and CIDOC CRM (2015) approach the concept of Activity from two different angles: The definition for RiC-E9 Activity is quite specific *("A set of coordinated actions or transactions performed by an Agent in fulfilment of a Function, or in the pursuit of an Occupation"*, RiC 2016, p. 16), whereas CIDOC CRM defines E7 Activity in much broader terms and without reference to a function or an occupation *("This class comprises actions intentionally carried out by instances of E39 Actor that result in changes of state in the cultural, social, or physical systems documented. This notion includes complex, composite and long-lasting actions such as the building of a settlement or a war, as well as simple, short-lived actions such as the opening of a door"*, CIDOC CRM 2015, p. 6).
#	**Name**	**Definition**
SPA-E29 Theatre Operations		the activities related to the exploitation of one or several theatre venues
	Subclass of	SPA-E28 Activity
	Superclass of	-
	Equivalent Class	-
	Scope Note	The class Theatre Operations encompasses all the activities related to the exploitation of one or several theatre venues. Most notably, it includes the establishment of a program for a given theatre season and negotiations with production companies. Agents responsible for Theatre Operations may or may not be responsible for the production of individual theatre events themselves.
	Examples	The programming, organization, and hosting by Konzert Theater Bern of some 30 theatre productions, some 20 large concert events, and various smaller events, totaling in more than 400 performance events during the season 2012-2013, taking place at its three venues "Stadttheater Bern", "Kulturcasino Bern", and "Vidmarhallen Köniz".
	Comment	-

4.5 Classes for the Description of Agents' Roles in Social Settings

A further set of classes is used to describe the role of agents in social settings (see figure 4). Thus, an Agent may pursue a profession, trade, or craft (Occupation), define or occupy a role within a corporate body (Position), or fulfil an enduring goal, purpose, or objective (Function). While these entities have been directly derived from RiC (2016), the SPA Data Model defines an additional class Perfor-

mance Role, used to describe which roles are foreseen by a given Work or Expression and are played by an Agent in the course of a Performing Arts Production or of a single Performance.

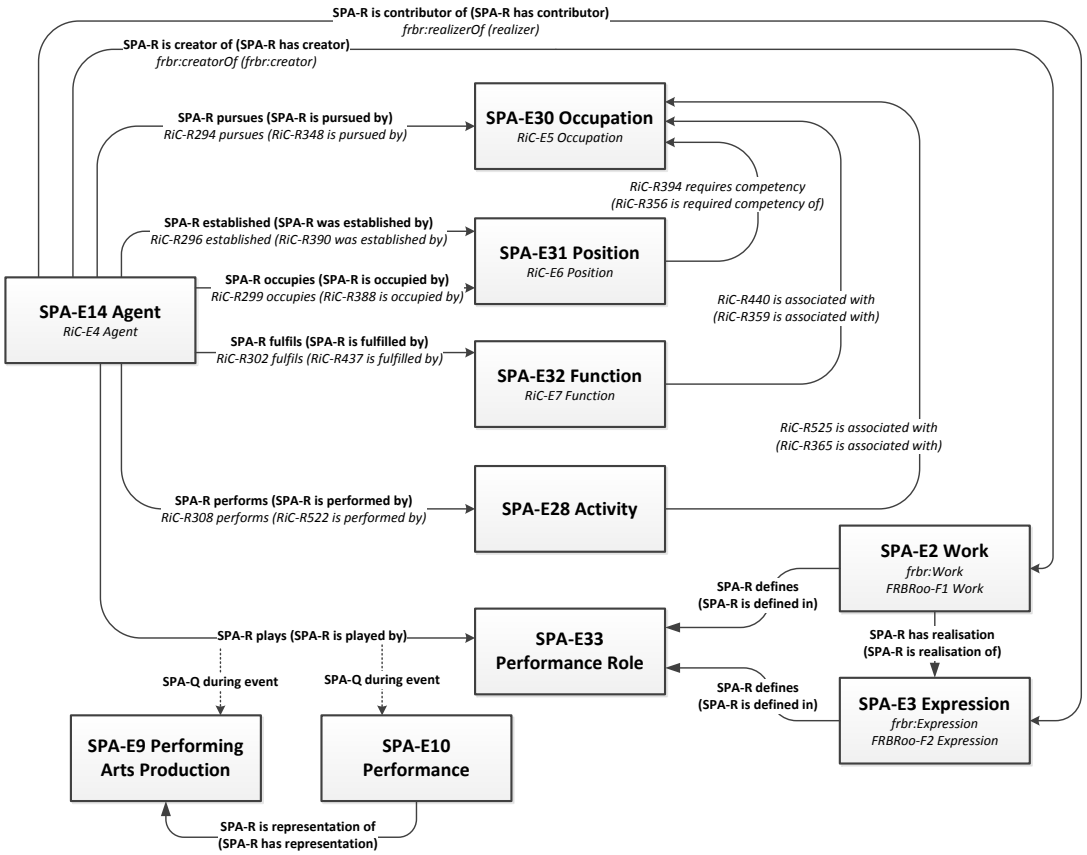

Figure 4: Overview of classes for the description of agents' roles in social settings

As that Performance Role describes a triangular relationship between a Person, a Work, and a Performing Arts Production, qualifiers are used to further specify the various relations. Figure 4 shows how to describe which Performance Roles have been played by a given Agent. By means of a qualifier, the property *SPA-R plays* can be linked to a specific Performing Arts Production or Performance. Similarly, the triangular relationship can be described from the point of view of a given Production. See the modelling example in figure 6 for an alternative representation of Performance Roles and their relationship to a Work/Expression, Agents and a given Performing Arts Production.

#	Name	Definition
SPA-E30 Occupation		a profession, trade, or craft pursued by a person in fulfilment of a Function
	Subclass of	SPA-E25 Concept
	Superclass of	-
	Equivalent Class	RiC-E5 Occupation
	Scope Note	"The pursuit of an Occupation involves the performance of an Activity in fulfilment of a Function. Successful performance of the Activity is based on the ability to perform successfully (a competency). This competency may be acquired through education or experience, or a combination of both. The authority of the person to pursue the Occupation may be derived tacitly or explicitly from an

		external Agent, based on a demonstrated mastery of the competency" (RiC 2016, p.15). "Occupation should not be confused with Position, for example, a lawyer that holds the Position of legal counsel in an agency" (RiC 2016, p.15). "Though Occupation is related to a domain or field of Activity, it should not be confused with this domain, for example, an archivist works in the domain of archival science" (RiC 2016, p.15). "An Occupation may be pursued independently by a person, or pursued within a group, contributing to the fulfillment of the Function of the group" (RiC 2016, p.15).
	Examples	archivist; actor; choreographer; doctor; lawyer; records manager; teacher
	Comment	-
#	**Name**	**Definition**
SPA-E31 Position		a role that may be assigned to a person (or to several persons simultaneously) within a corporate body, and that exists independently of the person(s) who may hold it
	Subclass of	SPA-E25 Concept
	Superclass of	-
	Equivalent Class	RiC-E6 Position
	Scope Note	"A Position is often given a title/name" (RiC 2016, p. 15). "A Position may be tied to a project or to a set of tasks and thus have a defined duration" (RiC 2016, p. 15). "A Position may change over time, as the corporate body that establishes it changes over time. Position is not to be confused with Occupation, which is a profession, trade, or craft pursued by a person in fulfilment of a Function; nor with Function, which is the Agent's goal; nor with Activity, which is the sets of actions performed by an Agent" (RiC 2016, p. 15). "Within the records created by a Corporate Body, the Position entity may be used to identify the Record Sets resulting from Activities performed by persons who hold a Position over time, without necessarily identifying or describing those persons, or identifying which Records were created by each of them" (RiC 2016, p. 15).
	Examples	head, president or director of a corporate body or unit of a corporate body executive manager technical advisor
	Comment	-
#	**Name**	**Definition**
SPA-E32 Function		an enduring goal, purpose, or objective of an Agent
	Subclass of	SPA-E25 Concept
	Superclass of	-
	Equivalent Class	RiC-E7 Function
	Scope Note	"A Function exists in a specific social and cultural context, and within that context is subject to change over time. It should not be confused with an abstract function that is independent of a particular context" (RiC 2016, p. 16). "A Function may be composed of other Functions" (RiC 2016, p. 16).

		"A Function may be related to more than one Agent simultaneously or over time" (RiC 2016, p. 16). "The fulfilment of a Function requires the performance of one or more Activities. Both the Function and performance of the Activities are governed by one or more explicit or implicit Mandates" (RiC 2016, p. 16).
	Example	teaching, University of Glasgow marketing, Army & Navy Stores Ltd.
	Comment	-
#	**Name**	**Definition**
SPA-E33 Performance Role		a role that may be assigned to a person (or to several persons simultaneously) in the context of a Performing Arts Production
	Subclass of	SPA-E25 Concept
	Superclass of	-
	Equivalent Class	-
	Scope Note	A Performance Role is a role that may be assigned to a person (or to several persons simultaneously) in the context of a Performing Arts Production which is defined by a theatrical or choreographic Work and exists independently of the person(s) who may impersonate it.
	Example	Faust in Gounod's opera Faust, played by Uwe Stickert in the production by Konzert Theater Bern during the theatre season 2016-2017.
	Comment	-

4.6 Aggregation of Artefacts Pertaining to the Same Item

Within the SPA Data Model, Items (and records) are modelled as aggregations comprising the set of analog objects and digital resources related to a single cultural heritage object that collectively represent that object in the context of one or several heritage collections (see figure 5). Such a set consists of the original Cultural Heritage Object as well as all available descriptions, analog copies, and digital representations of the object (possibly from different content providers), including thumbnails and other forms of abstractions.

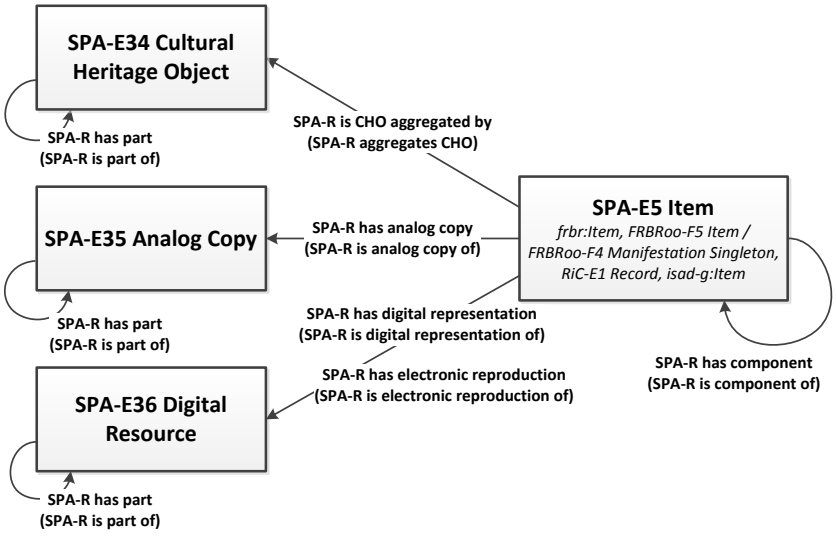

Figure 5: Overview of classes describing the aggregation of artefacts pertaining to the same Item

At the difference to RiC, the SPA Data Model does not comprise a separate class for record components. Components of records or items are instead represented by nesting two (or more) items using the property *SPA-R has component (SPA-R is component of)*.

#	Name	Definition
SPA-E34 Cultural Heritage Object		physical or born-digital object belonging to a heritage collection
	Subclass of	SPA-E23 Object ore:AggregatedResource
	Superclass of	-
	Equivalent Class	edm:ProvidedCHO
	Scope Note	The class Cultural Heritage Object encompasses any original object that belongs to a heritage collection and is preserved for posteriority by an Agent (typically a heritage institution). The Cultural Heritage Object is the object that is considered as the original object (analog or digital born). For every original object one or several analog copies (Analog Copy) and/or digital copies or representations (Digital Resource) may exist.
	Examples	original video recording (on an analog carrier) of the dance performance "Le coq est mort" by "Company JANT BI"
	Comment	In some cases, the Cultural Heritage Object may have been destroyed, while an Analog Copy or a Digital Resource of the object is preserved. In this case, the Cultural Heritage Object is missing from the aggregation of entities pertaining to a given Item.
#	**Name**	**Definition**
SPA-E35 Analog Copy		analog copy of a Cultural Heritage Object
	Subclass of	SPA-E23 Object ore:AggregatedResource
	Superclass of	-
	Equivalent Class	-
	Scope Note	The class Analog Copy encompasses any analog copy or representation of a Cultural Heritage Object. This comprises representations that do not render the original Cultural Heritage Object in all its complexity (e.g. a two-dimensional image of a three-dimensional object).
	Examples	analog copy of the video recording of the dance performance "Le coq est mort" by "Company JANT BI"
	Comment	
#	**Name**	**Definition**
SPA-E36 Digital Resource		digital copy or representation of a Cultural Heritage Object
	Subclass of	SPA-E23 Object ore:AggregatedResource
	Superclass of	-
	Equivalent Class	edm:WebResource schema:MediaObject
	Scope Note	The class Digital Resource encompasses any digital copy or representation of a Cultural Heritage Object. This comprises representations that do not render the

		original Cultural Heritage Object in all its complexity (e.g. a two-dimensional image of a three-dimensional object).
	Examples	digitized version of the video recording of the dance performance "Le coq est mort" by "Company JANT BI"
	Comment	-

4.7 Further Classes

The SPA Data Model comprises two further classes that are useful to describe performing arts related events and holdings:

First, the class Date is used to describe non-standard date indications (e.g. approximate dates or dates covering a time span). In the context of performing arts productions, this allows for example to model theatre seasons and to link both Performing Arts Productions and Agents' activities to a particular theatre season.

Second, the class Documentary Form allows to link specific records to particular types of artefacts documenting the conception, the realization, or the reception of a performing arts production. The various documentary forms and the terms used to refer to them are to be managed in form of a (multilingual) thesaurus.

#	**Name**	**Definition**
SPA-E37 Date		chronological information associated with an entity that contributes to its identification and contextualization
	Subclass of	-
	Superclass of	SPA-E38 Time Span
	Equivalent Class	RiC-E12 Date
	Scope Note	The class Date comprises date indications that are not very precise or cover a time span.
	Example	1860s
	Comment	-
#	**Name**	**Definition**
SPA-E38 Time Span		a temporal extent having a beginning, an end and a duration
	Subclass of	SPA-E37 Date
	Superclass of	schema:CreativeWorkSeason
	Equivalent Class	dcterms:PeriodOfTime edm:TimeSpan rdac:C10010 "time span"
	Scope Note	The class Time Span comprises intervals of time that are named or defined by their start and end dates.
	Example	Theatre season 2016-2017 20th Century
	Comment	-
#	**Name**	**Definition**
SPA-E39 Nomen		a designation that refers to an entity
	Subclass of	-
	Superclass of	-
	Equivalent Class	rdac:C10012 "nomen"
	Scope Note	The class Nomen comprises names and designations that are used to refer to

		entities of various classes.
	Example	
	Comment	This class may be used to represent the designations of agents, works, places, etc. appearing on performing arts programs, in databases, etc. that have not been matched with an actual entity of the respective class yet.
#	**Name**	**Definition**
SPA-E40 Documentary Form		the rules used in the creation of a record that prescribes the particular physical or intellectual elements that must be present
	Subclass of	-
	Superclass of	-
	Equivalent Class	RiC-E11 Documentary Form
	Scope Note	"The Documentary Form plays an important role in determining the type of information a Record may comprise, its status of perfection, and its authenticity and reliability" (RiC 2016, p. 18). "Documentary forms exist in a specific social and cultural context, and within that context are subject to change over time" (RiC 2016, p. 18).
	Examples	stage set design stage model costume design press clipping
	Comment	-
#	**Name**	**Definition**
SPA-E41 Reference Database		online database employing unique and resolvable identifiers
	Subclass of	-
	Superclass of	-
	Equivalent Class	-
	Scope Note	The class Reference Database comprises name authority files and other online databases employing unique and resolvable identifiers, such as MusicBrainz, Wikidata, or DBpedia.
	Examples	VIAF GND MusicBrainz Wikidata DBpedia
	Comment	-
#	**Name**	**Definition**
SPA-E42 Thesaurus		thesaurus providing a controlled vocabulary
	Subclass of	-
	Superclass of	-
	Equivalent Class	-
	Scope Note	The class Thesaurus comprises any thesauri used for the description of the data.
	Examples	

	Comment	-
#	**Name**	**Definition**
SPA-E43 Contact Point		a contact point of an Agent
	Subclass of	-
	Superclass of	SPA-E44 Postal Address
	Equivalent Class	schema:ContactPoint
	Scope Note	The class Contact Point comprises contact points of Agents, such as an Information Desk or a Customer Complaints Department.
	Examples	-
	Comment	-
#	**Name**	**Definition**
SPA-E44 Postal Address		the mailing address of an Agent
	Subclass of	SPA-E43 Contact Point
	Superclass of	-
	Equivalent Class	schema:PostalAddress
	Scope Note	
	Examples	
	Comment	-

5 Attributes

This section contains the inventory of the attributes defined within the SPA Data Model. Note that attributes that are defined for a given class may also be applied to its subclasses.

