ISSN linked data application profile

Revision history

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Introduction 4
Context 4
Prefixes used in this document 5
Overview of the ISSN linked data model 5
Naming conventions 6
ISSN URI templates 6
Relative URIs 7
Modelling choices 8
Reuse existing models 8
The ISSN resource distinct from the ISSN record 8
The ISSN resource considered both as a Bibframe Work and Instance 9
The ISSN resource typed with schema:Periodical 9
The ISSN-L described as an independent resource 10
KeyTitle and AbbreviatedKeyTitle considered both as Titles and Identifiers 10
Key Title and other titles as both literal values and title objects 10
A Reference Publication Event and a Publication Event history 11
The ISSN free linked data model 11
Free vs. Full model 11
Free model diagram 12
Description 14
The ISSN full linked data model 15
Diagram legend 15
The ISSN, its Record and its identifiers 16
Cancelled, Incorrect ISSN and ISSN-L 18
The ReferencePublicationEvent and the other Publication Events 20
Titles and classification 23
Links between ISSN 26
ISSN linked data entities detailed description 28
ISSN resource 28
ISSN resource links 37
Activity (Record Creation Event) 39
ISSN-L 40
ISSN record 41

Publication Events 42
Reproductions 46
Identifiers 47
Titles 48
Organizations (Publishers, Issuing Bodies, ISSN Centres) 49
Classifications 50
Notes 51
ISSN controlled vocabularies 51
List of record statuses 51
List of identifier statuses 52
List of media 52

Introduction

Context

The ISSN is an identification system intended to reliably identify serials and other ongoing resources worldwide: it covers therefore not only periodicals, monographic series and newspapers, but also publications such as scholarly databases, websites and blogs. ISSN assignment is ensured by a network of ninety national centres. An intergovernmental organisation, the ISSN International Centre, is in charge of coordinating the network and ingesting ISSN records produced by National Centres. It manages a central database, the ISSN Register, and provides tools and services to access that information.

The need for standard, internationally recognized, and persistent identifiers has been recognized for many years – the ISSN system itself was established in 1975. This need has been dramatically increased by the emergence of linked data. Identifiers make it possible to link heterogeneous sets of metadata, which should be easily accessible and not stored in closed silos. The ISSN International Centre has thus developed a new Portal, intended on one hand to freely distribute a subpart of the ISSN Register; and on the other hand to provide linked and enriched information to its customers.

ISSN linked data will be stored and accessible to different kinds of users in different databases and applications:

- On the one hand, information from the ISSN Register is stored in a RDF triplestore, where it will be enriched by other sources of information. Access to this triplestore is provided to ISSN customers and partners through a SPARQL endpoint.
- On the other hand, information from an ISSN record or a set of ISSN records is downloadable from the ISSN Portal. ISSN customers and partners are able to access to full record information, while "free" (non-registered) users will only access a sub-part of the record, corresponding to the "essential" identification metadata. In addition, several APIs are provided to customers in order to automate metadata retrieval.

This document presents how bibliographic information from the ISSN Register is mapped in linked data. To that end, an ISSN data model and an ISSN application profile have been designed. The data model is intended to be consistent with the overarching models of the bibliographic communities (especially the IFLA-Library Reference Model), while taking into account the specificities of continuing resources – especially their dynamic and event-oriented nature. The ISSN application profile implementing this data model is based on popular and simple ontologies (mainly Schema.org and Dublin Core) for the most common metadata and on more specific ones (Bibframe, Marc21rdf.info) when it comes to detailed bibliographic information.

This application profile provides a support for the release of all ISSN Register information, including data provenance, as well as for the distribution of "essential" information as linked open data. It is also intended to be flexible and extensible enough to be enriched by new

kinds of information (e.g. extended classification, geo-localisation…) as a support for new services.

Prefixes used in this document

This document uses the namespace prefixes listed in the table below:

Prefix	URI
rdf	http://www.w3.org/1999/02/22-rdf-syntax-ns#
rdfs	http://www.w3.org/2000/01/rdf-schema#
prov	http://www.w3.org/ns/prov#
dcam	http://purl.org/dc/dcam
dc	http://purl.org/dc/elements/1.1/
dct	http://purl.org/dc/terms/
dctype	http://purl.org/dc/dcmitype/
bibo	http://purl.org/ontology/bibo/
schema	http://schema.org/
bibschema	https://bib.schema.org/
gn	http://www.geonames.org/ontology#
m2100x	http://marc21rdf.info/elements/00X/
m213xx	http://marc21rdf.info/elements/3XX/
m21terms	http://marc21rdf.info/terms/
bf	http://id.loc.gov/ontologies/bibframe/
bfrel	http://id.loc.gov/vocabulary/relators/
bfmarc	http://bibfra.me/vocab/marc
ISSN specific vocabularies	
issnprop	http://issn.org/vocabularies/properties/
idStatus	http://issn.org/vocabularies/IdentifierStatus#
recordStatus	http://issn.org/vocabularies/RecordStatus#
medium	http://issn.org/vocabularies/Medium#

Overview of the ISSN linked data model

The ISSN Linked Data model is composed of the following entities:

- The **ISSN Resource**: identifies a continuing resource to which an ISSN has been assigned by the ISSN network. This is the central resource in the graph; in particular, it carries or links to the following information:
    - Identifiers of the continuing resource (the ISSN number itself and others);
    - Issuing bodies of the continuing resource;
    - Country and dates of publication;
    - Titles, classifications and notes;
    - Links to other resources;

- The **ISSN Record**: identifies the record/document created by an ISSN Centre when assigning an ISSN to a continuing resource;
- The **Record Creation Activity** : identifies the event of creation of the record by an ISSN Centre ;
- **Publication Events** in the publication history of an ISSN : each event identifies the publication of the continuing resource by a given publisher, in a given place, during a given date range ;

Naming conventions

ISSN URI templates

URI template for resources

The URI template for ISSN resources is `http://issn.org/resource/{identifier_type}/{resource_identifier}`. The `{identifier_type}` URI component can have the following values:

- `ISSN` for resources identified by an ISSN; (e.g. `http://issn.org/resource/ISSN/1683-4135`);
- `ISSN-L` for resources identified by an ISSN-L (e.g. `http://issn.org/resource/ISSN-L/1683-3775`).

It is an open debate within institutions providing bibliographic information as linked data, if the main entity identified by an URI should be the resource itself, or the record corresponding to the resource within the institution. Libraries often prefer the latter solution. As a matter of fact, library catalogues provide records about a resource, not the original resource itself (even though the record may itself provide a link to the original resource).