5.1 Attributes that May Be Used with any Entity		
#	**Name**	**Definition**
SPA-P instance of		assigns the entity to a class
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	rdf:type
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P global persistent identifier		globally unique and persistently resolvable identifier for the entity
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	RiC-P1 Global Persistent Identifier
	Scope Note	To be used in connection with reference database, authority files, Wikidata, etc. which fulfill the requirement of employing globally unique and resolvable identifiers in a persistent manner.
	Data Type	URI
	Example	262144782960170357611 (VIAF identifier for “Theater Stok” in Zürich)
	Comment	
#	**Name**	**Definition**
SPA-P global identifier		global identifier assigned to the entity
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	
	Scope Note	To be used in connection with reference database, authority files, Wikidata, etc. which fulfill the requirement of employing globally unique and resolvable identifiers, but for which the identifiers are not necessarily persistent.
	Data Type	String
	Example	Q15850586 (Wikidata identifier for “Theater Stok” in Zürich)

	Comment	Use SPA-P global identifier in connection with a qualifier [create a respective class? Or use agent?] to make it resolvable.
#	**Name**	**Definition**
SPA-P local identifier		local identifier assigned to the entity
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	RiC-P2 Local Identifier
	Scope Note	
	Data Type	String
	Example	
	Comment	Use SPA-P local identifier in connection with a qualifier to make it globally unique.
#	**Name**	**Definition**
SPA-P label		the title or term generally used to designate the entity
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	title
	Equivalent Property	RiC-P3 Name skos:prefLabel rdfs:label
	Scope Note	Name generally used to refer to the entity.
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P alternative label		an alternative title or term designating the entity
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	SPA-P variant title
	Equivalent Property	skos:altLabel
	Scope Note	Alternative name used to refer to the entity, including abbreviations.
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P description		description of the entity
	Domain	owl:Thing
	Subproperty of	-

	Superproperty of	-
	Equivalent Property	
	Scope Note	The description should be as concise as possible, but at the same time provide the necessary details about an entity that make it possible to distinguish it from other (potential) entities with the same or a similar label.
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P wikidata identifier		wikidata identifier (Q number) of the entity
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P type		categorization of an entity
	Domain	owl:Thing
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	Used to refer to an appropriate categorization system
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P general note		additional information about the entity that is not otherwise addressed
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	RiC-P4 General Note
	Scope Note	rdfs:comment
	Data Type	The general note attribute can be used to provide additional information about an entity that is not otherwise covered by the data model or not supported by a given data management tool.
	Example	String

	Comment	
#	**Name**	**Definition**
SPA-P internal note		internal note of the holding institution
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	To be used for internal notes of the holding institution
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P generic attribute		generic attribute
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	To be used for any attribute from an existing ontology that has not been defined within the SPA Data Model. It is to be further qualified by a label or by a reference to an equivalent property within an existing ontology.
	Data Type	String
	Example	
	Comment	The generic attribute can be used in the context of a progressive data cleansing and modelling process to render attributes that have not yet been defined within the SPA Data Model.
#	**Name**	**Definition**
SPA-P local attribute		local attribute
	Domain	owl:Thing
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	To be used for any attribute that has not been defined within the SPA Data Model or within another existing ontology. It can be further qualified by a label or by a reference to an equivalent property within an existing ontology.
	Data Type	String
	Example	
	Comment	The generic attribute can be used in the context of a progressive data cleansing and modelling process to render attributes that have not yet been defined within the SPA Data Model.

5.2 Attributes of SPA-E1 Endeavour		
#	**Name**	**Definition**
SPA-P title		title of the resource
	Domain	SPA-E1 Endeavour
	Subproperty of	SPA-P label
	Superproperty of	
	Equivalent Property	rdau:has title
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P subtitle		subtitle of the resource
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:alternativeHeadline
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P variant title		title by which a work is known that differs from a title or form of title chosen as a preferred title for the work
	Domain	SPA-E1 Endeavour
	Subproperty of	SPA-P alternative label
	Superproperty of	
	Equivalent Property	rdau:has variant title
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P abridged title		a shorter version of the title
	Domain	SPA-E1 Endeavour
	Subproperty of	SPA-P variant title
	Superproperty of	
	Equivalent Property	

	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P resource identifier		a character string associated with a resource that serves to differentiate a resource from other resources
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has identifier for resource
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P genre		genre of the resource
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:genre eclap:genre
	Scope Note	"The nature or genre of the resource." | "Indicates the genre of the creative work."
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P number of acts		number of acts of a play
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Integer
	Example	"3"
	Comment	
#	**Name**	**Definition**
SPA-P number of scenes		number of scenes of a play

	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Integer
	Example	"5"
	Comment	
#	**Name**	**Definition**
SPA-P copyright holder		holder of the copyright of a resource
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:copyrightHolder
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P statement of responsibility		statement relating to the identification or function of agents responsible for the creation of, or contributing to the realization of, the intellectual or artistic content of a resource
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has statement of responsibility
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P content		description of the content of a resource
	Domain	SPA-E1 Endeavour
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	

	Comment	
#	**Name**	**Definition**
SPA-P depicted scene		description of the scene (e.g. of a theatre play) that is depicted by a resource
	Domain	SPA-E1 Endeavour
	Subproperty of	content
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P language of content		language of the Endeavour
	Domain	SPA-E1 Endeavour
	Subproperty of	content
	Superproperty of	
	Equivalent Property	rdau:has language of content
	Scope Note	
	Data Type	Controlled Code (ISO 639 Codes for the representation of names of languages; ISO 15924 Codes for the representation of names and scripts)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P language of subtitles		language of the subtitles (or supertitles) of the Endeavour
	Domain	SPA-E1 Endeavour
	Subproperty of	language of content
	Superproperty of	
	Equivalent Property	schema:subtitleLanguage
	Scope Note	
	Data Type	Controlled Code (ISO 639 Codes for the representation of names of languages; ISO 15924 Codes for the representation of names and scripts)
	Example	
	Comment	

5.3 Attributes of SPA-E4 Manifestation or SPA-E5 Item

#	Name	Definition
SPA-P name of publisher		name of the publisher of the resource
	Domain	SPA-E4 Manifestation
	Subproperty of	

	Superproperty of	
	Equivalent Property	rdau:has publisher's name
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P place of publication		place of publication of the resource
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has place of publication
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P title of series		name of a series appearing on a resource that is part of a series
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has title proper of series
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P numbering within series		designation of the sequencing of a part or parts within a series
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdam:has numbering within series
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P designation of edition		designation of the edition to which the resource belongs

	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has designation of edition
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P note on manifestation		a note providing additional information about the attributes of a manifestation
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has note on manifestation
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P identifier of manifestation		character string associated with a manifestation that serves to differentiate a manifestation from other manifestations
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdam:has identifier of manifestation
	Scope Note	E.g. ISBN / ISSN / EAN
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P has ISSN of series		identifier assigned by an ISSN registration agency to a series of which the resource is part
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdam:has ISSN of series | schema:issn
	Scope Note	
	Data Type	String

	Example	
	Comment	
#	**Name**	**Definition**
SPA-P has ISBN		ISBN assigned to the resource
	Domain	SPA-E4 Manifestation
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:isbn
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P format		the file format, physical medium, or dimension of the resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	FaBiO:hasformat
	Scope Note	
	Data Type	String
	Example	"23 cm x 34 cm x 20 cm" | "A4"
	Comment	Examples of dimensions include size and duration. Recommended best practice is to use a controlled vocabulary such as the list of Internet Media Types.
#	**Name**	**Definition**
SPA-P base material		underlying physical material of a resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdam:has base material
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of publication		the date of publication of the resource

	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdam:has date of publication fabio:haspublicationdate schema:datePublished
	Scope Note	
	Data Type	Date
	Example	
	Comment	The date on which a document or entity is published.
#	**Name**	**Definition**
SPA-P number of pages		number of pages of a resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	content extent
	Superproperty of	
	Equivalent Property	schema:numberOfpages
	Scope Note	
	Data Type	Integer
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P duration		playing time, running time, etc., of a content of a resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	content extent
	Superproperty of	
	Equivalent Property	rdau:has duration
	Scope Note	
	Data Type	Integer (seconds)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P license		a license document that applies to the content of the resource, typically indicated by URL
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	

	Superproperty of	
	Equivalent Property	schema:license
	Scope Note	
	Data Type	URL
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P number		a literal (for example a number or a letter) that identifies the sequence position of a work within a particular context, for example a book in a book series, a chapter in a document, a volume in a journal.
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	FaBiO:hasnumber
	Scope Note	
	Data Type	String
	Example	
	Comment	A literal (for example a number or a letter) that identifies the sequence position of a work within a particular context, for example a book in a book series, a chapter in a document, a volume in a journal.
#	**Name**	**Definition**
SPA-P physical characteristics		description of the physical characteristics of the resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	dimensions; material used
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P dimensions		indicates the measurement of a carrier or a container of a resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	physical characteristics
	Superproperty of	
	Equivalent Property	
	Scope Note	

	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P scale		indicates the scale of a model compared to the real size of the depicted object
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P content extent		countable characteristics of the content of a resource, expressed as a quantity
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	number of pages; duration
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P material used		indication of the material used for the production or the modification of the resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	physical characteristics
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String (Controlled Term)
	Example	
	Comment	
#	**Name**	**Definition**

SPA-P production technique		indication of the technique used for the production or the modification of the resource
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String (Controlled Term)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P colour content		indication whether a photograph or a movie is in colour or in black and white
	Domain	SPA-E4 Manifestation SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:colour content
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P accession number		accession number of an Item (or record)
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P archive plan number		archive plan number of an Item (or record)
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	

	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of publication		date of publication the Item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has date of publication
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P number of components		number of components of the Item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P type of components		type of components of the Item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P note on item		note providing information on attributes of the Item
	Domain	SPA-E5 Item
	Subproperty of	

	Superproperty of	
	Equivalent Property	rdai:has note on item
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P value		value of the item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	SPA-P estimated value SPA-P price of acquisition
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P estimated value		estimated value of the Item
	Domain	SPA-E5 Item
	Subproperty of	value
	Superproperty of	insurance value
	Equivalent Property	-
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P insurance value		insurance value of the Item
	Domain	SPA-E5 Item
	Subproperty of	estimated value
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**

SPA-P price of acquisition		price of acquisition of the Item
	Domain	SPA-E5 Item
	Subproperty of	value
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date indicated on postmark		date indicated on the postmark applied to the Item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P custodial history of item		record of previous ownership or custodianship of the Item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdai:has custodial history of item
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P immediate source of acquisition		the source from which an Item was directly acquired and the circumstances under which it was received
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	

	Example	
	Comment	
#	**Name**	**Definition**
SPA-P copyright agreement		indicates whether or not a copyright agreement has been concluded with regard to the Item
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Boolean
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P permission		tbd (see comment)
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	permission [to be clarified with STA what the exact meaning of "permission" is]
#	**Name**	**Definition**
SPA-P access category		categorization regarding the availability of an artefact for consultation or inspection
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	"public"; "staff only"
	Comment	
#	**Name**	**Definition**
SPA-P conditions of access		conditions affecting the accessibility of an artefact for consultation or inspection
	Domain	SPA-E5 Item
	Subproperty of	

	Superproperty of	
	Equivalent Property	RiC-P18
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P conditions of use		conditions affecting the availability of the artefact for use after access has been provided
	Domain	SPA-E5 Item
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Includes conditions governing reproduction of the artefact under applicable copyright (intellectual property) or property legislation.
	Example	Controlled Term
	Comment	

5.4 Attributes of SPA-E9 Performing Arts Production

#	Name	Definition
SPA-P first performance date		date of the first representation of the Performing Arts Production
	Domain	SPA-E9 Performing Arts Production
	Subproperty of	
	Superproperty of	
	Equivalent Property	*in analogy to eclap:first performance date*
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P premiere type		indication regarding the premiere type of the first representation of the Performing Arts Production
	Domain	SPA-E9 Performing Arts Production
	Subproperty of	
	Superproperty of	
	Equivalent Property	-
	Scope Note	Indicates whether the first representation of the Performing Arts Production is a world premiere, a premiere in a given language or in a given country, etc.
	Data Type	String (Controlled Term)

	Example	
	Comment	
#	**Name**	**Definition**
SPA-P number of representations		number of representations of a Performing Arts Production
	Domain	SPA-E9 Performing Arts Production
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Indicates the number of representations of a performing arts production.
	Data Type	Integer
	Example	The performing arts production “Die Grönholm-Methode”, staged at "Theater Matte" in Bern between 5 April and 7 May 2017 had 21 representations.
	Comment	-

5.5 Attributes of SPA-E10 Performance

#	**Name**	**Definition**
SPA-P premiere type		indication regarding the premiere type of the Performance
	Domain	SPA-E10 Performance
	Subproperty of	
	Superproperty of	
	Equivalent Property	-
	Scope Note	Indicates whether the Performance is a world premiere, a premiere in a given language or in a given country, etc.
	Data Type	String (Controlled Term)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P performance date		date of the representation
	Domain	SPA-E10 Performance
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	

5.6 Attributes of SPA-E11 Series of Performances

#	**Name**	**Definition**
SPA-P first performance date		date of the first performance of the Series of Performances

	Domain	SPA-E11 Series of Performances
	Subproperty of	
	Superproperty of	
	Equivalent Property	*in analogy to eclap:first performance date*
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P number of representations		number of representations inlcuded in a Series of Performances
	Domain	SPA-E11 Series of Performances
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	

5.7 Attributes of SPA-E12 Collection

#	Name	Definition
SPA-P accession number		accession number of a Collection or Record Set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P archive plan number		archive plan number of a Collection or Record Set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String

	Example	
	Comment	
#	**Name**	**Definition**
SPA-P authenticity and integrity		description of features of the Collection or Record Set attesting to how it is genuine
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RIC-P22 Authenticity and Integrity
	Scope Note	-
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P accrual status		indicates whether or not the Collection or Record Set is open for additional accessions of Collections, Record Sets, or Items (records)
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P25 Accrual Status
	Scope Note	Closed indicates that no additional Records or Record Sets will (or are anticipated to) be added to the Collection or Record Set. Open indicates that additional Items or Records Sets will (or are expected to) be added to the Collection or Record Set. (cf.
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P classification		information on the criterion or criteria used in selecting the members of the Collection or Record Set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P27 Classification
	Scope Note	"This information may be in the form of text, or a term or code maintained in a classification scheme. | The criterion or criteria may be represented in a RIC property or relation that is shared by the members in the Record Set. | This shared property of
	Data Type	Text or Controlled Term or Term

	Example	BUD-01-F002 [example of a classification number from a corporate file plan]; human resource management; student registration; financial affairs; digitization
	Comment	
#	**Name**	**Definition**
SPA-P historical context		An account of the historical context of the Collection or Record Set.
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	-
	Scope Note	
	Data Type	String
	Example	
	Comment	For an indication of the history of the Collecton or Record Set itself, use SPA-P history.
#	**Name**	**Definition**
SPA-P history		An account of the history of the Collection or Record Set. To the extent known, this may cover the entire history of the Collection or Record Set from its inception to the date of the description.
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P28 History
	Scope Note	To the extent known, the history may cover the entire history of the Record Set from its inception to the date of the description. Significant Events include but are not limited to creation or formation of the Record Set, transfers of custody or owner.
	Data Type	String
	Example	The manuscripts are part of the collections of Robert Harley (d 1724) and Edward Harley (d 1741), 1st and 2nd Earls of Oxford, that were brought by Parlament and transferred to the British Museum min 1753. Those materials were then separated info this col
	Comment	For a broader indication of the historical context of a Collecton or Record Set, use SPA-P historical context.
#	**Name**	**Definition**
SPA-P reference URL		reference URL of the Collection or the Record Set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	-
	Scope Note	Provides an URL of a webpage with a further description of the Collection or the Record Set or of its main subject.

	Data Type	URL
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P scope and content		summary of the scope (such as, time periods, geography) and content (such as subject matter, administrative processes) of the member Collections, Record Sets, or Items.
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P31 Scope and Content
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P language information		a spoken or written human language represented in the Items or records
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-11 Language Information
	Scope Note	
	Data Type	Controlled Code (ISO 639 Codes for the representation of names of languages; ISO 15924 Codes for the representation of names and scripts)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P coverage start date		indicates the beginning of the time period covered by a collection or a record set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P coverage active date		indicates a date during the time period covered by a collection or a record set
	Domain	SPA-E12 Collection

	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P coverage end date		indicates the end of the time period covered by a collection or a record set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P bibliographical notes		bibliographical notes
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	„- Pellaton, Ursula: Brunner, Wolfgang. In: Theaterlexikon der Schweiz, Bd. 1, Zürich, 2005, S. 283.“
	Comment	
#	**Name**	**Definition**
SPA-P immediate source of acquisition		the source from which a Collection or Record Set was directly acquired and the circumstances under which it was received
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:immediate source of acquisition
	Scope Note	
	Data Type	
	Example	
	Comment	

#	Name	Definition
SPA-P evaluation or elimination note		note regarding the evaluation of the Collection or Record Set or the elimination of parts thereof
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P physical characteristics		description of the physical characteristics of the Collection or the Record Set
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P content extent		countable characteristics of the content of the Collection or Record Set, expressed as a quantity
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P29 Content Extent
	Scope Note	Content extent information is independent of carrier extent information; the number, size or duration of the content unit(s) would remain the same even if the number or size of the carriers it was contained on differed (RiC, S. 28)
	Data Type	String
	Example	6 photographs; 2 films, 6 maps
	Comment	
#	**Name**	**Definition**
SPA-P physical or logical extent		number of physical units and/or physical dimensions of a Collection or Record Set carriers or, in the case of digital media carriers, the size of storage space occupied
	Domain	SPA-E12 Collection
	Subproperty of	

	Superproperty of	
	Equivalent Property	RiC Physical or Logical Extent
	Scope Note	--
	Data Type	String
	Example	40 pages; 5 folios; 25 m2; 1 USB stick; 35GB
	Comment	
#	**Name**	**Definition**
SPA-P quantity		tbd (see comment)
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	Experimental. Check with the SDC what the units are (Anzahl at the level of the Collection/Record Set).
#	**Name**	**Definition**
SPA-P running meter		size of the Collection or Record Set in terms of running meter
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Number
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P permission		tbd (see comment)
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	Experimental. Clarify with the SDC what the exact meaning of "permission" is.
#	**Name**	**Definition**

SPA-P access category		categorization regarding the accessibility of an Collection or Record set for consultation or inspection
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	“public”; “staff only”
	Comment	
#	**Name**	**Definition**
SPA-P conditions of access		conditions affecting the accessibility of a Collection or Record Set for consultation or inspection
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P conditions of use		conditions affecting the availability of a Collection or Record Set for use after access has been provided
	Domain	SPA-E12 Collection
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
5.8 Attributes of SPA-E14 Agent		
#	**Name**	**Definition**
SPA-P identity type		the specific kind of identity of an Agent
	Domain	SPA-E14 Agent
	Subproperty of	
	Superproperty of	

	Equivalent Property	SPA-P33 Identity Type
	Scope Note	A given identity is the identity that is commonly considered the identity of the 'real' Agent. An assumed identity is an identity invented by one or more 'real' Agents, with the 'real' Agent or Agents acting under the guise of the assumed identity (RiC 2016, S. 30).
	Data Type	Controlled Term
	Example	given; individual assumed; joint assumed; unknown
	Comment	
#	**Name**	**Definition**
SPA-P language		language an agent uses in its communications
	Domain	SPA-E14 Agent
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has language of agent
	Scope Note	
	Data Type	ISO Controlled Term (ISO 639-1, ISO 639-2)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P agent history		biographical or historical information about an Agent
	Domain	SPA-E14 Agent
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has agent history
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P official website		an Agent's homepage or official website
	Domain	SPA-E14 Agent
	Subproperty of	
	Superproperty of	
	Equivalent Property	foaf:homepage
	Scope Note	
	Data Type	URI
	Example	
	Comment	

5.9 Attributes of SPA-E15 Person		
#	**Name**	**Definition**
SPA-P gender		The gender with which a person identifies.
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P36 Gender
	Scope Note	-
	Data Type	Controlled Term
	Example	male; female; unkown
	Comment	
#	**Name**	**Definition**
SPA-P given name		the given name of the person
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	foaf:firstName foaf:givenName schema:givenName
	Scope Note	A number of naming constructs are under development to provide naming substructure; draft properties include firstName, givenName, and surname. These are not currently stable or consistent; see the issue tracker for design discussions, status and ongoing
	Data Type	String
	Example	"Emily"
	Comment	
#	**Name**	**Definition**
SPA-P family name		The family name of the person.
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	foaf:familyName foaf:lastName schema:familyName
	Scope Note	
	Data Type	String
	Example	"Smith"
	Comment	
#	**Name**	**Definition**

SPA-P additional name		an additional name for a Person; can be used for a middle name
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:additionalName
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P patronymic		the patronymic of a Person
	Domain	SPA-E15 Person
	Subproperty of	SPA-P additional name
	Superproperty of	
	Equivalent Property	
	Scope Note	This property is used to indicate the patronymic (a middle name derived from the father's name) of a person.
	Data Type	String
	Example	"Fyodorovich" (Igor Fyodorovich Stravinsky)
	Comment	-
#	**Name**	**Definition**
SPA-P marital status		0
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of birth		indicates the date of birth of a Person
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date

	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of death		indicates the date of death of a Person
	Domain	SPA-E15 Person
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	

5.10 Attributes of SPA-E17 Corporate Body

#	Name	Definition
SPA-P official name		indicates the official name of a Corporate Body
	Domain	SPA-E17 Corporate Body
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of establishment		date on which a Corporate Body was established or founded
	Domain	SPA-E17 Corporate Body
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdaa:has date of establishment
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of termination		date on which a Corporate Body was terminated or dissolved
	Domain	SPA-E17 Corporate Body
	Subproperty of	
	Superproperty of	

	Equivalent Property	rdaa:has date of termination
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P active date		date on which a Corporate Body was known to be active
	Domain	SPA-E17 Corporate Body
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	

5.11 Attributes of SPA-E19 Place

#	Name	Definition
SPA-P geographic coordinates		longitudinal and latitudinal information of the Place.
	Domain	SPA-E19 Place
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	-
	Data Type	Controlled Code or Term (ISO 6709 Standard representation of geographic point location by coordinates)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P postal code		the postal code of the Place
	Domain	SPA-E19 Place
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	3000
	Comment	

#	Name	Definition
SPA-P street		the physical street and street number of the Place
	Domain	SPA-E19 Place
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	Brückenstrasse 72
	Comment	

5.12 Attributes of SPA-E28 Activity

#	Name	Definition
SPA-P end date		the date of termination of the Activity
	Domain	SPA-E28 Activity
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	Name	Definition
SPA-P start date		the date of the beginning of the Activity
	Domain	SPA-E28 Activity
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	Name	Definition
SPA-P active date		a date at which the Activity was known to be ongoing
	Domain	SPA-E28 Activity
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	

	Data Type	
	Example	
	Comment	

5.13 Attributes of SPA-E34 Cultural Heritage Object, SPA-E35 Analog Copy, and SPA-E36 Digital Resource

#	Name	Definition
SPA-P accession number		accession number of an artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P archive plan number		archive plan number of an artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P content URL		reference to the actual bytes of the media object, for example the image file or the video file
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:contentUrl

	Scope Note	
	Data Type	URI
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P encoding format		information about the logical form of digitally represented content
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P10 Encoding Format schema:fileFormat
	Scope Note	
	Data Type	Controlled Term (Mime types: https://www.iana.org/assignments/media-types/media-types.xhtml)
	Example	text/csv; image/tiff; audio/mp4; application/pdf
	Comment	
#	**Name**	**Definition**
SPA-P media type		The general type of intermediation device required to render the content of an artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P12 Media Type
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P medium		physical material in or on which information is represented
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P14 Medium

	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P date of creation		date of creation of the artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P brand of data carrier		brand of the data carrier on which the artefact is stored
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P file name		name of the file containing the artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String

	Example	"96-1-DIGG.pdf"
	Comment	
#	**Name**	**Definition**
SPA-P internal file location		path of the directory in which the file is stored
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String (path)
	Example	"Z:\TANZARCHIV-DATEN\Ablieferungen\Ablieferungen 2009\20_2009 Annas Kollektiv\Technische Daten\"
	Comment	
#	**Name**	**Definition**
SPA-P locator		a URI from where the resource can be accessed
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	ebucore:locator
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	URI
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P physical or logical extent		Number of physical units and/or physical dimensions of Record carriers or, in the case of digital media carriers, the size of storage space occupied.
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P15 Physical or Logical Extent
	Scope Note	
	Data Type	String
	Example	

	Comment	
#	**Name**	**Definition**
SPA-P file size		size of the file in gigabyte
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Number
	Example	“82.5899963378906”
	Comment	
#	**Name**	**Definition**
SPA-P scale		indicates the scale of a model compared to the real size of the depicted object
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P aspect ratio		ratio of the frame of video artefacts
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has aspect ratio | ebucore:aspectRatio
	Scope Note	
	Data Type	String ("numerator : denominator, whereby numerator and denominator are Integers)
	Example	"4:3"
	Comment	

#	Name	Definition
SPA-P frame size		size of the frame of video artefacts
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:frameSize
	Scope Note	
	Data Type	String (“width x height” in pixels, whereby witdth and height are Integers)
	Example	"720 x 576"
	Comment	
#	**Name**	**Definition**
SPA-P resolution		indication of the clarity or fineness of detail in a digital image, expressed by the measurement of the image in pixels, etc.
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has resolution
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P broadcast standard		indicates the system used to format a video resource for television broadcast
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	rdau:has broadcast standard ebucore:technicalAttributeString/type label ="Standard"
	Scope Note	
	Data Type	String
	Example	"PAL"
	Comment	

#	Name	Definition
SPA-P video codec		indicates the video codec of a video resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	ebucore:codec
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	"V_MS/VFW/FOURCC / FFV1"
	Comment	
#	**Name**	**Definition**
SPA-P audio codec		indicates the audio codec of an audio resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	ebucore:codec
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	"A_PCM/INT/LIT"
	Comment	
#	**Name**	**Definition**
SPA-P video scanning format		indicates the video scanning format of a video resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:scanningFormat
	Scope Note	
	Data Type	String
	Example	"interlaced"
	Comment	

#	Name	Definition
SPA-P video scanning order		indicates the scanning order of a video resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:scanningOrder
	Scope Note	
	Data Type	String
	Example	"top"
	Comment	
#	**Name**	**Definition**
SPA-P color space		indicates the color space of a video resource or an image
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:technicalAttributeString/type label ="ColorSpace"
	Scope Note	
	Data Type	String
	Example	"YUV"
	Comment	
#	**Name**	**Definition**
SPA-P chroma subsampling		indicates the chroma subsampling of a video resource or an image
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:technicalAttributeString/type label ="ChromaSubsampling"
	Scope Note	
	Data Type	String
	Example	"4:2:2"
	Comment	

#	Name	Definition
SPA-P bit depth		indicates the bit depth of a video resource or an image
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:technicalAttributeInteger/type label ="BitDepth"
	Scope Note	
	Data Type	Integer
	Example	10
	Comment	
#	**Name**	**Definition**
SPA-P audio sampling rate		indicates the sampling rate of an audio resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:samplingRate
	Scope Note	
	Data Type	Ingeger
	Example	48000
	Comment	
#	**Name**	**Definition**
SPA-P audio sample size		indicates the sample size of an audio resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:sampleSize
	Scope Note	
	Data Type	Integer
	Example	24
	Comment	

#	Name	Definition
SPA-P audio bit rate mode		indicates the bit rate mode of an audio resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:bitRateMode
	Scope Note	
	Data Type	String
	Example	"constant"
	Comment	
#	**Name**	**Definition**
SPA-P audio channels		indicates the number of audio channels of an audio resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:channels
	Scope Note	
	Data Type	Integer
	Example	2
	Comment	
#	**Name**	**Definition**
SPA-P container format		indicates the container format of an audio or video resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:containerFormat
	Scope Note	
	Data Type	String
	Example	"Matroska"
	Comment	

#	Name	Definition
SPA-P writing application		indicates the writing application used to encode an audio or video resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	ebucore:technicalAttributeString/type label ="WritingApplication"
	Scope Note	
	Data Type	String
	Example	"Lavf57.56.100"
	Comment	
#	**Name**	**Definition**
SPA-P physical characteristics		description of the physical characteristics of the artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	dimensions
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P dimensions		indicates the measurement of a carrier or a container of a resource
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	physical characteristics
	Superproperty of	
	Equivalent Property	rdau:has dimensions
	Scope Note	
	Data Type	
	Example	
	Comment	

#	Name	Definition
SPA-P content extent		countable characteristics of the content of an artefact, expressed as a quantity
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	duration
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P duration		playing time, running time, etc., of a content of an artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	content extent
	Superproperty of	
	Equivalent Property	rdau:has duration
	Scope Note	
	Data Type	String / Integer (seconds/hh:mm:ss)
	Example	
	Comment	Experimental. A uniform data type should be agreed upon.
#	**Name**	**Definition**
SPA-P start position		start position of an artefact's content on a carrier
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String / Integer (seconds/hh:mm:ss)
	Example	
	Comment	Experimental. A uniform data type should be agreed upon.

#	Name	Definition
SPA-P end position		end position of an artefact's content on a carrier
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String / Integer (seconds/hh:mm:ss)
	Example	
	Comment	Experimental. A uniform data type should be agreed upon.
#	**Name**	**Definition**
SPA-P content		description of the content of an artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	Use this attribute to describe what part of the resource is represented in the artefact (e.g. recto, verso, part visible, etc.). The content of the resource itself should be described at the level of the Endeavour.
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P permission		tbd (see comment)
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	Experimental. Clarify with the SDC what the exact meaning of "permission" is.

#	Name	Definition
SPA-P access category		categorization regarding the accessibility of an artefact for consultation or inspection
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term
	Example	“public”; “staff only”
	Comment	
#	**Name**	**Definition**
SPA-P conditions of access		conditions affecting the accessibility of an artefact for consultation or inspection
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	RiC-P18
	Scope Note	
	Data Type	Controlled Term
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P conditions of use		conditions affecting the availability of the artefact for use after access has
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	been provided
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Includes conditions governing reproduction of the arterfact under applicable copyright (intellectual property) or property legislation.
	Example	Controlled Term
	Comment	

#	Name	Definition
SPA-P reproduction note		information regarding the reproduction process from which the artefact resulted
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	"Digitalisiert ab Sony BVW-70P, über Black Magic Composite in Finalcut Pro. Aufnahmeeinstellung 10 bit uncompressed, digitalisiert durch Katrin Oettli."
	Comment	
#	**Name**	**Definition**
SPA-P conservation note		information regarding the conservation state of the artefact as well as conservation measures taken
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P description of damages		information regarding damages observed in the artefact
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	

#	Name	Definition
SPA-P content checksum		content checksum for data integrity check
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	String
	Example	
	Comment	Use the “method” qualifier to indicate the type of checksum used.
#	**Name**	**Definition**
SPA-P date of last integrity check		date of the last integrity check of electronic information
	Domain	SPA-E34 Cultural Heritage Object SPA-E35 Analog Copy SPA-E36 Digital Resource
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Date
	Example	
	Comment	

5.14 Attributes of SPA-E37 Date

#	Name	Definition
SPA-P calendar		calendar with which the literal expression of the Date (Date as expressed and understood by human Agents) is expressed
	Domain	SPA-E37 Date
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	

#	Name	Definition
SPA-P start date		the start date of a time range
	Domain	SPA-E37 Date (of type "range")
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P end date		the end date of a time range
	Domain	SPA-E37 Date (of type "range")
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	

5.15 Attributes of SPA-E39 Nomen

#	Name	Definition
SPA-P class		the class of the entity referred to by the Nomen
	Domain	SPA-E39 Nomen
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	Controlled Term (Entity defined by the SPA Data Model)
	Example	
	Comment	

5.16 Attributes of SPA-E43 Contact Point

#	Name	Definition
SPA-P contact type		the type of contact point
	Domain	SPA-E43 Contact Point
	Subproperty of	
	Superproperty of	

	Equivalent Property	
	Scope Note	A person or organization can have different contact points, for different purposes. For example, a sales contact point, a PR contact point and so on. This property is used to specify the kind of contact point.
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P available language		a language someone may use when interacting with a Contact Point
	Domain	SPA-E43 Contact Point
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:availableLanguage
	Scope Note	
	Data Type	Controlled Term (ISO 639)
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P email		the email address associated with the Contact Point
	Domain	SPA-E43 Contact Point
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:email
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P telephone		the telephone number associated with the Contact Point
	Domain	SPA-E43 Contact Point
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:telephone
	Scope Note	
	Data Type	Telephone Number
	Example	
	Comment	

#	Name	Definition
SPA-P fax number		the fax number associated with the Contact Point
	Domain	SPA-E43 Contact Point
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:faxNumber
	Scope Note	
	Data Type	Telephone Number
	Example	
	Comment	

5.17 Attributes of SPA-E44 Postal Address

#	Name	Definition
SPA-P street address		the street address
	Domain	SPA-E44 Postal Address
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:streetAddress
	Scope Note	
	Data Type	String
	Example	16 Amphitheatre Pkwy
	Comment	Brückenstrasse 73
#	Name	Definition
SPA-P postal code		the postal code
	Domain	SPA-E44 Postal Address
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:postalCode
	Scope Note	
	Data Type	String
	Example	
	Comment	
#	Name	Definition
SPA-P address locality		the locality
	Domain	SPA-E44 Postal Address
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:addressLocality
	Scope Note	

	Data Type	String
	Example	
	Comment	
#	**Name**	**Definition**
SPA-P address region		the region
	Domain	SPA-E44 Postal Address
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:addressRegion
	Scope Note	
	Data Type	String
	Example	CA
	Comment	
#	**Name**	**Definition**
SPA-P address country		the country
	Domain	SPA-E44 Postal Address
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:addressRegion
	Scope Note	
	Data Type	String
	Example	Controlled Term (ISO 3166-1 alpha-2 country code)
	Comment	
#	**Name**	**Definition**
SPA-P post office box number		the post office box number
	Domain	SPA-E44 Postal Address
	Subproperty of	
	Superproperty of	
	Equivalent Property	schema:postOfficeBoxNumber
	Scope Note	
	Data Type	String
	Example	Postfach 351
	Comment	

6 Relations

This section contains the inventory of the relations defined within the SPA Data Model. Note that the relations that are defined for a given class (indicated in the fields “Relation Domain” or “Relation Range”) also apply to its subclasses.

In cases where several possible domains or ranges are indicated, the asterisk (*) marks the preferred one, which is to be used by default, while the others may be used in exceptional cases where further differentiation is needed.