The ISSN International Centre decided however to adopt the first solution, and to state that the main URI identifies the resource itself. ISSN identifiers are indeed not designed to be the identifiers of a resource within the ISSN Register only, but to serve as the reference identifier in any cases. The URI pattern http://issn.org/resource/{identifier_type}/{resource_identifier} can therefore serve in different circumstances and within various datasets to identify a specific continuing resource.

An ISSN identifies a specific continuing resource on a specific medium (print, online, digital carrier, other). The "Linking ISSN" or "ISSN-L", on the other hand, provides a reference identifier to a title whatever its medium. It also provides a link between the different ISSN of the different medium editions. By convention, a continuing resource published on only one medium has also an ISSN-L but this ISSN-L does not link together several ISSN. The URI pattern `http://issn.org/resource/ISSN-L/{resource_identifier}` identifies therefore a specific continuing resource, on its different publication media, while `http://issn.org/resource/ISSN/{resource_identifier}` identifies a continuing resource on a specific medium.

As other groupings may be designed by future versions of the ISSN ISO standard, like "ISSN families", other identifier types may be added in the future.

URI template for organisations

The URI template for ISSN Centers is `http://issn.org/organization/ISSNCentre#{CCID}`. The CCID component is the ISSN Center code.

The URI templates for publishers or issuing bodies or reproduction agencies generated from the MARC 21 Record are:

- `http://issn.org/resource/ISSN/{ISSN}#Publisher-{publisherName}`
- `http://issn.org/resource/ISSN/{ISSN}#IssuingBody-{issuingBodyName}`
- `http://issn.org/resource/ISSN/{ISSN}#ReproductionAgency-{reproductionAgencyName}`

These resources may be linked with an `owl:sameAs` to URIs of organisations from a central ISSN organisation registry, following the pattern `http://issn.org/organization/publisher/{PublisherID}`.

URI template for controlled vocabularies

The URI template for controlled vocabularies defined in the ISSN model is `http://issn.org/vocabularies/{vocabulary_identifier}#{concept_identifier}`. The {vocabulary_identifier} URI component can have the following values :

- `IdentifierStatus` for the list of possible statuses of an identifier (e.g. `http://issn.org/vocabularies/IdentifierStatus#Valid`);
- `RecordStatus` for the list of possible statuses for an ISSN record (e.g. `http://issn.org/vocabularies/RecordStatus#Register`);
- `Medium` for the list of possible media of a continuing resource (e.g. `http://issn.org/vocabularies/Medium#Print`);

Other vocabularies may be added in the future.

Relative URIs

The translation of the MARC21 record of an ISSN into RDF generates not only the ISSN resource, but a lot of other entities in a graph data structure (ISSN Record, Identifiers, Publication Events, etc.). A majority of these entities are assigned "#-URIs" relative to the (absolute) ISSN resource URI: `http://issn.org/resource/ISSN/{ISSN}`.

For example, the ISSN Record is identified by the URI `http://issn.org/resource/ISSN/{ISSN}#Record`, and the key title of the ISSN is identified by the URI `http://issn.org/resource/ISSN/{ISSN}#KeyTitle`, etc.

Doing so:

- Avoids creating (a lot of) anonymous nodes;

- Gives predictable URI patterns to derive the identifier of a specific entity from the ISSN resource URI; these URI patterns are described in the documentation below;

However, it should be noted that the ISSN records are dynamic, and that the statements made on an ISSN may change over time. For example, the `#LatestPublicationEvent` relative URI may identify, over time, different publication events: it will notably change in the case a new publisher is responsible for a continuing resource). Thus, users of the data should proceed with care when using these relative URIs in external references.

A few entities in the graph are created as blank nodes without identifiers (notably classifications, parallel titles, variant titles or reproduction events). It generally happens when the expressed information is repeatable: in that case, using a relative URI could be confusing as the same relative URI could be generated several times, with different values.

Modelling choices

Reuse existing models

A choice was made to rely exclusively on existing vocabularies to model the ISSN data in RDF, with the exception of a few controlled vocabularies or properties. Specifically, the following vocabularies are used:

- schema.org;
- Dublin Core and Dublin Core Terms;
- BibFrame;
- MARC21 RDF;

(See the introduction of this documentation for an exhaustive list of the vocabularies used).

The following precedence rule was applied when selecting a property to use in the RDF data graph :

- If the property exists in schema.org, use it;
- Otherwise use a Dublin Core property;
- Otherwise use a BibFrame property;
- Otherwise default to a property from the MARC21 RDF vocabulary;

The ISSN value itself is expressed multiple times for maximum dissemination, in `schema:issn`, `bibo:issn` and `dc:identifier`.

The ISSN resource distinct from the ISSN record

The model makes a clear distinction between the ISSN resource, which identifies a continuing resource to which an ISSN is assigned by the ISSN Network, and the ISSN record, the document in which this ISSN was declared/created. The ISSN Record points to the ISSN resource with a `schema:mainEntity` property to state that the ISSN is the main focus of the record.

The ISSN resource considered both as a Bibframe Work and Instance

Bibframe is a model which follows the hierarchy of bibliographic entities established by the FRBR model, while simplifying it: it distinguishes three high-level classes, namely Work, Instance and Item. Bibframe Work identifies the conceptual essence of something; a Bibframe Instance reflects the material embodiment of a Work. A Bibframe Item is an actual copy (physical or electronic) of an Instance[1]. Schematically, Bibframe Work corresponds to the FRBR Work and Expression levels; Bibframe Instance to FRBR Manifestation, and Bibframe Item to FRBR Item.

However, the FRBR model, on which Bibframe is built, does not perfectly fit with the characteristics of continuing resources[2]. The IFLA-Library Reference Model (LRM), which is about to replace the FRBR model, acknowledges the difficulty to reconcile the rigid structure of its own hierarchy with the dynamic nature of continuing resources. The different "manifestations" of a continuing resource may evolve over time [3] : therefore, the collocation, i.e. the grouping of different manifestations or different expressions under a same work is not possible for continuing resources. The IFLA-LRM states therefore that each new manifestation (i.e. each entity identified by an ISSN) should correspond to a new expression and a new work[4]. In Bibframe terms, it means that each continuing resource identified by an ISSN correspond to only one Instance and one Work. Therefore, each ISSN resource is systematically declared at the same time as a Bibframe Instance and a Bibframe Work.

The ISSN resource typed with schema:Periodical

The ISSN resource is also assigned the type `schema:Periodical`. This is a pragmatic choice, as this is the only type of object in the schema.org vocabulary on which major search engines recognize the property "schema:issn". In practice, an ISSN can be assigned to any type of continuing resource, not only periodicals, including book series, datasets, websites, etc. A suggestion was made to improve the schema.org vocabulary on this point[5].