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
6.1 Relations of SPA-E1 Endeavour				
SPA-E1 Endeavour	has subject	SPA-E1 Endeavour	is subject of	in analogy to RiC R51 has subject Subproperty of: is associated with
SPA-E1 Endeavour	is associated with	SPA-E1 Endeavour	is associated with	in analogy to RiC-R5 is associated with
SPA-E1 Endeavour	is basis of	SPA-E6 Endeavour of the Performing Arts	is based on	in analogy to Wikidata P144 experimental (is it really needed?)
SPA-E1 Endeavour	is associated with	SPA-E12 Collection	is associated with	in analogy to RiC-R136 is associated with
SPA-E1 Endeavour	has rights held by	SPA-E14 Agent	is rights holder of	in analogy to RiC-R22 has rights held by Subproperty of: is associated with
SPA-E1 Endeavour	is associated with	SPA-E14 Agent	is associated with	in analogy to RiC-R5 is associated with
SPA-E1 Endeavour	has contributor	SPA-E14 Agent	is contributor of	rdau:has contributor Subproperty of: is associated with
SPA-E1 Endeavour	has subject	SPA-E14 Agent	is subject of	rdau:has subject Subproperty of: is associated with
SPA-E1 Endeavour	has subject	SPA-E18 Subject	is subject of	in analogy to RiC R51 has subject Subproperty of: is associated with
SPA-E1 Endeavour	is associated with	SPA-E18 Subject	is associated with	in analogy to RiC-R5 is associated with
SPA-E1 Endeavour	is associated with	SPA-E25 Concept	is associated with	
SPA-E1 Endeavour	has subject	SPA-E33 Performance Role	is subject of	
SPA-E1 Endeavour	is associated with	SPA-E37 Date	is associated with	in analogy to RiC-R5 is associated with
SPA-E1 Endeavour	has creation date	SPA-E37 Date	is creation date of	in analogy to RiC-R62 had

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
				creation date Subproperty of: is associated with
SPA-E1 Endeavour	has related nomen	SPA-E39 Nomen	has related entity	
SPA-E1 Endeavour	has documentary form	SPA-E40 Documentary Form	is documentary form of	in analogy to RiC R59 has documentary form Subproperty of: is associated with
SPA-E1 Endeavour	is associated with	SPA-E40 Documentary Form	is associated with	in analogy to RiC R60 is associated with
6.2 Relations of SPA-E2 Work				
SPA-E2 Work	has adaptation	SPA-E2 Work	is adaptation of	frbr:adaptation
SPA-E2 Work	is adaptation of	SPA-E2 Work	has adaptation	frbr:adaptationOf
SPA-E2 Work	has part	SPA-E2 Work	is part of	frbr:part
SPA-E2 Work	is part of	SPA-E2 Work	has part	frbr:partOf
SPA-E2 Work	has derivative	SPA-E2 Work	is derivative of	FRBRoo R2 (has derivative)
SPA-E2 Work	is derivative of	SPA-E2 Work	has derivative	FRBRoo R2 is derivative of
SPA-E2 Work	has realisation	SPA-E3 Expression	is realisation of	frbr:realization
SPA-E2 Work	has single realisation	SPA-E3 Expression	is single realisation of	Subproperty of: has first realisation
SPA-E2 Work	has first realisation	SPA-E3 Expression	is first realisation of	Subproperty of: has realisation
SPA-E2 Work	has manifestation	SPA-E4 Manifestation	is manifestation of	fabio:hasManifestation experimental (is it really needed?)
SPA-E2 Work	has portrayal	SPA-E5 Item	is portrayal of	fabio:isPortrayalOf experimental (is it really needed?)
SPA-E2 Work	has creator	SPA-E14 Agent	is creator of	frbr:creator
SPA-E2 Work	has author	SPA-E14 Agent	is author of	Subproperty of: has creator
SPA-E2 Work	has librettist	SPA-E14 Agent	is librettist of	rdaw:has librettist Subproperty of: has author
SPA-E2 Work	has lyricist	SPA-E14 Agent	is lyricist of	rdaw:has lyricist Subproperty of: has author
SPA-E2 Work	has composer	SPA-E14 Agent	is composer of	rdaw:has composer Subproperty of: has creator
SPA-E2 Work	has screenwriter	SPA-E14 Agent	is screenwriter of	rdaw:has screenwriter Subproperty of: has author
SPA-E2 Work	has director of photography	SPA-E14 Agent	is director of photography of	rdaw:has director of photography

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E2 Work	has photographer	SPA-E14 Agent	is photographer of	rdaw:has photographer Subproperty of: has creator
SPA-E2 Work	has designer	SPA-E14 Agent	is designer of	rdaw:has designer Subproperty of: has creator
SPA-E2 Work	has director	SPA-E14 Agent	is director of	rdaw:has director
SPA-E2 Work	has casting director	SPA-E14 Agent	is casting director of	rdaw:has casting director
SPA-E2 Work	defines	SPA-E33 Performance Role	is defined in	
6.3 Relations of SPA-E3 Expression				
SPA-E3 Expression	defines	SPA-E33 Performance Role	is defined in	
SPA-E3 Expression	is realisation of	SPA-E2 Work	has realisation	frbr:realizationOf
SPA-E3 Expression	is single realisation of	SPA-E2 Work	has single realisation	Subproperty of: is first realisation of
SPA-E3 Expression	is first realisation of	SPA-E2 Work	has first realisation	Subproperty of: is realisation of
SPA-E3 Expression	is incorporated in	SPA-E3 Expression	incorporates	CIDOC CRM P165 (is incorporated in)
SPA-E3 Expression	incorporates	SPA-E3 Expression	is incorporated in	CIDOC CRM P165 incorporates
SPA-E3 Expression	has adaptation	SPA-E3 Expression	is adaptation of	frbr:adaptation
SPA-E3 Expression	is adaptation of	SPA-E3 Expression	has adaptation	frbr:adaptationOf
SPA-E3 Expression	has arrangement	SPA-E3 Expression	is arrangement of	frbr:arrangement
SPA-E3 Expression	is arrangement of	SPA-E3 Expression	has arrangement	frbr:arrangementOf
SPA-E3 Expression	has part	SPA-E3 Expression	is part of	frbr:part
SPA-E3 Expression	is part of	SPA-E3 Expression	has part	frbr:partOf
SPA-E3 Expression	has revision	SPA-E3 Expression	is revision of	frbr:revision
SPA-E3 Expression	is revision of	SPA-E3 Expression	has revision	frbr:revisionOf
SPA-E3 Expression	has translation	SPA-E3 Expression	is translation of	frbr:translation
SPA-E3 Expression	is translation of	SPA-E3 Expression	has translation	frbr:translationOf
SPA-E3 Expression	has embodiment	SPA-E4 Manifestation	is embodiment of	frbr:embodiment; FRBRoo-R41 has representative manifestation product type
SPA-E3 Expression	has single embodiment	SPA-E4 Manifestation	is single embodiment of	Subproperty of: has first embodiment
SPA-E3 Expression	has first embodiment	SPA-E4 Manifestation	is first embodiment of	Subproperty of: has embodiment

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E3 Expression	has representation	SPA-E5 Item	is representation of	FRBRoo-R42 (has representative manifestation singleton); fabio:hasRepresentation experimental (is it really needed?)
SPA-E3 Expression	has adaptor	SPA-E14 Agent	is adaptor of	in analogy to eclap:adaptor Subproperty of: has contributor
SPA-E3 Expression	has television adaptor	SPA-E14 Agent	is television adaptor of	Subproperty of: has adaptor
SPA-E3 Expression	has editor	SPA-E14 Agent	is editor of	rdae:has editor Subproperty of: has contributor
SPA-E3 Expression	has photographer	SPA-E14 Agent	is photographer of	rdae:has photographer Subproperty of: has contributor
SPA-E3 Expression	has translator	SPA-E14 Agent	is translator of	rdae:has translator Subproperty of: has contributor
SPA-E3 Expression	has composer	SPA-E14 Agent	is composer of	rdae:has composer (expression) Subproperty of: has contributor
SPA-E3 Expression	has arranger of music	SPA-E14 Agent	is arranger of music of	rdae:has arranger of music Subproperty of: has contributor
SPA-E3 Expression	has writer of added text	SPA-E14 Agent	is writer of added text of	rdae:has writer of added text Subproperty of: has contributor
SPA-E3 Expression	has writer of added lyrics	SPA-E14 Agent	is writer of added lyrics of	rdae:has writer of added lyrics Subproperty of: has writer of added text
SPA-E3 Expression	has production designer	SPA-E14 Agent	is production designer of	rdae:has production designer Subproperty of: has contributor
SPA-E3 Expression	has technical director	SPA-E14 Agent	is technical director of	Subproperty of: has contributor
SPA-E3 Expression	has recording engineer	SPA-E14 Agent	is recording engineer of	rdae:has recording engineer Subproperty of: has contributor
SPA-E3 Expression	has recordist	SPA-E14 Agent	is recordist of	rdae:has recordist Subproperty of: has contributor
SPA-E3 Expression	has camera operator	SPA-E14 Agent	is camera operator of	Subproperty of: has recordist

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E3 Expression	has lighting designer	SPA-E14 Agent	is lighting designer of	rdae:has lighting designer Subproperty of: has contributor
SPA-E3 Expression	has sound designer	SPA-E14 Agent	is sound designer of	rdae:has sound designer Subproperty of: has contributor
SPA-E3 Expression	has audio engineer	SPA-E14 Agent	is audio engineer of	rdae:has audio engineer Subproperty of: has contributor
SPA-E3 Expression	has editor of moving image work	SPA-E14 Agent	is editor of moving image work of	rdae:has editor of moving image work Subproperty of: has contributor
SPA-E3 Expression	has art director	SPA-E14 Agent	is art director of	rdae:has art director Subproperty of: has contributor
SPA-E3 Expression	has dramaturge	SPA-E14 Agent	is dramaturge of	Subproperty of: has contributor
SPA-E3 Expression	has moderator	SPA-E14 Agent	is moderator of	rdae:has moderator Subproperty of: has performer
SPA-E3 Expression	has on-screen presenter	SPA-E14 Agent	is on-screen presenter of	rdae:has on-screen presenter Subproperty of: has performer
SPA-E3 Expression	has host	SPA-E14 Agent	is host of	rdae:has host Subproperty of: has performer
6.4 Relations of SPA-E4 Manifestation				
SPA-E4 Manifestation	is manifestation of	SPA-E2 Work	has manifestation	fabio:isManifestationOf experimental (is it really needed?)
SPA-E4 Manifestation	is embodiment of	SPA-E3 Expression	has embodiment	frbr:embodimentOf; FRBRoo-R41 (is representative manifestation product type for)
SPA-E4 Manifestation	is single embodiment of	SPA-E3 Expression	has single embodiment	Subproperty of: is first embodiment of
SPA-E4 Manifestation	is first embodiment of	SPA-E3 Expression	has first embodiment	Subproperty of: is embodiment of
SPA-E4 Manifestation	has reproduction	SPA-E4 Manifestation	is reproduction	frbr:hasReproduction
SPA-E4 Manifestation	has part	SPA-E4 Manifestation	is part of	frbr:part
SPA-E4 Manifestation	is part of	SPA-E4 Manifestation	has part	frbr:partOf
SPA-E4 Manifestation	is reproduction of	SPA-E4 Manifestation	has reproduction	frbr:reproductionOf

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E4 Manifestation	has exemplar	SPA-E5 Item	is exemplar of	frbr:exemplar
SPA-E4 Manifestation	has single exemplar	SPA-E5 Item	is single exemplar of	Subproperty of: has first exemplar
SPA-E4 Manifestation	has first exemplar	SPA-E5 Item	is first exemplar of	Subproperty of: has exemplar
SPA-E4 Manifestation	has publisher	SPA-E14 Agent	is publisher of	rdam:has publisher Subproperty of: has contributor
SPA-E4 Manifestation	has broadcaster	SPA-E14 Agent	is broadcaster of	rdam:has broadcaster Subproperty of: has publisher
SPA-E4 Manifestation	has manufacturer	SPA-E14 Agent	is manufacturer of	rdam:has manufacturer
SPA-E4 Manifestation	has lithographer	SPA-E14 Agent	is lithographer of	rdam:has lithographer Subproperty of: has manufacturer
SPA-E4 Manifestation	has engraver	SPA-E14 Agent	is engraver of	rdam:has engraver Subproperty of: has manufacturer
SPA-E4 Manifestation	has etcher	SPA-E14 Agent	is etcher of	rdam:has etcher Subproperty of: has manufacturer
SPA-E4 Manifestation	has printer	SPA-E14 Agent	is printer of	rdam:has printer Subproperty of: has manufacturer
6.5 Relations of SPA-E5 Item				
SPA-E5 Item	is portrayal of	SPA-E2 Work	has portrayal	fabio:isPortrayalOf experimental (is it really needed?)
SPA-E5 Item	is representation of	SPA-E3 Expression	has representation	FRBRoo-R42 is representative manifestation singleton for; fabio:isRepresentationOf experimental (is it really needed?)
SPA-E5 Item	is exemplar of	SPA-E4 Manifestation	has exemplar	frbr:exemplarOf
SPA-E5 Item	is single exemplar of	SPA-E4 Manifestation	has single exemplar	Subproperty of: is first exemplar of
SPA-E5 Item	is first exemplar of	SPA-E4 Manifestation	has first exemplar	Subproperty of: is exemplar of
SPA-E5 Item	has reproduction	SPA-E5 Item	is reproduction	frbr:hasReproduction
SPA-E5 Item	has part	SPA-E5 Item	is part of	frbr:part
SPA-E5 Item	is part of	SPA-E5 Item	has part	frbr:partOf
SPA-E5 Item	is reproduction of	SPA-E5 Item	has reproduction	frbr:reproductionOf

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E5 Item	is component of	SPA-E5 Item	has component	rdai:is contained in (item)
SPA-E5 Item	has component	SPA-E5 Item	is component of	rdai:is container of (item)
SPA-E5 Item	is associated with	SPA-E12 Collection	is associated with	in analogy to RiC-17 is associated with Subproperty of: has manufacturer
SPA-E5 Item	is member of	SPA-E12 Collection	has member	in analogy to RiC-R18 is member of Subproperty of: is associated with
SPA-E5 Item	is finding aid for	SPA-E12 Collection	has finding aid	rdau:is finding aid for Subproperty of: is associated with
SPA-E5 Item	is index to	SPA-E12 Collection	has index	rdau:is index to Subproperty of: is associated with
SPA-E5 Item	has holder	SPA-E14 Agent	is holder of	RiC R25 is held by Subproperty of: is associated with
SPA-E5 Item	has owner	SPA-E14 Agent	is owner of	RiC R26 is owned by Subproperty of: is associated with
SPA-E5 Item	has addressee	SPA-E14 Agent	is addresse of	RiC R27 was addressed to Subproperty of: is associated with
SPA-E5 Item	has sender	SPA-E14 Agent	is sender of	RiC R34 was sent by Subproperty of: is associated with
SPA-E5 Item	has holding location	SPA-E19 Place	is holding location of	RiC R66 has holding location
SPA-E5 Item	has place indicated on postmark	SPA-E19 Place	is place indicated on postmark of	
SPA-E5 Item	was present at	SPA-E27 Event	occurred in the presence of	CIDOC CRM P12 (was present at)
SPA-E5 Item	resulted from	SPA-E27 Event	resulted in	in analogy to RiC-R53 resulted from
SPA-E5 Item	aggregates CHO	SPA-E34 Cultural Heritage Object	is CHO aggregated by	in analogy to ore:aggregates
SPA-E5 Item	has analog copy	SPA-E35 Analog Copy	is analog copy of	
SPA-E5 Item	has digital representation	SPA-E36 Digital Resource	is digital representation of	
SPA-E5 Item	has electronic reproduction	SPA-E36 Digital Resource	is electronic reproduction of	rdai:has electronic reproduction (item) Subproperty of: has digital representation
SPA-E5 Item	has electronic reproduction of the recto	SPA-E36 Digital Resource	is electronic reproduction of the recto of	Subproperty of: has electronic reproduction

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E5 Item	has electronic reproduction of the verso	SPA-E36 Digital Resource	is electronic reproduction of the verso of	Subproperty of: has electronic reproduction
SPA-E5 Item	has thumbnail	SPA-E36 Digital Resource	is thumbnail of	Subproperty of: has digital representation
SPA-E5 Item	has related nomen	SPA-E39 Nomen	has related item	rdai:has related nomen (item)
6.6 Relations of the subclasses of SPA-E6 Endeavour of the Performing Arts				
SPA-E6 Endeavour of the Performing Arts	is based on	SPA-E1 Endeavour	is basis of	in analogy to Wikidata P144 experimental (is it really needed?)
SPA-E7 Performance Work*, SPA-E9 Performing Arts Production	has producer	SPA-E14 Agent	is producer of	rdau:has producer Subproperty of: has contributor
SPA-E8 Performance Plan	has composer	SPA-E14 Agent	is composer of	rdae:has composer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has video designer	SPA-E14 Agent	is video designer of	Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has projection designer	SPA-E14 Agent	is projection designer of	Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has dramaturge	SPA-E14 Agent	is dramaturge of	in analogy to eclap:dramaturge Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has set designer	SPA-E14 Agent	is set designer of	in analogy to eclap:set designer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has choreographer	SPA-E14 Agent	is choreographer of	rdau:has choreographer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has costume designer	SPA-E14 Agent	is costume designer of	rdau:has costume designer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has lighting designer	SPA-E14 Agent	is lighting designer of	rdau:has lighting designer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has sound designer	SPA-E14 Agent	is sound designer of	rdau:has sound designer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts	has stage director	SPA-E14 Agent	is stage director of	rdau:has stage director Subproperty of: has contributor

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
Production*				
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has music performer	SPA-E14 Agent	is music performer of	Subproperty of: has performer
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has assistant stage director	SPA-E14 Agent	is assistant stage director of	in analogy to eclap:assistant director Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has actor	SPA-E14 Agent	is actor of	rdau:has actor Subproperty of: has performer
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has choral conductor	SPA-E14 Agent	is choral conductor of	rdau:has choral conductor Subproperty of: has conductor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has conductor	SPA-E14 Agent	is conductor of	rdau:has conductor Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has dancer	SPA-E14 Agent	is dancer of	rdau:has dancer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has instrumentalist	SPA-E14 Agent	is instrumentalist of	rdau:has instrumentalist Subproperty of: has music performer
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has narrator	SPA-E14 Agent	is narrator of	rdau:has narrator Subproperty of: has performer
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has performer	SPA-E14 Agent	is performer of	rdau:has performer Subproperty of: has contributor
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has puppeteer	SPA-E14 Agent	is puppeteer of	rdau:has puppeteer Subproperty of: has performer
SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has singer	SPA-E14 Agent	is singer of	rdau:has singer Subproperty of: has music performer
SPA-E9 Performing Arts Production	has representation	SPA-E10 Performance	is representation of	