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[1]See https://www.loc.gov/bibframe/faqs/.

[2]The FRBR final report itself acknowledges that "certain aspects of the model merit more detailed examination (…). In particular, the notion of "seriality" and the dynamic nature of entities recorded in digital formats merit further analysis". See *Functional Requirements for Bibliographic Records. Final report*, published in 1998 and revised in 2009, http://www.ifla.org/files/assets/cataloguing/frbr/frbr_2008.pdf.

[3]One may consider a title corresponding to a "different language edition" of a main title as a different "expression" of a same work. However, this title may progressively diverge from the main title and present original content, hence becoming a separate work. Another example: the online equivalent of a print title (that may be initially considered a different "manifestation") may also evolve over time and present content non-published in the print version, becoming again a new "work".

[4]"The description of serials is particularly difficult to model, because it does not limit itself to a description of the past, but is also intended to allow end-users to make assumptions about what the behaviour of a serial will be in at least the near future (…).It ensues that any serial work can be said to have only one expression and only one manifestation".*FRBR-Library Reference Model. Draft for World-Wide Review*, 2016, https://www.ifla.org/files/assets/cataloguing/frbr-lrm/frbr-lrm_20160225.pdf.

[5]https://github.com/schemaorg/schemaorg/issues/1640

The ISSN-L described as an independent resource

The ISSN-L is considered as a separate resource with the URI template `http://issn.org/resource/ISSN-L/{ISSN-L}`. The ISSN resources are grouped into ISSN-L using a `schema:isPartOf` link.

KeyTitle and AbbreviatedKeyTitle considered both as Titles and Identifiers

The ISSN International Centre considers that KeyTitle and AbbreviatedKeyTitle, by their very nature, are *titles and identifiers at the same time*. On one hand, they are titles because they are derived from the Title Proper given by the publisher. On the other hand, they are assigned by the ISSN network, as well as the ISSN itself, following internationally agreed rules; they are irreversibly linked to the ISSN, they are unique in the ISSN Register (if the Title Proper is not unique in the ISSN Register, a qualifier is added to the Key Title to make it unique), and they are persistent[6]: from that point of view, they are considered identifiers. Consequently they are created as independent objects in the graph:

- The Key Title is typed with the 2 classes `bf:Identifier` and `bf:KeyTitle` (subclass of `bf:Title`), and the Abbreviated Key Title is typed with the 2 classes `bf:Identifier` and `bf:AbbreviatedTitle` (subclass of `bf:Title`);
- The Key Title and the Abbreviated Key Title are being referred to from the ISSN resource with both a `bf:identifiedBy` property and a `bf:title` property;

Key Title and other titles as both literal values and title objects

The Key Title and other titles from the original MARC record generate 2 values in the resulting RDF graph:

- As simple literal properties on the ISSN resource :
    - Key Titles and Titles Proper are encoded in `schema:name`;
    - Titles Proper are encoded in `bf:mainTitle` for consistency issues (as all other titles are expressed both through a schema.org and a Bibframe property)
    - Abbreviated Key Titles, Parallel Titles and Variant Titles are encoded in `schema:alternateName`;
- As reified objects :
    - Key Title and Abbreviated Key Titles are encoded as a resource of type `bf:Identifier` and (respectively)`bf:KeyTitle` and `bf:AbbreviatedTitle`, holding the title value in an `rdf:value` property, and referred to by the ISSN resource by a `bf:title` and a `bf:identifier` property;
    - Parallel Titles are encoded as resources of type bf:ParallelTitle, holding the title value in an `rdf:value` property, and referred to by the ISSN resource by a `bf:title` property;
    - Variant titles follow the same pattern with resources of type `bf:VariantTitle`, and an additional property `bf:variantType` containing the type of the title.

[6] Note however that slight modifications may be made on Key Titles after assignment, for example in order to correct some typos. Therefore it cannot be said that they are fully persistent.

A Reference Publication Event and a Publication Event history

The schema.org vocabulary uses an event modelling pattern with the type `schema:PublicationEvent` to describe the publication information of a Continuing resource (date, place, publisher, etc.). In particular, the PublicationEvent object carries the publication place information in the `schema:location` property.

This PublicationEvent pattern is applied at 2 different places in the ISSN data graph :

- To describe the publication history of a continuing resource, from its earliest known publisher to its latest known publisher. Each phase in the publication history of the resource is described with a PublicationEvent. The PublicationEvents have the following (relative) URI templates :
  - `#EarliestPublicationEvent` for the first known publication event;
  - `#InterveningPublicationEvent{n}` for the subsequent publication events;`{n}` corresponds to the offset of the publication event in the ISSN record;
  - `#LatestPublicationEvent` for the latest known publication event;
- The National Centre in charge of ISSN assignment for a continuing resource is decided depending on the country of its publisher. The responsibility on publications of multinational publishers, active in several countries, is distributed according to agreements within the ISSN Network. Therefore, for every publication, a reference country is identified, which will generally decide on the responsibility for ISSN assignment and the maintenance of ISSN record. Since this is important information that the ISSN wants to expose as schema.org markup, a PublicationEvent, referred to as the `#ReferencePublicationEvent`, needs to be introduced to link the ISSN to the country in which it applies.

The ISSN free linked data model

Free vs. Full model

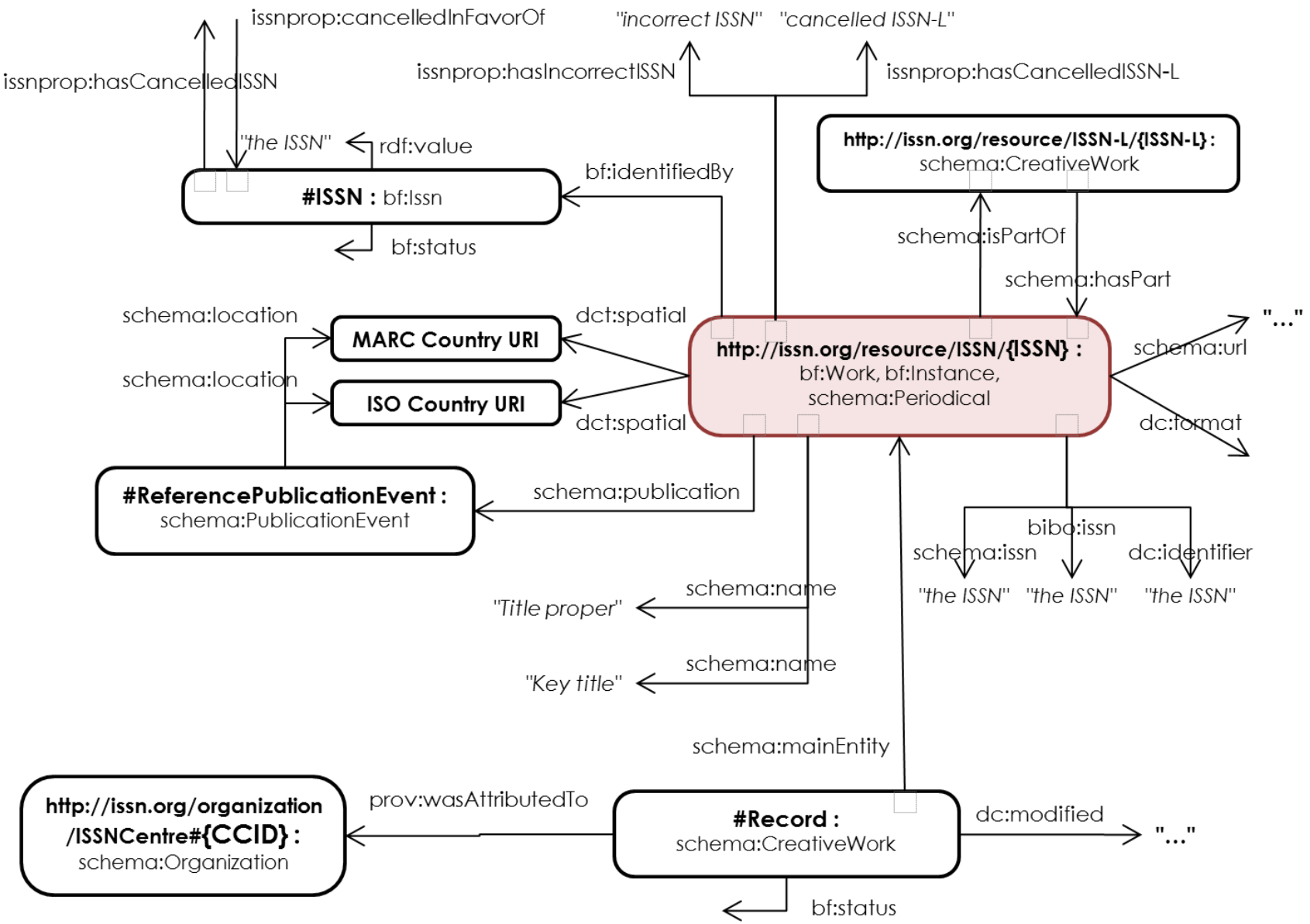
As stated in the introduction, the amount of information provided on each resource depends on the access context. Customers of ISSN services have access to all bibliographic information from all types of records, while "free" un-registered users are limited to a restricted set of metadata related only to "Register" records.

The open set of linked data is made available through a CC-BY-NC license. They are considered the "essential" metadata, which allow for the precise and unambiguous identification of the resource: the different identifiers produced by the ISSN network (Key-Title, ISSN, ISSN-L, cancelled ISSN if any…), the title of the resource, its medium and URL (if any), the publication country. Few context information, such as the National Centre responsible for the resource or modification date of the record, is also provided.

Free model diagram

The ISSN Free linked data model is depicted in the following diagram (Please refer to the following section of the documentation for the diagram legend.)

Free model diagram



Relative URIs (beginning with #) are relative to the ISSN resource URI : http://issn.org/resource/ISSN/{ISSN}

Description

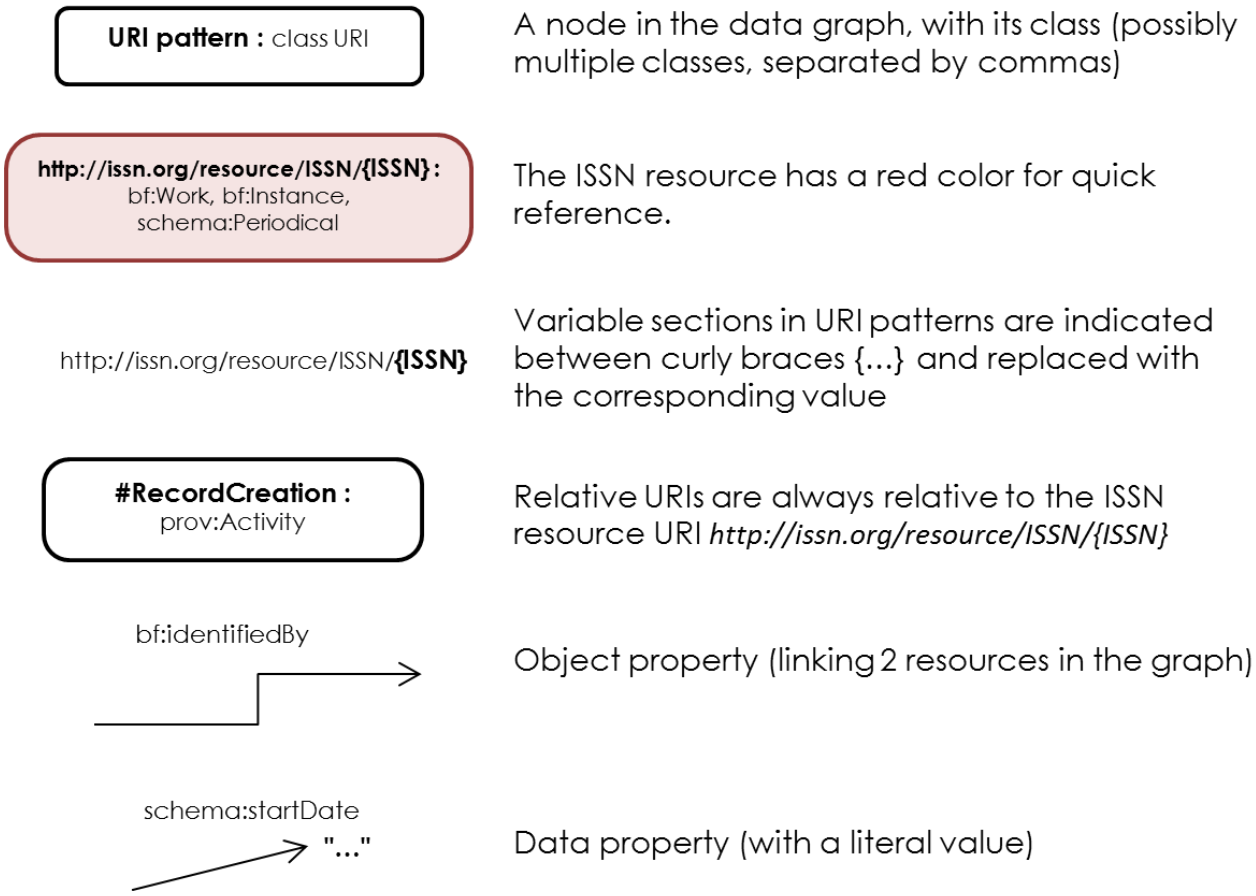
1. The following information are included in the free data: ISSN identifier (in `schema:issn`, `dc:identifier`, `bibo:issn`) and as an independant #ISSN identifier resource;
2. The title proper and key title in `schema:name`;
3. The URL in `schema:url` and format in `dc:format`;
4. The link to the ISSN-L resource;
5. The #Record with its modification date (`dc:modified`), `bf:status`, and the centre responsible (`prov:wasAttributedTo`);
6. The country of publication with `dc:spatial` and the #ReferencePublicationEvent + `schema:location`;
7. The possible links to a cancelled ISSN (`issn:hasCancelledIssn`, `issn:cancelledInFavorOf`), along with the incorrect ISSN and cancelled ISSN-L as literals if any;