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E9 Performing Arts Production	has first representation	SPA-E10 Performance	is first representation of	Subproperty of: has representation
SPA-E9 Performing Arts Production	has poster designer	SPA-E14 Agent	is poster designer of	Subproperty of: has contributor
SPA-E9 Performing Arts Production	has set builder	SPA-E14 Agent	is set builder of	in analogy to eclap:set builder Subproperty of: has contributor
SPA-E9 Performing Arts Production	has related nomen	SPA-E39 Nomen	has related performing arts production	
SPA-E10 Performance	is representation of	SPA-E9 Performing Arts Production	has representation	
SPA-E10 Performance	is first representation of	SPA-E9 Performing Arts Production	has first representation	Subproperty of: is representation of
SPA-E10 Performance	has guest performer	SPA-E14 Agent	is guest performer of	
6.7 Relations of SPA-E12 Collection (and its subclass SPA-E13 Record Set)				
SPA-E12 Collection	is associated with	SPA-E1 Endeavour	is associated with	in analogy to RiC-R136 is associated with
SPA-E12 Collection	has member	SPA-E5 Item	is member of	in analogy to RiC-R135 has member
SPA-E12 Collection	has finding aid	SPA-E5 Item	is finding aid for	rdau:is finding aid
SPA-E12 Collection	has index	SPA-E5 Item	is index to	rdau:is index
SPA-E12 Collection	has member	SPA-E12 Collection	is member of	in analogy to RiC-R141 has member
SPA-E12 Collection	is associated with	SPA-E12 Collection	is associated with	in analogy to RiC-R142 is associated with
SPA-E12 Collection	is member of	SPA-E12 Collection	has member	in analogy to RiC-R143 is member of Subproperty of: is associated with
SPA-E12 Collection	is predecessor of	SPA-E12 Collection	is successor of	in analogy to RiC-R144 is predecessor of Subproperty of: is associated with
SPA-E12 Collection	is successor of	SPA-E12 Collection	is predecessor of	in analogy to RiC-R145 is successor of Subproperty of: is associated with
SPA-E12 Collection	has rights held by	SPA-E14 Agent	is rights holder of	in analogy to RiC-R149 has rights held by Subproperty of: is associated with
SPA-E12 Collection	has subject	SPA-E14 Agent	is subject of	in analogy to RiC-R150 has subject Subproperty of: is associated with

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E12 Collection	is associated with	SPA-E14 Agent	is associated with	in analogy to RiC-R151is associated with
SPA-E12 Collection	has holder	SPA-E14 Agent	is holder of	in analogy to RiC-R152 is held by Subproperty of: is associated with
SPA-E12 Collection	is managed by	SPA-E14 Agent	manages	in analogy to RiC-R153 is managed by Subproperty of: is associated with
SPA-E12 Collection	has owner	SPA-E14 Agent	is owner of	in analogy to RiC-R154 is owned by Subproperty of: is associated with
SPA-E12 Collection	has addressee	SPA-E14 Agent	is addressee of	in analogy to RiC-R156 was addressed to Subproperty of: is associated with
SPA-E12 Collection	has sender	SPA-E14 Agent	is sender of	in analogy to RiC-R165 was sent by Subproperty of: is associated with
SPA-E12 Collection	has creator	SPA-E14 Agent	is creator of	in analogy to RiC-R161 was created by Subproperty of: is associated with
SPA-E12 Collection	has subject	SPA-E18 Subject	is subject of	in analogy to RiC-R181 is subject of Subproperty of: is associated with
SPA-E12 Collection	is associated with	SPA-E18 Subject	is associated with	in analogy to RiC-R182 is associated with
SPA-E12 Collection	has holding location	SPA-E19 Place	is holding location of	in analogy to RiC-R196 has holding location
SPA-E12 Collection	resulted from	SPA-E27 Event	resulted in	in analogy to RiC-R183 resulted from
SPA-E12 Collection	has creation date	SPA-E37 Date	is creation date of	in analogy to RiC-R191 has creation date Subproperty of: is associated with
SPA-E12 Collection	has coverage date	SPA-E37 Date	is coverage date of	in analogy to RiC-R192 has coverage date Subproperty of: is associated with
SPA-E12 Collection	is associated with	SPA-E37 Date	is associated with	in analogy to RiC-R193 is associated with
SPA-E12 Collection	has related nomen	SPA-E39 Nomen	has related entity	
SPA-E12 Collection	is associated with	SPA-E40 Documentary Form	is associated with	in analogy to RiC-R189 is associated with

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
6.8 Relations of SPA-E14 Agent				
SPA-E14 Agent	is associated with	SPA-E1 Endeavour	is associated with	in analogy to RiC-R207 is associated with
SPA-E14 Agent	is rights holder of	SPA-E1 Endeavour	has rights held by	in analogy to RiC-R209 is rights holder of Subproperty of: is associated with
SPA-E14 Agent	is contributor of	SPA-E1 Endeavour	has contributor	rdau:is contributor of Subproperty of: is associated with
SPA-E14 Agent	is subject of	SPA-E1 Endeavour	has subject	rdau:is subject of Subproperty of: is associated with
SPA-E14 Agent	is creator of	SPA-E2 Work	has creator	frbr:creatorOf
SPA-E14 Agent	is author of	SPA-E2 Work	has author	rdaa:is author of Subproperty of: is creator of
SPA-E14 Agent	is librettist of	SPA-E2 Work	has librettist	rdaa:is librettist of Subproperty of: is author of
SPA-E14 Agent	is lyricist of	SPA-E2 Work	has lyricist	rdaa:is lyricist of Subproperty of: is author of
SPA-E14 Agent	is composer of	SPA-E2 Work	has composer	rdaa:is composer of Subproperty of: is creator of
SPA-E14 Agent	is designer of	SPA-E2 Work	has designer	rdaa:is designer of Subproperty of: is creator of
SPA-E14 Agent	is screenwriter of	SPA-E2 Work	has screenwriter	rdaa:is screenwriter of Subproperty of: is author of
SPA-E14 Agent	is director of photog-raphy of	SPA-E2 Work	has director of photography	rdaa:is director of photography of
SPA-E14 Agent	is director of	SPA-E2 Work	has director	rdaa:is director of
SPA-E14 Agent	is casting director of	SPA-E2 Work	has casting director	rdaa:is casting director of
SPA-E14 Agent	is photographer of	SPA-E2 Work	has photographer	rdaa:is photographer of Subproperty of: is creator of
SPA-E14 Agent	is composer of	SPA-E2 Expression	has composer	rdaa:is composer (expression) of Subproperty of: is contributor of
SPA-E14 Agent	is adaptor	SPA-E3 Expression	has adaptor	Subproperty of: is contributor of

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E14 Agent	is television adaptor of	SPA-E3 Expression	has television adaptor	Subproperty of: is adaptor of
SPA-E14 Agent	is arranger of music of	SPA-E3 Expression	has arranger of music	rdaa:is arranger of music of Subproperty of: is contributor of
SPA-E14 Agent	is writer of added text of	SPA-E3 Expression	has writer of added text	rdaa:is writer of added text of Subproperty of: is contributor of
SPA-E14 Agent	is writer of added lyrics of	SPA-E3 Expression	has writer of added lyrics	rdaa: is writer of added lyrics of Subproperty of: is writer of added text of
SPA-E14 Agent	is editor of	SPA-E3 Expression	has editor	rdaa:is editor of Subproperty of: is contributor of
SPA-E14 Agent	is production designer of	SPA-E3 Expression	has production designer	rdaa:is production designer of Subproperty of: is contributor of
SPA-E14 Agent	is technical director of	SPA-E3 Expression	has technical director	Subproperty of: is contributor of
SPA-E14 Agent	is recording engineer of	SPA-E3 Expression	has recording engineer	rdaa:is recording engineer of Subproperty of: is contributor of
SPA-E14 Agent	is recordist of	SPA-E3 Expression	has recordist	rdaa:is recordist of Subproperty of: is contributor of
SPA-E14 Agent	is camera operator of	SPA-E3 Expression	has camera operator	Subproperty of: is recordist of
SPA-E14 Agent	is lighting designer of	SPA-E3 Expression	has lighting designer	rdaa:is lighting designer of Subproperty of: is contributor of
SPA-E14 Agent	is sound designer of	SPA-E3 Expression	has sound designer	rdaa:is sound designer of Subproperty of: is contributor of
SPA-E14 Agent	is audio engineer of	SPA-E3 Expression	has audio engineer	rdaa:is audio engineer of Subproperty of: is contributor of
SPA-E14 Agent	is editor of moving image work of	SPA-E3 Expression	has editor of moving image work	rdaa:is editor of moving image work of Subproperty of: is contributor of
SPA-E14 Agent	is art director of	SPA-E3 Expression	has art director	rdaa:is art director of Subproperty of: is contributor of

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E14 Agent	is dramaturge of	SPA-E3 Expression	has dramaturge	Subproperty of: is contributor of
SPA-E14 Agent	is moderator of	SPA-E3 Expression	has moderator	rdaa:is moderator of Subproperty of: is performer of
SPA-E14 Agent	is on-screen presenter of	SPA-E3 Expression	has on-screen presenter	rdaa:is on-screen presenter of Subproperty of: is performer of
SPA-E14 Agent	is host of	SPA-E3 Expression	has host	rdaa:is host of Subproperty of: is performer of
SPA-E14 Agent	is photographer	SPA-E3 Expression	has photographer	rdaa:is photographer (expression) of Subproperty of: is contributor of
SPA-E14 Agent	is translator of	SPA-E3 Expression	has translator	rdaa:is translator of Subproperty of: is contributor of
SPA-E14 Agent	is publisher of	SPA-E4 Manifestation	has publisher	rdaa:is publisher of
SPA-E14 Agent	is broadcaster of	SPA-E4 Manifestation	has broadcaster	rdaa:is broadcaster of Subproperty of: is publisher of
SPA-E14 Agent	is manufacturer of	SPA-E4 Manifestation	has manufacturer	rdaa:is manufacturer of
SPA-E14 Agent	is lithographer of	SPA-E4 Manifestation	has lithographer	rdaa:is lithographer of Subproperty of: is manufacturer of
SPA-E14 Agent	is engraver of	SPA-E4 Manifestation	has engraver	rdaa:is engraver of Subproperty of: is manufacturer of
SPA-E14 Agent	is etcher of	SPA-E4 Manifestation	has etcher	rdaa:is etcher of Subproperty of: is manufacturer of
SPA-E14 Agent	is printer of	SPA-E4 Manifestation	has printer	rdaa:is printer of Subproperty of: is manufacturer of
SPA-E14 Agent	is holder of	SPA-E5 Item	has holder	RiC R208 is holder of Subproperty of: is associated with
SPA-E14 Agent	is owner of	SPA-E5 Item	has owner	RiC R212 owns Subproperty of: is associated with
SPA-E14 Agent	is addresse of	SPA-E5 Item	has addressee	RiC R214 was addresse of Subproperty of: is associated with
SPA-E14 Agent	is sender of	SPA-E5 Item	has sender	RiC R213 sent Subproperty of: is

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
				associated with
SPA-E14 Agent	is producer of	SPA-E7 Performance Work*, SPA-E9 Performing Arts Production	has producer	rdau:is producer of Subproperty of: is contributor of
SPA-E14 Agent	is composer of	SPA-E8 Performance Plan	has composer	rdaa:is composer of Subproperty of: is contributor of
SPA-E14 Agent	is video designer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has video designer	Subproperty of: is contributor of
SPA-E14 Agent	is projection designer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production	has projection designer	Subproperty of: is contributor of
SPA-E14 Agent	is dramaturge of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has dramaturge	Subproperty of: is contributor of
SPA-E14 Agent	is set designer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has set designer	Subproperty of: is contributor of
SPA-E14 Agent	is choreographer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has choreographer	rdau:is choreographer of Subproperty of: is contributor of
SPA-E14 Agent	is stage director of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has stage director	rdaa:is stage director of Subproperty of: is contributor of
SPA-E14 Agent	is costume designer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has costume designer	rdau:is costume designer of Subproperty of: is contributor of
SPA-E14 Agent	is lighting designer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has lighting designer	rdau:is lighting designer of Subproperty of: is contributor of
SPA-E14 Agent	is sound designer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*	has sound designer	rdau:is sound designer of Subproperty of: is contributor of
SPA-E14 Agent	is music performer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has music performer	Subproperty of: is performer of
SPA-E14 Agent	is assistant stage director of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has assistant stage director	Subproperty of: is contributor of
SPA-E14 Agent	is puppeteer of	SPA-E8 Performance Plan, SPA-E9 Performing	has puppeteer	rdaa:is puppeteer of Subproperty of: is performer of

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
		Arts Production, SPA-E10 Performance*		
SPA-E14 Agent	is actor of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has actor	rdau:is actor of Subproperty of: is performer of
SPA-E14 Agent	is choral conductor of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has choral conductor	rdau:is choral conductor of Subproperty of: is conductor of
SPA-E14 Agent	is conductor of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has conductor	rdau:is conductor of Subproperty of: is contributor of
SPA-E14 Agent	is dancer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production*, SPA-E10 Performance	has dancer	rdau:is dancer of Subproperty of: is performer of
SPA-E14 Agent	is instrumentalist of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has instrumentalist	rdau:is instrumentalist of Subproperty of: is music performer of
SPA-E14 Agent	is narrator of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has narrator	rdau:is narrator of Subproperty of: is performer of
SPA-E14 Agent	is performer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has performer	rdau:is performer of
SPA-E14 Agent	is singer of	SPA-E8 Performance Plan, SPA-E9 Performing Arts Production, SPA-E10 Performance*	has singer	rdau:is singer of Subproperty of: is music performer of
SPA-E14 Agent	is poster designer of	SPA-E9 Performing Arts Production	has poster designer	Subproperty of: is contributor of
SPA-E14 Agent	is set builder of	SPA-E9 Performing Arts Production	has set builder	Subproperty of: is contributor of
SPA-E14 Agent	is guest performer of	SPA-E10 Performance	has guest performer	Subproperty of: is contributor of
SPA-E14 Agent	is associated with	SPA-E12 Collection	is associated with	
SPA-E14 Agent	is holder of	SPA-E12 Collection	has holder	Subproperty of: is associated with
SPA-E14 Agent	is rights holder of	SPA-E12 Collection	has rights held by	Subproperty of: is associated with

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E14 Agent	is subject of	SPA-E12 Collection	has subject	Subproperty of: is associated with
SPA-E14 Agent	manages	SPA-E12 Collection	is managed by	Subproperty of: is associated with
SPA-E14 Agent	is owner of	SPA-E12 Collection	has owner	Subproperty of: is associated with
SPA-E14 Agent	is addressee of	SPA-E12 Collection	has addressee	Subproperty of: is associated with
SPA-E14 Agent	is sender of	SPA-E12 Collection	has sender	Subproperty of: is associated with
SPA-E14 Agent	is creator of	SPA-E12 Collection	has creator	Subproperty of: is associated with
SPA-E14 Agent	is associated with	SPA-E14 Agent	is associated with	RiC 260 is associated with
SPA-E14 Agent	controls	SPA-E14 Agent	is controlled by	RiC R251 controls Subproperty of: is associated with
SPA-E14 Agent	is controlled by	SPA-E14 Agent	controls	RiC R263 is controlled by
SPA-E14 Agent	has substitute	SPA-E14 Agent	is substitute of	
SPA-E14 Agent	is substitute of	SPA-E14 Agent	has substitute	
SPA-E14 Agent	is member of	SPA-E14 Agent (of type group)	has member	RiC-266 is member of
SPA-E14 Agent (of type group)	has member	SPA-E14 Agent	is member of	RiC-258 has member
SPA-E14 Agent	is founder of	SPA-E17 Corporate Body	has founder	rdau:has founded entity
SPA-E14 Agent	is director of	SPA-E17 Corporate Body	has director	RiC R265 is director of Subproperty of: is officer of
SPA-E14 Agent	is artistic director of	SPA-E17 Corporate Body	has artistic director	Subproperty of: is officer of
SPA-E14 Agent	is administrative director of	SPA-E17 Corporate Body	has administrative director	Subproperty of: is officer of
SPA-E14 Agent	is president of	SPA-E17 Corporate Body	has president	Subproperty of: is officer of
SPA-E14 Agent	is trustee of	SPA-E17 Corporate Body	has trustee	rdaa:is trustee of Subproperty of: is officer of
SPA-E14 Agent	is officer of	SPA-E17 Corporate Body	has officer	rdaa:is officer of
SPA-E14 Agent	is employee of	SPA-E17 Corporate Body	has employee	rdaa:is employee of
SPA-E14 Agent	is student at	SPA-E17 Corporate Body	has student	rdaa:is student at
SPA-E14 Agent	is graduate of	SPA-E17 Corporate Body	has graduate	rdaa:is graduate of
SPA-E14 Agent	is associated with	SPA-E18 Subject	is associated with	
SPA-E14 Agent	has location	SPA-E19 Place	is location of	RiC-R329 is located at

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E14 Agent	manages	SPA-E22 Venue	is managed by	
SPA-E14 Agent	is keeper of	SPA-E23 Object	has keeper	CIDOC CRM-P49 (is former or current keeper of)
SPA-E14 Agent	is owner of	SPA-E23 Object	has owner	CIDOC CRM-P51 (is former or current owner of)
SPA-E14 Agent	is donor of	SPA-E23 Object	has donor	rdaa:is donor of
SPA-E14 Agent	is seller of	SPA-E23 Object	has seller	rdaa:is seller of
SPA-E14 Agent	is associated with	SPA-E25 Concept	is associated with	RiC-R333 is associated with
SPA-E14 Agent	is organiser of	SPA-E27 Event	has organiser	rdaa:is organizer of
SPA-E14 Agent	participated in	SPA-E27 Event	had participant	CIDOC CRM P11 (participated in)
SPA-E14 Agent	performs	SPA-E28 Activity	is performed by	RiC-R309 performs
SPA-E14 Agent	pursues	SPA-E30 Occupation	is pursued by	RiC R294 pursues
SPA-E14 Agent	established	SPA-E31 Position	was established by	RiC-R296 established
SPA-E14 Agent	occupies	SPA-E31 Position	is occupied by	RiC-R299 occupies
SPA-E14 Agent	fulfils	SPA-E32 Function	is fulfilled by	RiC-R302 fulfils
SPA-E14 Agent	has related nomen	SPA-E39 Nomen	has related entity	rdaa:has related nomen (agent)
6.9 Relations of SPA-E15 Person				
SPA-E15 Person	is child of	SPA-E15 Person	is parent of	RiC R262 is child of
SPA-E15 Person	is parent of	SPA-E15 Person	is child of	RiC R267 is parent of
SPA-E15 Person	is sibling of	SPA-E15 Person	is sibling of	RiC R270 is sibling of
SPA-E15 Person	is spouse of	SPA-E15 Person	is spouse of	RiC R271 is spouse of
SPA-E15 Person	has descendants	SPA-E16 Family	has progenitor	rdaa:has descendants
SPA-E15 Person	has birth place	SPA-E19 Place	is birth place of	RiC R325 had birth place
SPA-E15 Person	has death place	SPA-E19 Place	is death place of	RiC R326 had death place
SPA-E15 Person	has nationality	SPA-E21 Country	is nationality of	schema:nationality
SPA-E15 Person	occupies	SPA-E31 Position	is occupied by	RiC R299 occupies
SPA-E15 Person	has birth date	SPA-E37 Date	is birth date of	RiC R317 had birth date
SPA-E15 Person	has death date	SPA-E37 Date	is death date of	RiC R318 had death date