Users of the free data should refer to the corresponding sections of the full model below for more details.

The ISSN full linked data model

Diagram legend

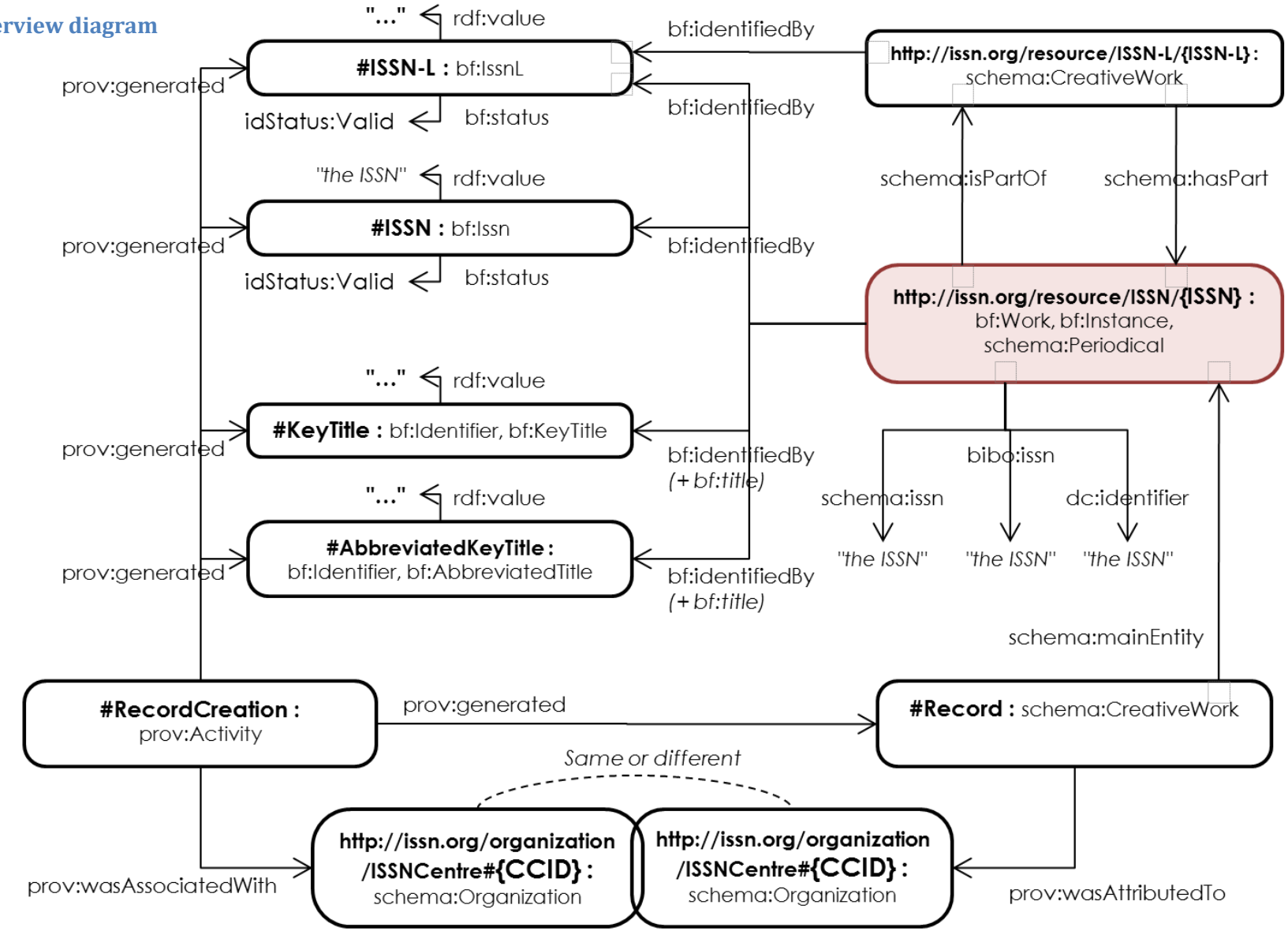
The diagrams in the following documentation do not follow a typical UML representation, or a typical RDF graph representation. They use the formalism described in the legend below, intended to capture in concise representations the resource URI patterns, the resource class or classes and the structure of the data graph.



The diagrams are intended as overview maps for data consumers to explore the territory of the ISSN data graph; as such, **the diagrams do not depict all the properties in the model**. Data users should refer to the reference tables at the end of this documentation for the complete list of available properties in the model.

The ISSN, its Record and its identifiers

Overview diagram



Relative URIs (beginning with #) are relative to the ISSN resource URI : http://issn.org/resource/ISSN/{ISSN}

ISSN Resource, #Record and #RecordCreation

1. The ISSN resource is considered a `bf:Instance`, a `bf:Work` and a `schema:Periodical` at the same time (see above);
2. The ISSN resource itself is a separate resource from the `#Record` that describes this ISSN;
3. The ISSN Record is a `schema:CreativeWork`, and the ISSN resource is the "main entity" of the corresponding ISSN Record;
4. The Record was created (`prov:generated`) in a "Record creation activity", the `#RecordCreation`. This activity was conducted (`prov:wasAssociatedWith`) by the ISSN centre that initially created the ISSN number;
5. The Record may be under the responsibility (`prov:wasAttributedTo`) of a different ISSN centre than the one which originally created it (record custody can be transferred between centres, especially in the case of a change of publisher); note that this is different from the notion of a "creator" / "author" of the record.

Identifiers : #ISSN, #ISSN-L, #KeyTitle, #AbbreviatedKeyTitle

1. The ISSN resource holds its ISSN value as literals stored in the properties `schema:issn`, `bibo:issn` and `dc:identifier` (with the same value);
2. Every identifier of the ISSN resource (its ISSN, ISSN-L, KeyTitle, AbbreviatedKeyTitle, and Coden[7]) is described as an instance of `bf:Identifier`, or one of its subclass in the case of `bf:Issn` and `bf:IssnL` ;
3. Each identifier object holds the actual identifier value in the property `rdf:value`;
4. Each identifier identifies the ISSN resource[8] (`bf:identifiedBy`);
5. The #ISSN identifier holds a bf:status information that indicates if this identifier is `idStatus:Valid`, `idStatus:Cancelled` or `idStatus:Suppressed` (see section below for more details on the Cancelled or Suppressed ISSNs);
6. As with the `#Record`, each identifier object was created during the "Record creation activity" (`prov:generated`);

ISSN-L

1. The ISSN-L is an independent resource of type `schema:CreativeWork`;
2. An ISSN resource is always part of an ISSN-L (`schema:isPartOf`), and an ISSN-L can be linked to one or several ISSN (`schema:hasPart`);
3. The `#ISSN-L` identifier identifies the ISSN resource *and* the ISSN-L resource at the same time;
4. The #ISSN-L identifier holds a bf:status information that indicates if this identifier is `idStatus:Valid`, `idStatus:Cancelled` or `idStatus:Suppressed`;

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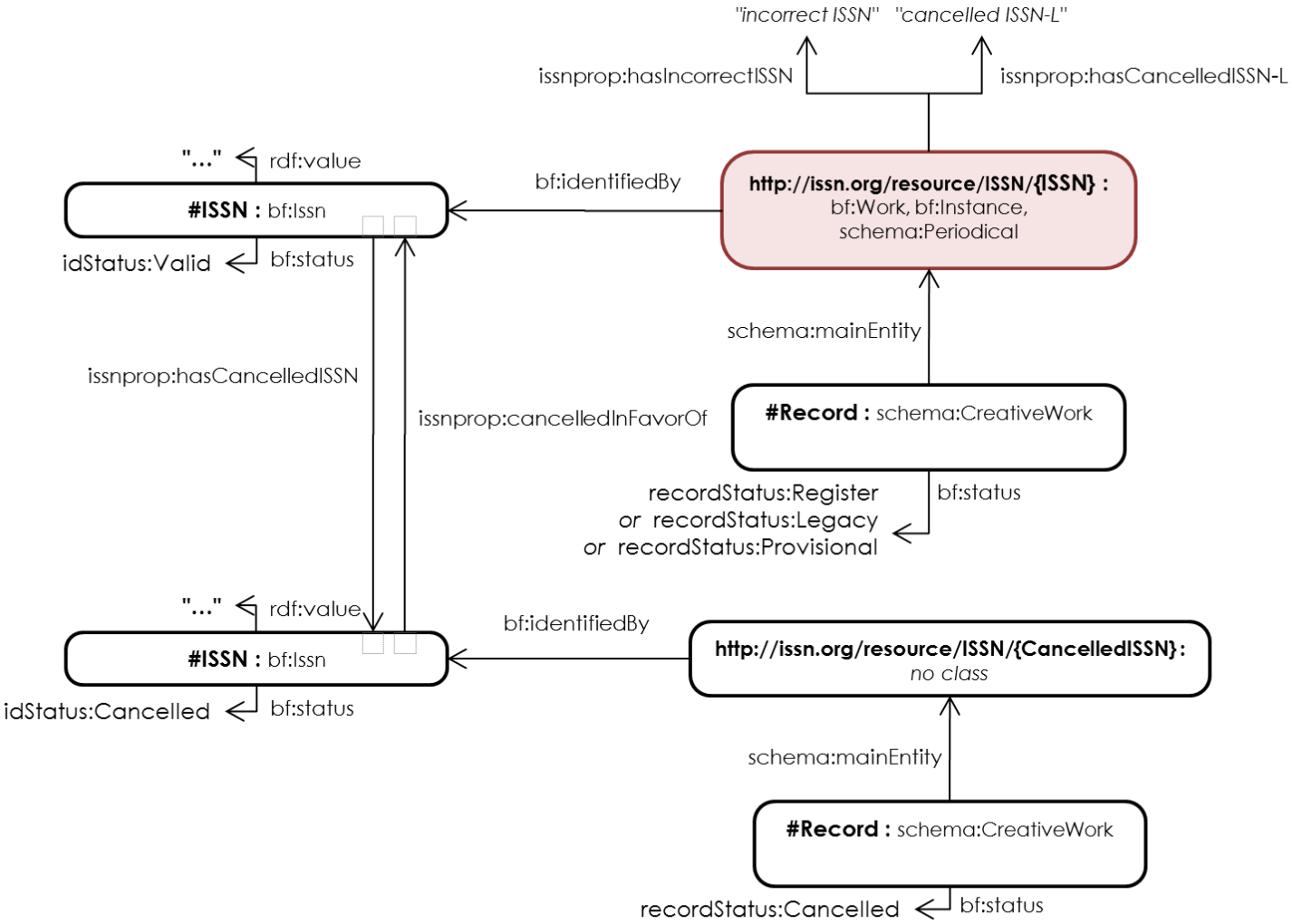
[7]The CODEN is another identifier for continuing resources that predates the ISSN. It is especially used in chemistry-related publications, and it is not maintained by the ISSN network.

[8]Note that this implies that cancelled and incorrect ISSN / ISSN-L are still considered to be identifiers of the ISSN resource. Data consumers should process these identifiers with care, and should make sure in particular they clearly distinguish them from the valid identifiers, using the `bf:status` property (not depicted in the diagram) ;

Cancelled, Incorrect ISSN and ISSN-L

Overview diagram



Relative URIs (beginning with #) are relative to the ISSN resource URI : http://issn.org/resource/ISSN/{ISSN}

Description

1. The ISSN resource may have incorrect ISSN, or cancelled ISSN-L, expressed as literal values through custom properties `issn:hasIncorrectISSN` and `issn:hasCancelledISSN-L`, respectively;
2. The #ISSN identifier holds a bf:status, either `idStatus:Valid`, `idStatus:Cancelled` or `idStatus:Suppressed`;