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
6.10 Relations of SPA-E16 Family				
SPA-E16 Family	has progenitor	SPA-E15 Person	has descendants	rdaa:has progenitor
SPA-E16 Family	has descendant family	SPA-E16 Family	is descendant family of	rdaa:has descendant family
SPA-E16 Family	is descendant family of	SPA-E16 Family	has descendant family	rdaa:is descendant family of
6.11 Relations of SPA-E17 Corporate Body				
SPA-E17 Corporate Body	has founder	SPA-E14 Agent	is founder of	rdaa:has founder
SPA-E17 Corporate Body	has director	SPA-E14 Agent	is director of	RiC R264 is directed by Subproperty of: has officer
SPA-E17 Corporate Body	has artistic director	SPA-E14 Agent	is artistic director of	Subproperty of: has officer
SPA-E17 Corporate Body	has administrative director	SPA-E14 Agent	is administrative director of	Subproperty of: has officer
SPA-E17 Corporate Body	has president	SPA-E14 Agent	is president of	Subproperty of: has officer
SPA-E17 Corporate Body	has trustee	SPA-E14 Agent	is trustee of	rdaa:has trustee Subproperty of: has officer
SPA-E17 Corporate Body	has officer	SPA-E14 Agent	is officer of	rdaa:has officer
SPA-E17 Corporate Body	has employee	SPA-E14 Agent	is employee of	rdaa:has employee
SPA-E17 Corporate Body	has student	SPA-E14 Agent	is student at	rdaa:has student
SPA-E17 Corporate Body	has graduate	SPA-E14 Agent	is graduate of	rdaa:has graduate
SPA-E17 Corporate Body	has part	SPA-E17 Corporate Body	is part of	RiC R259 has part
SPA-E17 Corporate Body	is part of	SPA-E17 Corporate Body	has part	RiC-R268 is part of
SPA-E17 Corporate Body	has mergee	SPA-E17 Corporate Body	has mergee	rdaa:has mergee
SPA-E17 Corporate Body	has component of merger	SPA-E17 Corporate Body	has product of merger	rdaa:has component of merger
SPA-E17 Corporate Body	has product of merger	SPA-E17 Corporate Body	has component of merger	rdaa:has product of merger
SPA-E17 Corporate Body	has product of split	SPA-E17 Corporate Body	has predecessor of split	rdaa:has product of split
SPA-E17 Corporate Body	has predecessor of split	SPA-E17 Corporate Body	has product of split	rdaa:has predecessor of split
SPA-E17 Corporate Body	has predecessor	SPA-E17 Corporate Body	has successor	rdaa:has predecessor
SPA-E17 Corporate Body	has successor	SPA-E17 Corporate Body	has predecessor	rdaa:has successor
SPA-E17 Corporate Body	has absorbed corporate body	SPA-E17 Corporate Body	has absorbing corporate body	rdaa:has absorbed corporate body
SPA-E17 Corporate Body	has absorbing corporate body	SPA-E17 Corporate Body	has absorbed corporate body	rdaa:has absorbing corporate body

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E17 Corporate Body	is host institution of	SPA-E27 Event	has host institution	rdaa:is host institution of
SPA-E17 Corporate Body	has active date	SPA-E37 Date	is active date of	
SPA-E17 Corporate Body	has date of termination	SPA-E37 Date	is date of termination of	RiC R322 had end date
SPA-E17 Corporate Body	has date of establishment	SPA-E37 Date	is date of establishment of	RiC-R320 had start date
6.12 Relations of SPA-E18 Subject				
SPA-E18 Subject	is associated with	SPA-E1 Endeavour	is associated with	
SPA-E18 Subject	is subject of	SPA-E1 Endeavour	has subject	
SPA-E18 Subject	is associated with	SPA-E12 Collection	is associated with	
SPA-E18 Subject	subject of	SPA-E12 Collection	has subject	
SPA-E18 Subject	is associated with	SPA-E14 Agent	is associated with	
SPA-E18 Subject	is associated with	SPA-E18 Subject	is associated with	
SPA-E18 Subject	has related nomen	SPA-E39 Nomen	has related entity	
6.13 Relations of SPA-E19 Place, SPA-E21 Country, and SPA-E22 Venue				
SPA-E19 Place	is holding location of	SPA-E5 Item	has holding location	
SPA-E19 Place	is place indicated on postmark of	SPA-E5 Item	has place indicated on postmark	
SPA-E19 Place	is holding location of	SPA-E12 Collection	has holding location	
SPA-E19 Place	is subject of	SPA-E12 Collection	has subject	
SPA-E19 Place	is location of	SPA-E14 Agent	has location	RiC R728 is location of
SPA-E19 Place	is birth place of	SPA-E15 Person	has birth place	RiC R730 was birth place of
SPA-E19 Place	is death place of	SPA-E15 Person	has death place	RiC R731 was death place of
SPA-E19 Place	is located in	SPA-E19 Place	is location of	
SPA-E19 Place	is location of	SPA-E19 Place	is located in	
SPA-E19 Place	is associated with	SPA-E19 Place	is associated with	RiC-R758 is associated with
SPA-E19 Place	is associated with	SPA-E25 Concept	is associated with	RiC-R760 is associated with
SPA-E19 Place	is location of	SPA-E27 Event	is located at	
SPA-E19 Place	has start date	SPA-E37 Date	is start date of	RiC R753 had start date
SPA-E19 Place	has active date	SPA-E37 Date	is active date of	RiC R754 has active date
SPA-E19 Place	has end date	SPA-E37 Date	is end date of	RiC R755 has end date
SPA-E21 Country	is nationality of	SPA-E15 Person	has nationality	
SPA-E22 Venue	is managed by	SPA-E14 Agent	manages	
SPA-E22 Venue	is located in	SPA-E24 Building	is location of	

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
6.14 Relations of SPA-E23 Object and SPA-E24 Building				
SPA-E23 Object	has keeper	SPA-E14 Agent	is keeper of	CIDOC CRM-P49 has former or current keeper
SPA-E23 Object	has owner	SPA-E14 Agent	is owner of	CIDOC CRM-P51 has former or current owner
SPA-E23 Object	has donor	SPA-E14 Agent	is donor of	rdau:has donor
SPA-E23 Object	has seller	SPA-E14 Agent	is seller of	rdau:has seller
SPA-E23 Object	has location	SPA-E19 Place	is location of	FRBRoo P53
SPA-E23 Object	is part of	SPA-E23 Object	has part	CIDOC CRM-P46 (forms part of)
SPA-E23 Object	has part	SPA-E23 Object	is part of	CIDOC CRM-P46 is composed of
SPA-E23 Object	is successor of	SPA-E23 Object	is predecessor of	
SPA-E23 Object	is predecessor of	SPA-E23 Object	is successor of	
SPA-E24 Building	is location of	SPA-E22 Venue	is located in	
6.15 Relations of SPA-E25 Concept				
SPA-E25 Concept	is associated with	SPA-E1 Endeavour	is associated with	
SPA-E25 Concept	is associated with	SPA-E12 Collection	is associated with	
SPA-E25 Concept	is subject of	SPA-E12 Collection	has subject	
SPA-E25 Concept	is associated with	SPA-E14 Agent	is associated with	RiC-R771 is associated with
SPA-E25 Concept	is associated with	SPA-E19 Place	is associated with	RiC-R789 is associated with
SPA-E25 Concept	is associated with	SPA-E25 Concept	is associated with	RiC-R792 is associated with
SPA-E25 Concept	is associated with	SPA-E28 Activity	is associated with	RiC R781 is associated with
6.16 Relations of SPA-E27 Event				
SPA-E27 Event	occurred in the presence of	SPA-E5 Item	was present at	CIDOC CRM P12 occurred in the presence of
SPA-E27 Event	resulted in	SPA-E5 Item	resulted from	
SPA-E27 Event	resulted in	SPA-E12 Collection	Resulted from	
SPA-E27 Event	had participant	SPA-E14 Agent	participated in	CIDOC CRM P11 had participant
SPA-E27 Event	has organiser	SPA-E14 Agent	is organiser of	rdau:has organizer
SPA-E27 Event	has host institution	SPA-E17 Corporate Body	is host institution of	rdau:has host institution
SPA-E27 Event	has location	SPA-E19 Place	is location of	
SPA-E27 Event	has part	SPA-E27 Event	is part of	
SPA-E27 Event	is part of	SPA-E27 Event	has part	

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E27 Event	is predecessor of	SPA-E27 Event	is successor of	
SPA-E27 Event	is successor of	SPA-E27 Event	is predecessor of	
SPA-E27 Event	has date	SPA-E37 Date	is date of	
SPA-E27 Event	has start date	SPA-E37 Date	is start date of	Subproperty of: has date
SPA-E27 Event	has active date	SPA-E37 Date	is active date of	Subproperty of: has date
SPA-E27 Event	has end date	SPA-E37 Date	is end date of	Subproperty of: has date
6.17 Relations of SPA-E28 Activity				
SPA-E28 Activity	is performed by	SPA-E14 Agent	performs	RiC R522 is performed by
SPA-E28 Activity	is associated with	SPA-E25 Concept	is associated with	RiC-R559 is associated with
SPA-E28 Activity	is associated with	SPA-E37 Date	is associated with	RiC R555 is associated with
SPA-E28 Activity	has end date	SPA-E37 Date	is end date of	RiC-554 has end date
SPA-E28 Activity	has start date	SPA-E37 Date	is start date of	RiC-R552 had start date
SPA-E28 Activity	has active date	SPA-E37 Date	is active date of	RiC-R553 has active date
6.18 Relations of SPA-E30 Occupation, SPA-E31 Position, and SPA-E32 Function				
SPA-E30 Occupation	is pursued by	SPA-E14 Agent	pursues	RiC R348 is pursued by
SPA-E31 Position	was established by	SPA-E14 Agent	established	RiC R390 was established by
SPA-E31 Position	is occupied by	SPA-E15 Person	occupies	RiC R388 is occupied by
SPA-E32 Function	is fulfilled by	SPA-E14 Agent	fulfils	RiC R437 is fulfilled by
6.19 Relations of SPA-E33 Performance Role				
SPA-E33 Performance Role	is subject of	SPA-E1 Endeavour	has subject	
SPA-E33 Performance Role	is defined in	SPA-E2 Work	defines	
SPA-E33 Performance Role	is defined in	SPA-E3 Expression	defines	
SPA-E33 Performance Role	is played by	SPA-E14 Agent	plays	
SPA-E33 Performance Role	corresponds to	SPA-E33 Performance Role	corresponds to	
6.20 Relations of SPA-E34 Cultural Heritage Object, SPA-E35 Analog Copy, and SPA-E36 Digital Resource				
SPA-E34 Cultural Heritage Object	is CHO aggregated by	SPA-E5 Item	aggregates CHO	

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E35 Analog Copy	is analog copy of	SPA-E5 Item	has analog copy	
SPA-E36 Digital Resource	is digital representation of	SPA-E5 Item	has digital representation	
SPA-E36 Digital Resource	is electronic reproduction of	SPA-E5 Item	has electronic reproduction	rdai:is electronic reproduction of (item) Subproperty of: is digital representation of
SPA-E36 Digital Resource	is electronic reproduction of the recto of	SPA-E5 Item	has electronic reproduction of the recto of	Subproperty of: is electronic reproduction
SPA-E36 Digital Resource	is electronic reproduction of the verso of	SPA-E5 Item	has electronic reproduction of the verso of	Subproperty of: is electronic reproduction
SPA-E36 Digital Resource	is thumbnail of	SPA-E5 Item	has thumbnail	schema:thumbnail Subproperty of: is digital representation of
6.21 Relations of SPA-E37 Date				
SPA-E37 Date	is associated with	SPA-E1 Endeavour	is associated with	
SPA-E37 Date	is creation date of	SPA-E1 Endeavour	has creation date	Subproperty of: is associated with
SPA-E37 Date	is associated with	SPA-E12 Collection	is associated with	
SPA-E37 Date	is coverage date of	SPA-E12 Collection	has coverage date	Subproperty of: is associated with
SPA-E37 Date	is creation date of	SPA-E12 Collection	has creation date	Subproperty of: is associated with
SPA-E37 Date	is birth date of	SPA-E15 Person	has birth date	RiC R659 was birth date of
SPA-E37 Date	is death date of	SPA-E15 Person	has death date	RiC R660 was death date of
SPA-E37 Date	is active date of	SPA-E17 Corporate Body	has active date	
SPA-E37 Date	is date of establishment of	SPA-E17 Corporate Body	has date of establishment	
SPA-E37 Date	is date of termination of	SPA-E17 Corporate Body	has date of termination	RiC R656 is end date of
SPA-E37 Date	is end date of	SPA-E19 Place	has end date	RiC R700 is end date of
SPA-E37 Date	is active date of	SPA-E19 Place	has active date	RiC-R698 is active date of
SPA-E37 Date	is start date of	SPA-E19 Place	has start date	RiC-R704 was start date of
SPA-E37 Date	is date of	SPA-E27 Event	has date	
SPA-E37 Date	is active date of	SPA-E27 Event	has active date	Subproperty of: is date of
SPA-E37 Date	is end date of	SPA-E27 Event	has end date	Subproperty of: is date of
SPA-E37 Date	is start date of	SPA-E27 Event	has start date	Subproperty of: is date of
6.22 Relations of SPA-E39 Nomen				
SPA-E39 Nomen	has related entity	SPA-E1 Endeavour	has related nomen	rdau:has related resource

Relation Domain	Relation Name	Relation Range	Inverse Relation Name	Equivalent Properties Superproperties *Remarks*
SPA-E39 Nomen	has related entity	SPA-E12 Collection	has related nomen	
SPA-E39 Nomen	has related entity	SPA-E14 Agent	has related nomen	rdau:has related agent
SPA-E39 Nomen	has related entity	SPA-E18 Subject	has related nomen	
SPA-E39 Nomen	is associated with	SPA-E39 Nomen	is associated with	
6.23 Relations of SPA-E40 Documentary Form				
SPA-E40 Documentary Form	is associated with	SPA-E1 Endeavour	is associated with	
SPA-E40 Documentary Form	is documentary form of	SPA-E1 Endeavour	has documentary form	Subproperty of: is associated with
SPA-E40 Documentary Form	is associated with	SPA-E12 Collection	is associated with	
SPA-E40 Documentary Form	is subclass of	SPA-E40 Documentary Form	is superclass of	rdfs:subClassOf
SPA-E40 Documentary Form	is superclass of	SPA-E40 Documentary Form	is subclass of	

7 Qualifiers

This section contains the inventory of the qualifiers defined within the SPA Data Model:

7.1 Qualifiers of any Attribute or Relation		
#	**Name**	**Definition**
SPA-Q date		the date of an attribute or a relation
	Domain	Any attribute or relation
	Subproperty of	-
	Superproperty of	start date, active date, end date
	Equivalent Property	-
	Scope Note	Qualifier used to indicate the date of an attribute or a relation, limiting the scope of validity of a statement.
	Data Type	Date or SPA-E Date
	Example	
	Comment	Use this qualifier only for punctual relations or in combination with a Time Span. For relations with a duration, use the qualifiers SPA-Q start date, SPA-Q active date, and SPA-Q end date for more precision.
#	**Name**	**Definition**
SPA-Q start date		the date of the inception of an attribute or a relation
	Domain	Any attribute or relation
	Subproperty of	SPA-Q date
	Superproperty of	-
	Equivalent Property	
	Scope Note	Qualifier used to indicate the beginning of validity of a statement.
	Data Type	Date or SPA-E Date
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-Q active date		a date at which an attribute was valid or a relation was active
	Domain	Any attribute or relation
	Subproperty of	SPA-Q date
	Superproperty of	-
	Equivalent Property	
	Scope Note	Qualifier used to indicate a date at which a statement was valid.
	Data Type	Date or SPA-E Date
	Example	
	Comment	-

#	Name	Definition
SPA-Q end date		a date at which an attribute stopped to be valid or a relation ended
	Domain	Any attribute or relation
	Subproperty of	SPA-Q date
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Qualifier used to indicate the date at which the statement ceased to be valid.
	Data Type	Date or SPA-E Date
	Example	
	Comment	If the exact end date of a property's validity is unknown, use this qualifier in combination with owl:Nothing to express that a property is no longer valid.