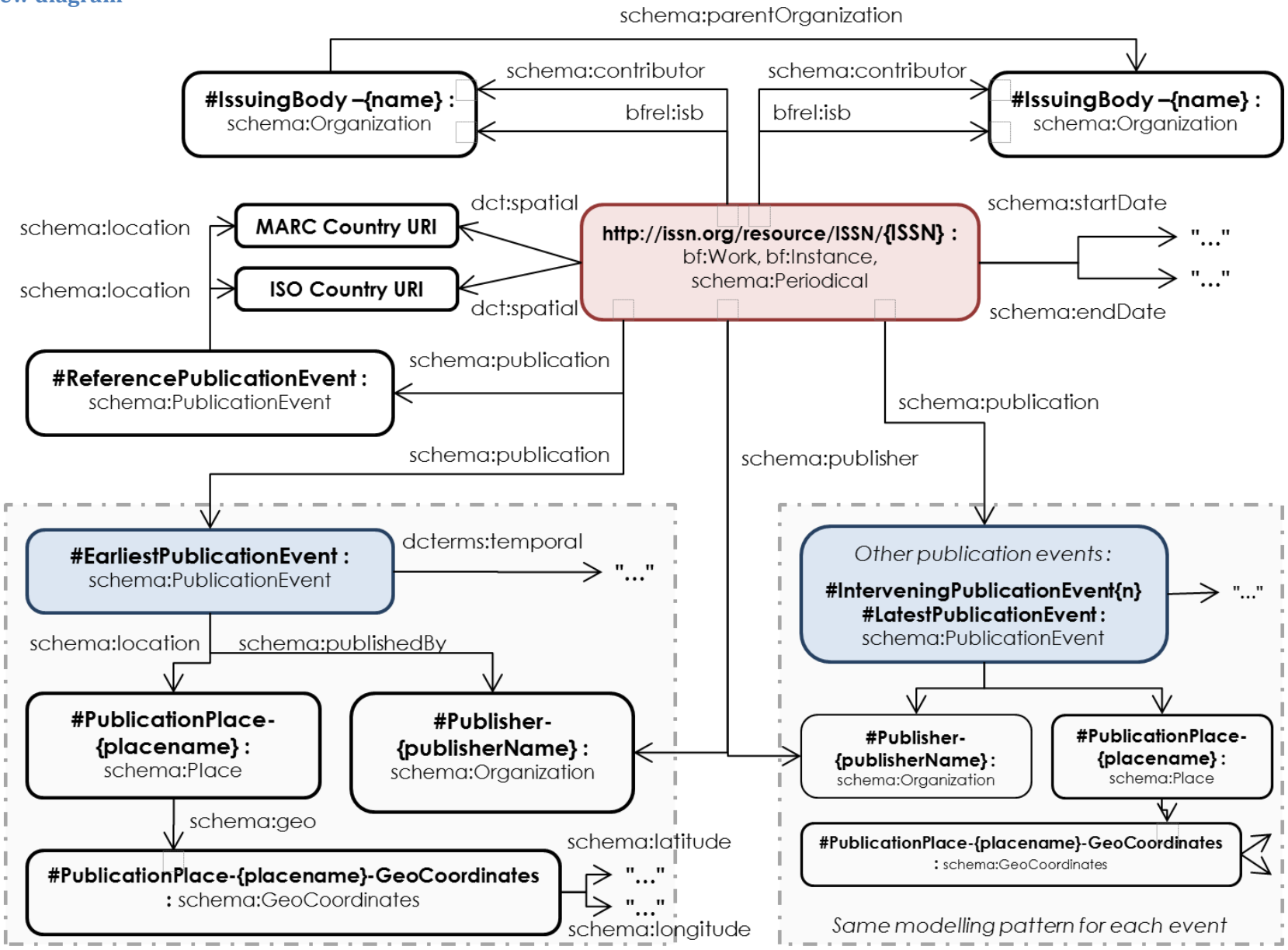
3. In the case of a ISSN with bf:status:Cancelled, there is a bidirectional link to the replacement ISSN : `issn:cancelledInFavorOf` / `issn:hasCancelledISSN`; note that this relates the 2 ISSN *identifiers*, and not the 2 ISSN *resources*, because it is a link between identifiers and not a link between continuing resources (such as "periodical A is a translation of periodical B");
4. The #Record also holds a bf:status with the following possible values :
    a. `recordStatus:Register` : for a "normal" record, when the continuing resource is published.
    b. `recordStatus:Provisional` : for provisional ISSNs that are assigned to pre-publications (a publishers asks for an ISSN before a periodical is first issued);
    c. `recordStatus:Legacy` : for valid ISSN identifiers, but created at the beginning of the ISSN system (and for which the bibliographic information could be incomplete);
    d. `recordStatus:Cancelled` : for Cancelled ISSN e.g. an ISSN was assigned twice, it is then cancelled and a new ISSN is re-assigned;
    e. `recordStatus:Suppressed` : for ISSN that were deleted, typically an ISSN was given for a pre-publication but the periodical was never published;
    f. `recordStatus:Unreported` : identifiers that are reserved to an ISSN centre for future assignment;
5. In the case of Unreported , Cancelled or Suppressed ISSN, the corresponding resource does not have the types `bf:Work`, `bf:Instance`, `schema:Periodical` because it does not identify such an object (an Unreported ISSN is not yet assigned – or assigned but not yet know in the ISSN register, Cancelled ISSN were replaced by another one or other ones, and Suppressed ISSN were simply deleted because of an error).
6. (not depicted) The Unreported, Cancelled, or Suppressed Records contain very few information; in particular, to avoid confusion, they do *not* express the ISSN value in literal values `schema:issn`, `bibo:issn`, and `dc:identifier`;

The correspondence between the status of the identifier (#ISSN URI) and the status of the record (#Record URI) is as follow :

#Record status	#ISSN status
`recordStatus:Register`	`idStatus:Valid`
`recordStatus:Provisional`	`idStatus:Valid`
`recordStatus:Legacy`	`idStatus:Valid`
`recordStatus:Cancelled`	`idStatus:Cancelled`
`recordStatus:Suppressed`	`idStatus:Suppressed`
`recordStatus:Unreported`	`idStatus:Valid`

The ReferencePublicationEvent and the other Publication Events

Overview diagram



Relative URIs (beginning with #) are relative to the ISSN resource URI : http://issn.org/resource/ISSN/{ISSN}

Issuing Bodies

1. Each IssuingBody is a `schema:Organization` and is referred to from the resource by both `schema:contributor` and `bf:isb`;
2. One Issuing Body may be a `schema:parentOrganization` of the other, in the case of "subordinate units", typically a research lab in a university;
3. (not depicted) An issuing body may have a `schema:sameAs` referring to an organization identifier (pattern `http://issn.org/organization/publisher/{IssuingBodyID}`) in the ISSN organization reference table;