7.2 Qualifiers of any Attribute

#	Name	Definition
SPA-Q language		language of an attribute
	Domain	Any attribute
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	dc:language
	Scope Note	Used to indicate the language of a label, alternative label, title, etc.
	Data Type	Controlled Term (ISO 639-1, ISO 639-2)
	Example	
	Comment	-

7.3 Qualifiers of Specific Attributes

#	Name	Definition
SPA-Q attribute label		label of a local or a generic attribute
	Domain	SPA-P generic attribute; SPA-P local attribute
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to indicate the label of a local or a external attribute. To be used for any attribute that has not been defined within the data model.
	Data Type	String or Controlled Term
	Example	-
	Comment	-
#	Name	Definition
SPA-Q uri		URI of an equivalent property within an existing ontology
	Domain	SPA-P generic attribute; SPA-P local attribute
	Subproperty of	-

	Superproperty of	-
	Equivalent Property	-
	Scope Note	To be used in combination with the SPA-P external attribute for any attribute that has not been defined within the SPA Data Model, but for which an equivalent property is available in an existing ontology.
	Data Type	URL
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-Q attribute type		indication regarding the source or the context of a local attribute
	Domain	SPA-P generic attribute; SPA-P local attribute
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to make a SPA-P local attribute more specific, e.g. by attributing it to a particular organization or database.
	Data Type	Controlled Term
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-Q reference database		reference to a Reference Database
	Domain	SPA-P global persistent identifier SPA-P global identifier
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to indicate the Reference Database serving as the source of a global identifier.
	Data Type	SPA-E Reference Database
	Example	-
	Comment	-
#	**Name**	**Definition**
SPA-Q thesaurus		reference to a Thesaurus
	Domain	SPA-P type
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to indicate the Thesaurus providing the controlled terms used for the categorization.
	Data Type	SPA-E Thesaurus

	Example	-
	Comment	-
#	**Name**	**Definition**
SPA-Q identifier type		indication regarding the source or the context of a local identifier
	Domain	SPA-P local identifier
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to make a local identifier more specific, e.g. by attributing it to a particular organization or database.
	Data Type	Controlled Term
	Example	-
	Comment	-
#	**Name**	**Definition**
SPA-Q method		method used to generate the content checksum
	Domain	SPA-P content check sum
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	
	Data Type	Controlled Term
	Example	“md5”
	Comment	-
#	**Name**	**Definition**
SPA-Q type and unit		type and unit of the content for which the extent is indicated
	Domain	SPA-P content extent
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	"number of photographs"
	Comment	
#	**Name**	**Definition**
SPA-Q currency		currency of the value or price indication
	Domain	SPA-P estimated value; SPA-P insurance value; SPA-P price
	Subproperty of	
	Superproperty of	
	Equivalent Property	

	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-Q type and unit of measurement		type and unit of measurement
	Domain	SPA-P dimensions; SPA-P size of content
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	
#	**Name**	**Definition**
SPA-Q unit of measurement		unit of measurement
	Domain	SPA-P duration
	Subproperty of	
	Superproperty of	
	Equivalent Property	
	Scope Note	
	Data Type	
	Example	
	Comment	

7.4 Qualifiers of any Relation

#	Name	Definition
SPA-Q named as		name used to refer to the entity
	Domain	Any relation
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to indicate the name used in a catalogue, program, etc. to refer to the entity in question.
	Data Type	String or SPA-E Nomen
	Example	
	Comment	-

7.5 Qualifiers of Specific Relations		
#	**Name**	**Definition**
SPA-Q relation label		label of the generic relation SPA-R is associated with
	Domain	SPA-R is associated with
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	Used to indicate the label of the generic relation SPA-R is associated with. To be used for any relation that has not been defined within the data model.
	Data Type	String or Controlled Term
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-Q uri		uri of an equivalent property within an existing ontology (to be used as qualifier of a generic property)
	Domain	SPA-R is associated with
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	To be used in combination with the generic relation SPA-R is associated with for any attribute that has not been defined within the SPA Data Model, but for which an equivalent property is available in an existing ontology.
	Data Type	URL
	Example	
	Comment	-
#	**Name**	**Definition**
SPA-Q contribution		description of the contribution
	Domain	SPA-R has contributor; SPA-R is contributor of; SPA-R has creator; SPA-R is creator of
	Subproperty of	-
	Superproperty of	-
	Equivalent Property	-
	Scope Note	
	Data Type	String or Controlled Term
	Example	
	Comment	Also to be used in connection with any of the sub-properties of the relations refering to the contributors of an Endeavour or the creators of a Work.

8 Modelling Examples

The present section contains a series of modelling examples that were developed in the context of a test migration of data held by the Swiss Theatre Collection and the Swiss Dance Collection:

- **Figure 6** contains a modelling example of a **theatre production, its contributors** and the **relationship between a literary work and a performance work**. In the example, the literary work has several expressions (the original Spanish version of the play, a German translation, as well as its Swiss-German adaptation), that are each modelled separately. Furthermore, the example shows how performance roles are represented within the SPA Data Model: they are defined by an expression of a work and played by performers in the course of a performing arts production. Furthermore, the example shows how to describe the different types of creators and contributors of a performance work and the literary work it is based on (for the description of a music theatre work, refer to figure 9).

- **Figure 7** contains a modelling example of the **theatre operations at a particular venue during a particular theatre season**. Note that theatre productions may be described at the production level only (e.g. by indicating the first performance date and the number of representations) or at the level of individual performances (in the example, the premiere of each production is modelled separately).

- **Figure 8** contains a modelling example of a **guest performance**. In the example, the production was originally produced by a Parisian theatre (Théâtre Saint-Georges) and then taken on a tour through various European theatres by a touring theatre company (Les Galas Karsenty). Note that in this special case, the production has two producers: the producer of the original performance work (at the level of the work), and the producer of the European tour (at the level of the production). Of course, guest performances can take place without the intervention of a separate touring theatre company, resulting in a simpler description with only one production company (at the level of the work). In the example provided, only one guest performance took place in each of the Swiss theatres where the play was on. In case of several guest performances at the same venue, SPA-E11 Series of Performances can be used instead of SPA-E10 Performance to describe them.

- **Figure 9** contains a modelling example of a **guest appearance** by a star opera singer (Richard Tauber appearing in the operetta “Das Land des Lächelns” on 5 January 1939 at Stadttheater Bern) and of a **performer acting as a substitute for another performer** (Erika Druszowic replacing the opera singer Lilli Langen in the 29 March 1939 representation of the same production).

- **Figure 10** contains a modelling example of **theatre organisations** and **theatre venues**. The example shows the relatively complex structure of a theatre production company which is controlled by another legal entity, is a member of a theatre association, manages several venues, some of them comprising several stages, and consists of several ensembles (theatre, dance, music theatre, choir, orchestra). The example illustrates how the model allows to provide information about directors, presidents, members, etc. for each of the organisations and organisational units separately.

- **Figure 11** contains a modelling example of an **archival collection** that is structured according to the ISAD(G) standard. Note that entities above the “fonds” level according to ISAD(G) are rendered as SPA-E12 Collection, while the entities ranging from the “fonds” level to the “file” level are rendered as SPA-E13 Record Set. The label of the respective level is provided in a *SPA-P type* attribute. By this means, the SPA Data Model allows to preserve any legacy tree structure that may be found in an archival description. Note also the different artefacts pertaining to the same item: the original item (a video recording on an analogue carrier), an analogue copy of the video as well as an electronic reproduction of the same video. Properties

pertaining to the item as such (and not only to one of the copies or the carrier of the original) are described at the level of the item. In the example, the item serves to document a performing arts production, which is indicated by the relation *SPA-R has subject* pointing to the production in question.

- **Figure 12** contains a modelling example of a **documentation collection** with a hierarchical structure that is flatter than the one of the archival collection in figure 11. The example also illustrates how the data can be read in two directions: On one hand, it provides information about the organizations and venues covered by a given record set. On the other hand, it provides information which record sets within the collections of a heritage institution contain information about a given organization. Obviously, the data can be complemented to comprise references to the collections to more than one heritage institution.

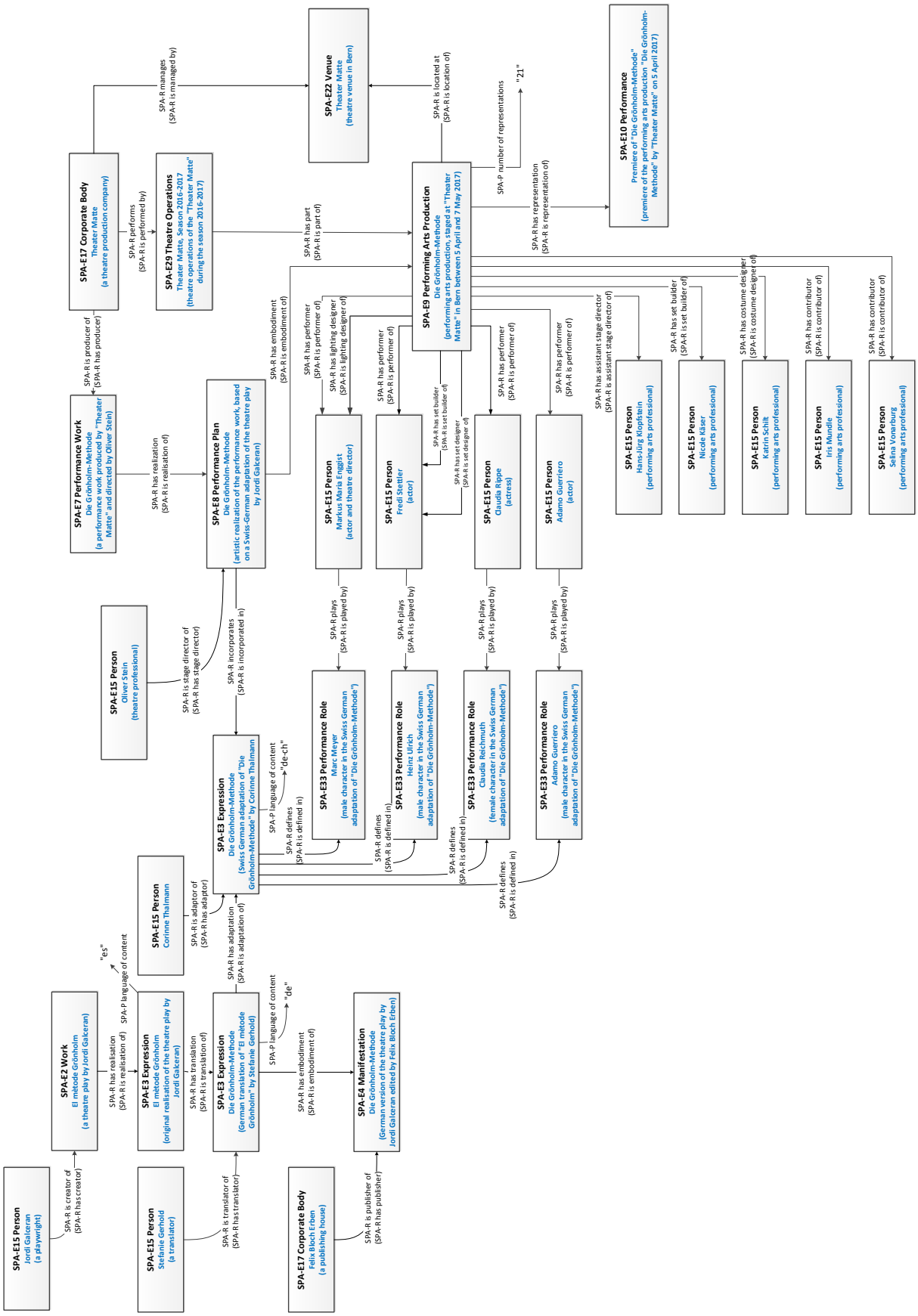

Figure 6: Theatre production (modelling example)

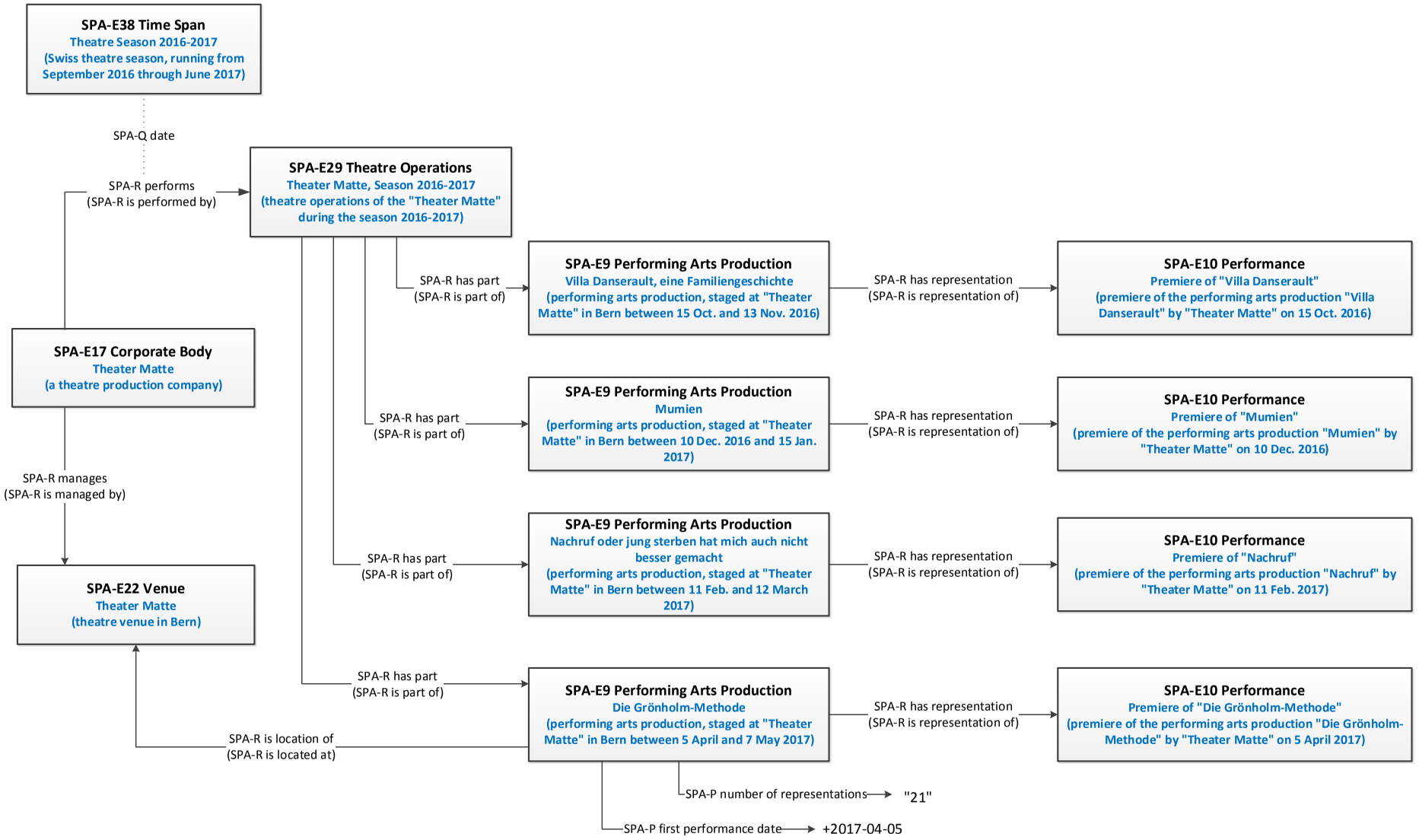

Figure 7: Theatre season (modelling example)

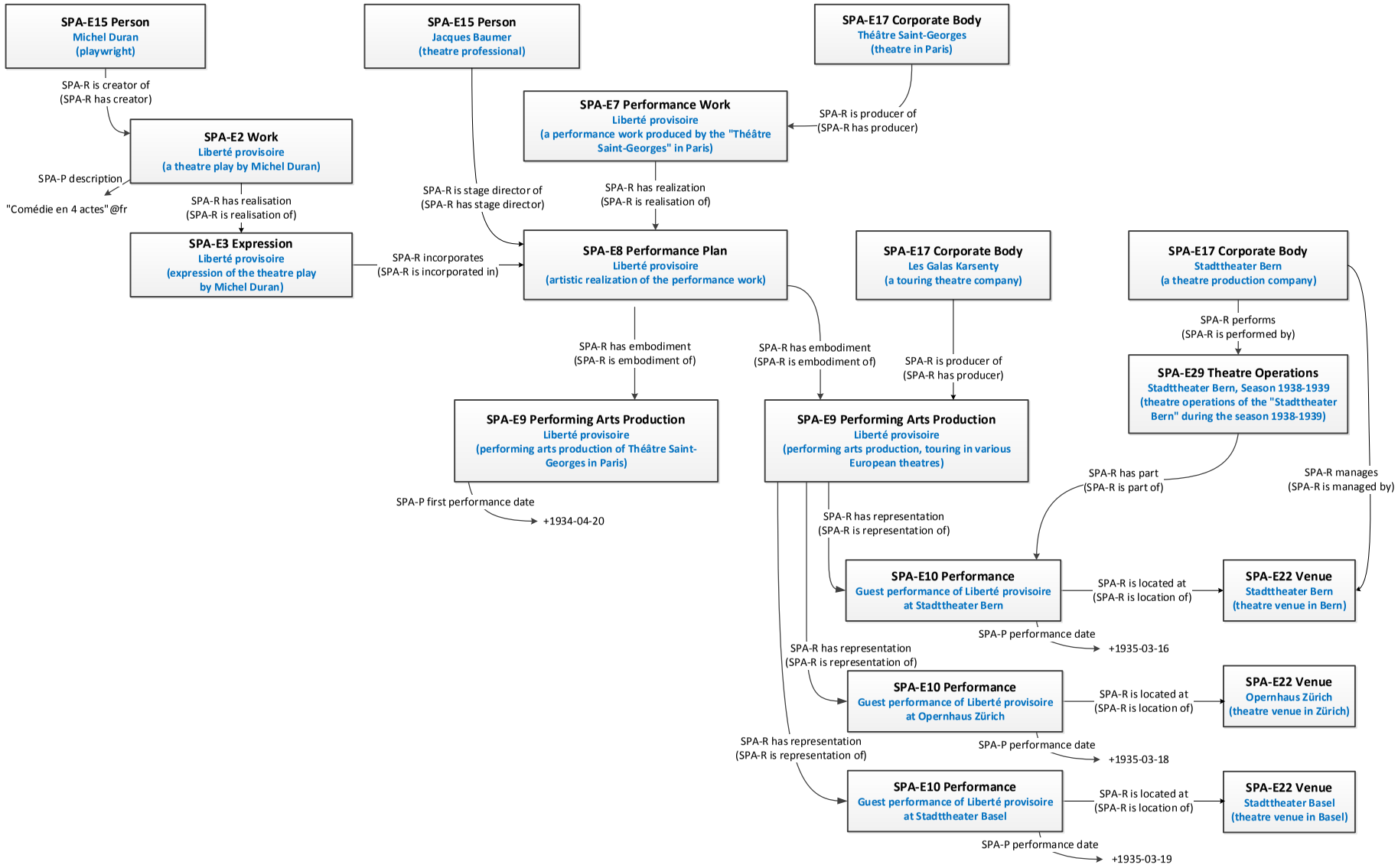

Figure 8: Guest performance (modelling example)

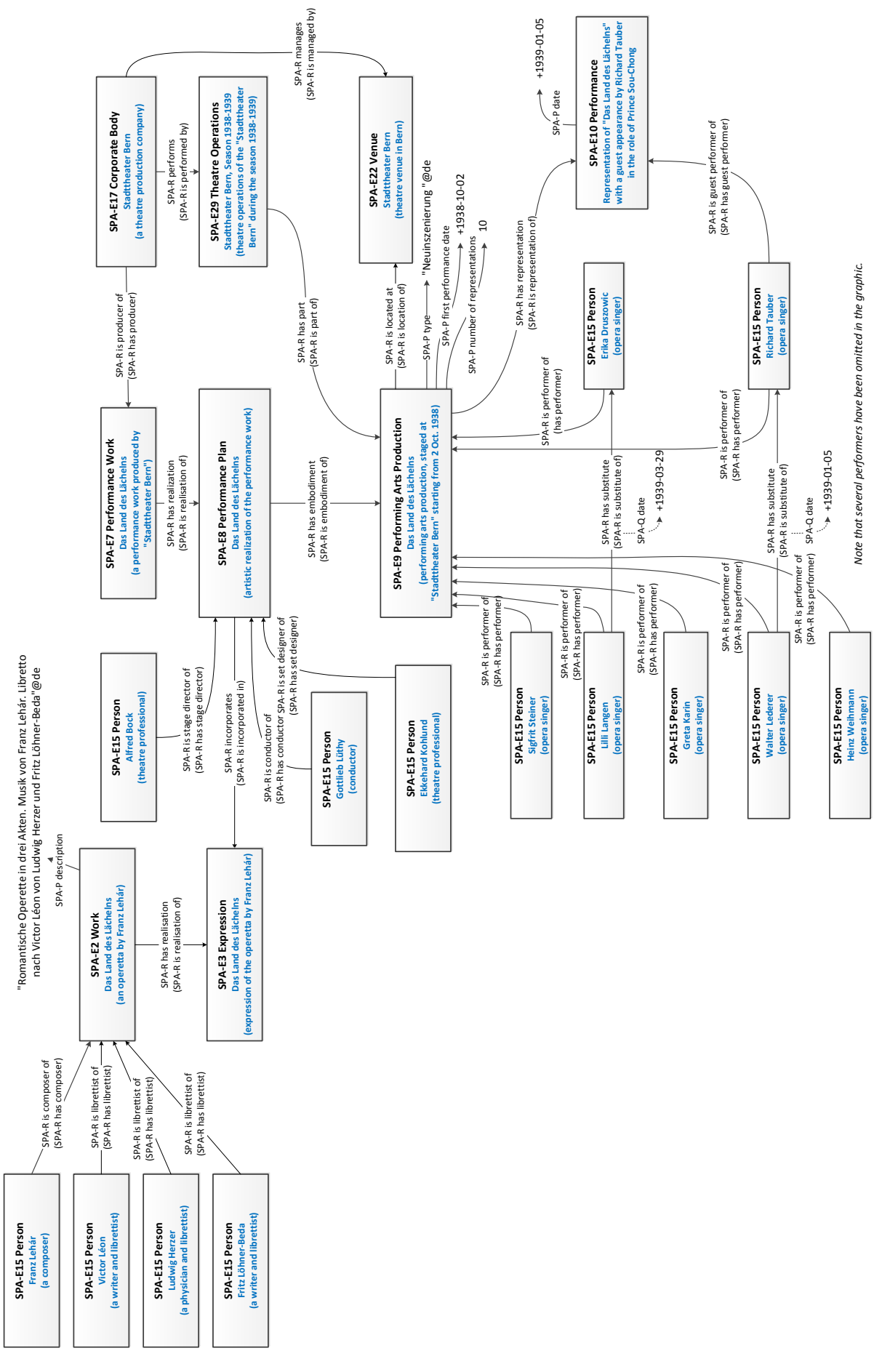

Figure 9: Guest appearance and substitute performers (modelling example)

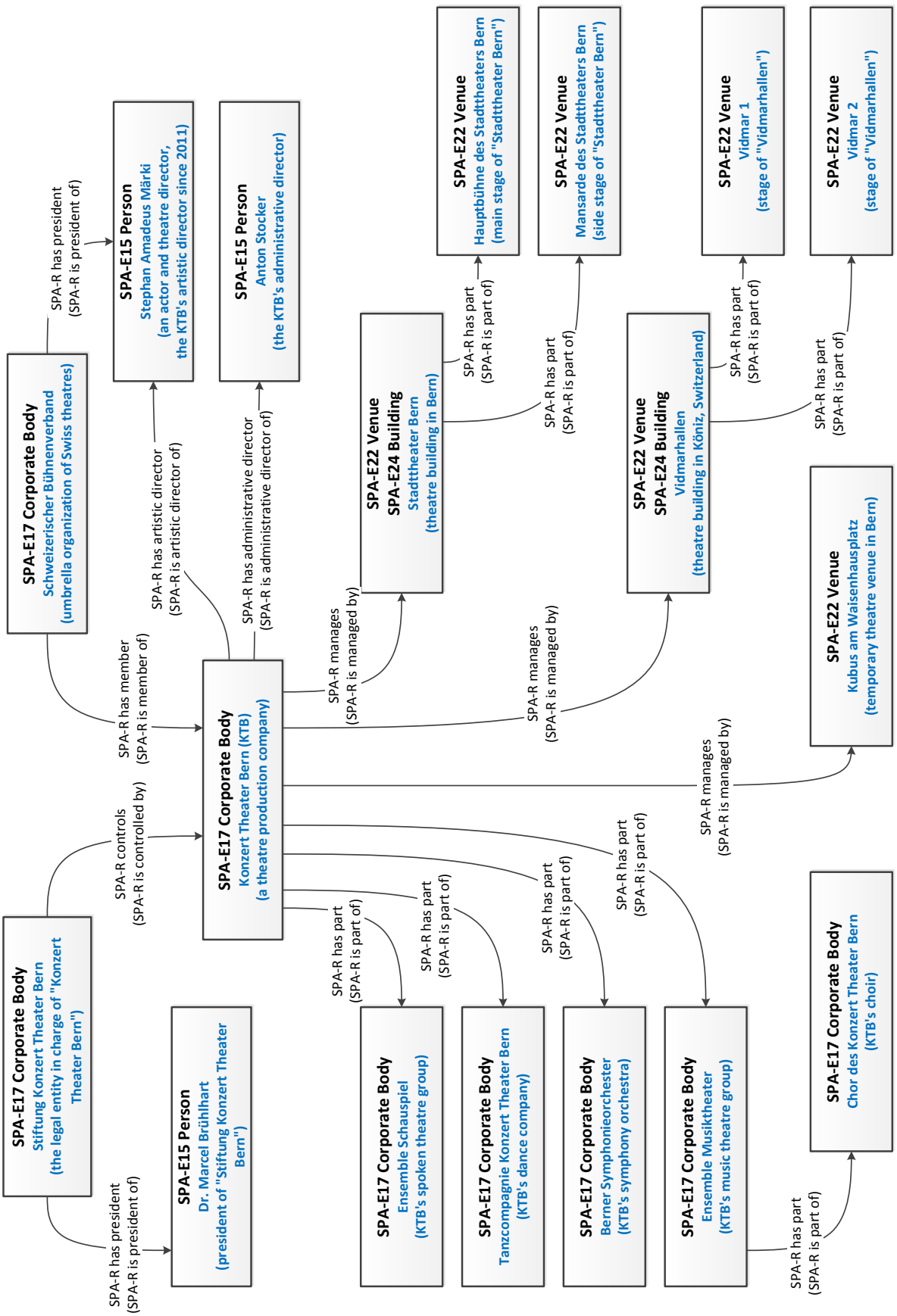

Figure 10: Theatre organisations and venues (modelling example)

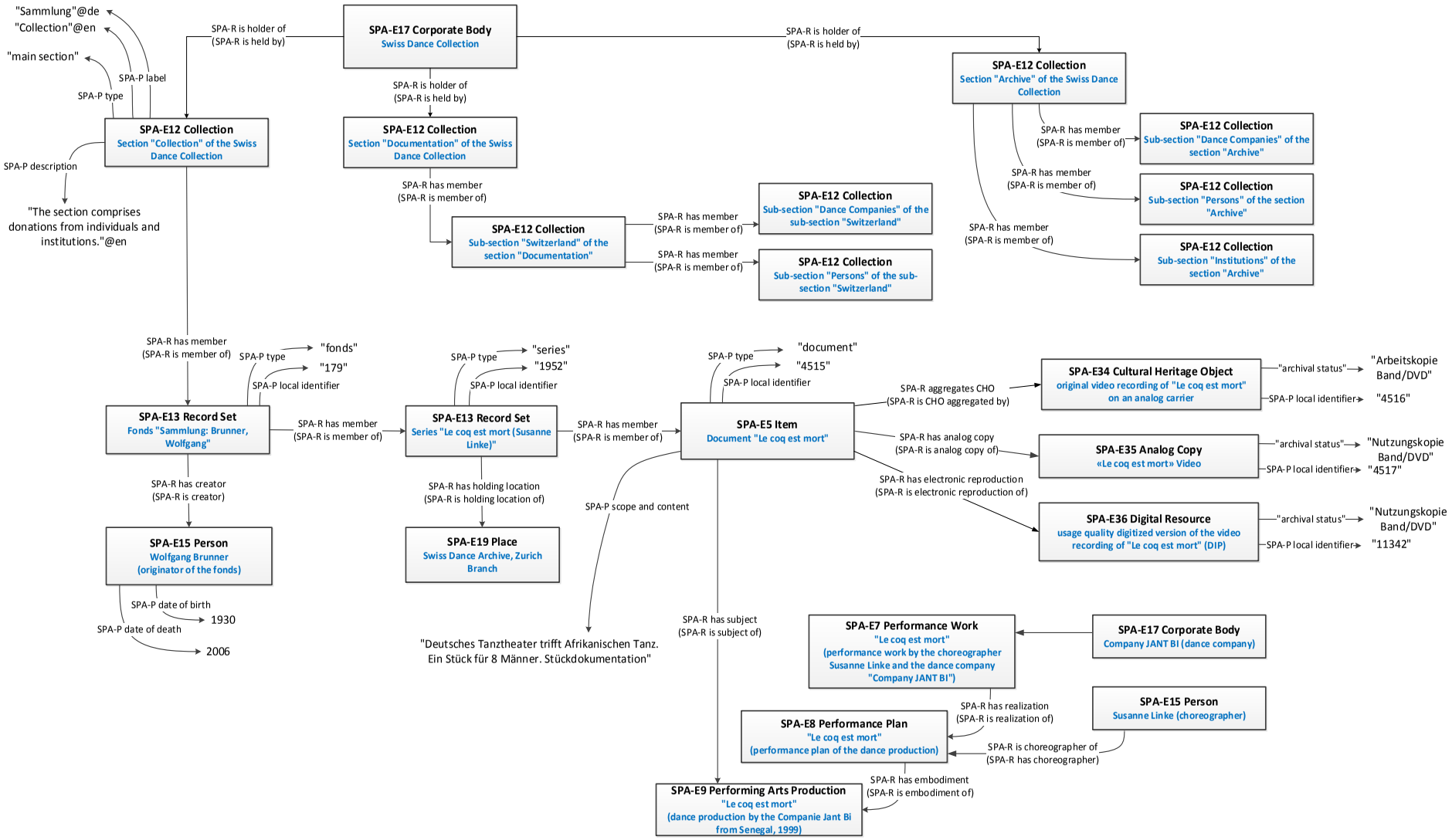

Figure 11: Structure of an archival collection (modelling example)

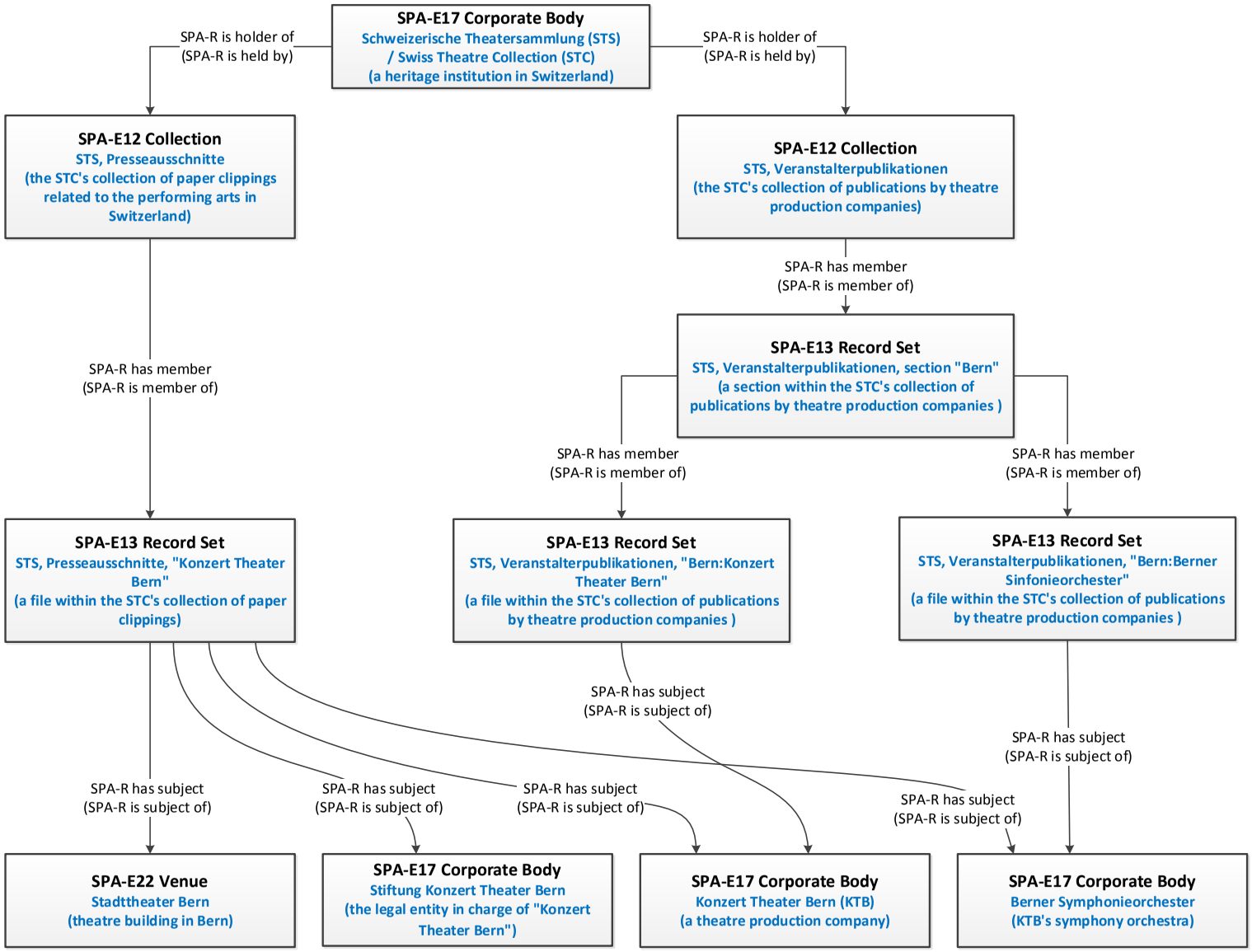

Figure 12: Structure of a documentation collection (modelling example)

9 Open Issues

There is a series of known issues that should be addressed in a future version of the data model:

- The SPA Data Model presently does not offer any possibility to describe ordered lists of items of the same kind, such as a list of actors in the sequence of their appearance on the official programme. There are different ways of modelling this in RDF. A specific approach should be adopted in view of a future release of the model.

- The SPA Data Model presently does not include any of the specialized vocabularies to describe rights and license information, such as the Creative Commons vocabulary (cc:License, cc:Jurisdiction, cc:Permission, cc:Requirement, cc:Prohibition). They may be defined as elements or as official extensions of the model.

- The SPA Data Model presently does only partly lend itself to the rendering of preservation and conservation information. In the future, the model may be extended by adding elements that can be used to describe concepts defined in PREMIS or OAIS.

- The idea of numbering all the properties has been abandoned at this stage due to the regular re-numbering of the properties that would have occurred during the model development phase if the numbering were to follow a logical order. A concept for the numbering of the properties should be adopted for one of the future releases of the model.

- Equivalent classes in relevant ontologies have been provided quite systematically. Equivalent properties in existing ontologies are however only indicated sporadically. A systematic review of relevant ontologies should provide complementary mapping information. In addition, pointers to equivalent Wikidata items should be provided.

- Again, regarding the properties, the model may benefit from additional definitions, scope notes, and examples.

- Controlled vocabularies (thesauri) used in the context of the data held by the Swiss Theatre Collection, the Swiss Dance Collection, and potentially further heritage institutions should be provided as part of a future version of the model or be released on a standalone basis.

- A review of existing/alternative initiatives to model the performing arts domain should be provided – ideally in cooperation with the respective authors (see for example: Doerr et al. 2008, Bellini & Nesi 2015, Thull et al. 2015, Beck et al. 2017). Mapping guidelines for passing from one data model to the other could be provided and agreement could be sought with regard to a converging modelling approach.

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11 Version Control

Version	Date	Description	Author(s)
0.1	16.05.2017	First draft version for consultation	Beat Estermann
0.1	24.05.2017	Integration of internal feedback	Beat Estermann
0.5	12.09.2017	Made a few minor corrections and additions (default ranges and domains; open issues: ordered list; contact address)	Beat Estermann
0.51	26.09.2017	Made a few minor corrections	Beat Estermann; Birk Weiberg