The #ReferencePublicationEvent – dates and place of the resource

1. The publication dates of the ISSN resource are expressed in `schema:startDate` and `schema:endDate`; if the publication is still running, "9999" is used as end date;
2. The reference country of the publisher of the ISSN resource (see above) is indicated in `dct:spatial` and also through the `#ReferencePublicationEvent`. This `schema:PublicationEvent` is necessary to express the publication country of the resource in the schema.org vocabulary;
3. The reference country of publication is indicated by both a URI based on MARC country codes and a URI based on ISO Country codes. For some countries (especially English-speaking countries), their granularity differs (US States have separated MARC country codes);

The publication history (#EarliestPublicationEvent, #InterveningPublicationEvent{n}, #LatestPublicationEvent)

Each phase in the publication history of the resource (`#EarliestPublicationEvent`, `#InterveningPublicationEvent{n}` and `#LatestPublicationEvent`) is modelled on the same pattern :

1. The event is a `schema:PublicationEvent` to which the ISSN resource refers in a `schema:publication` property;
2. The publication event holds its date information in a `dcterms:temporal` property; note that, contrary to the dates on the resource itself, it is currently not possible to parse this field to distinguish the start and end date (if any);
3. The publication event indicates the publisher (`schema:publishedBy`); the same publisher is referenced directly from the ISSN resource in a `schema:publisher`;
4. (not depicted) The publisher may have a `schema:sameAs` referring to an organization identifier (pattern `http://issn.org/organization/publisher/{IssuingBodyID}`) in the ISSN organization reference table;
5. The publication event also indicates the place of publication (`schema:location`);

6. The place of publication is a `schema:Place` that refers to a Geocoordinate object holding a latitude (`schema:latitude`),a longitude (`schema:longitude`), and a country (`schema:addressCountry`, not depicted). The place of publication if also linked to the Geonames URI of the city, if any (`schema:sameAs`).

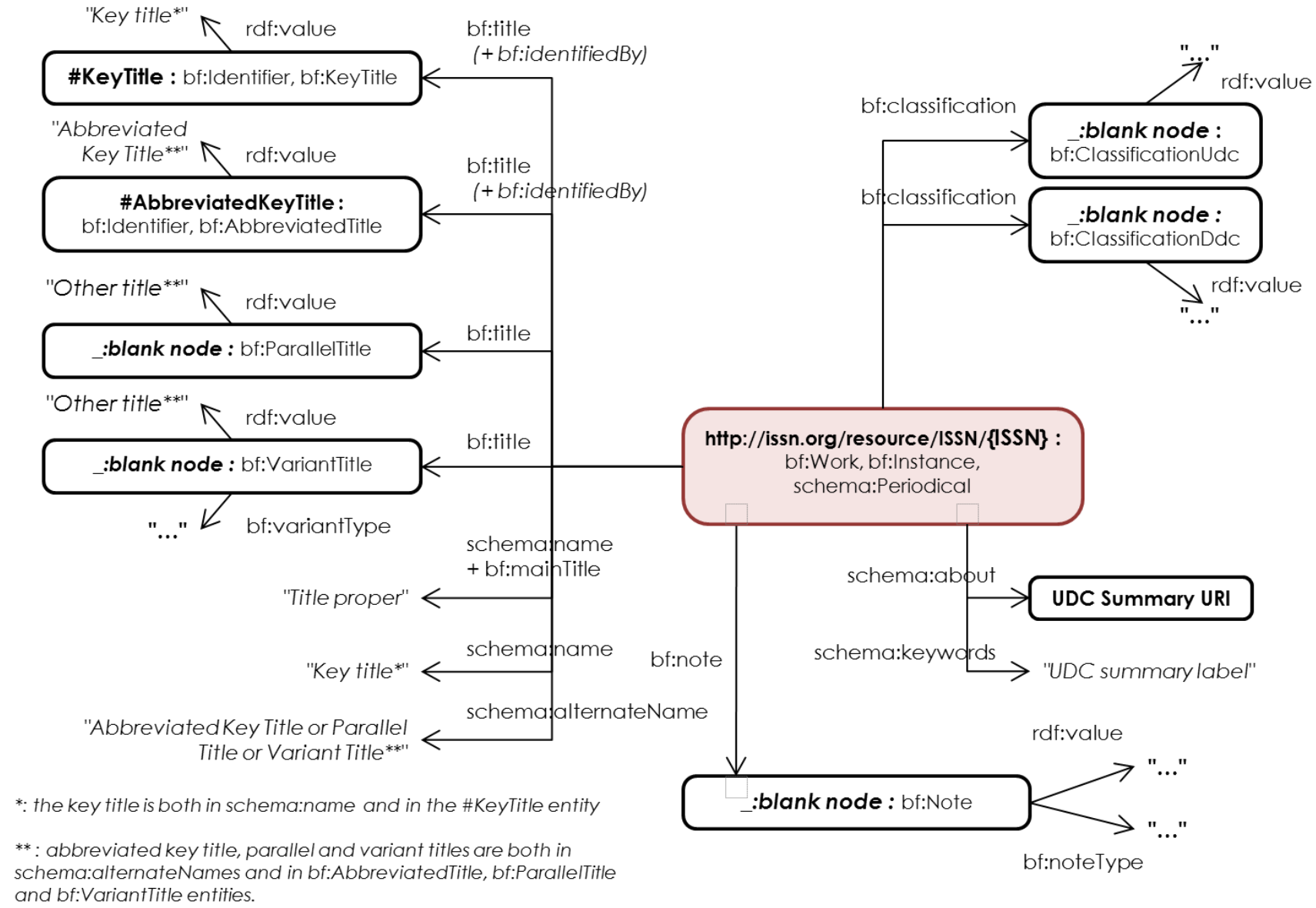
Reproductions (not depicted)

The modelling of the reproductions (e.g. electronic reproduction of a printed resource) is done in the following way:

1. The reproduction itself is an anonymous node of type `schema:CreativeWork`, linked from the ISSN resource with a `bf:hasReproduction`;
2. That reproduction refers to its publisher (`schema:publisher`), its publication place (`dct:spatial`), and its Reproduction Event (`schema:publication`), of type `schema:PublicationEvent`;
3. That reproduction event is modelled in the same way as a publication event from the resource publication history, with a place (`schema:location`), a publisher (`schema:publishedBy`), and dates (`schema:temporal`);

Titles and classification

Overview diagram



*: the key title is both in schema:name and in the #KeyTitle entity

** : abbreviated key title, parallel and variant titles are both in schema:alternateNames and in bf:AbbreviatedTitle, bf:ParallelTitle and bf:VariantTitle entities.

Relative URIs (beginning with #) are relative to the ISSN resource URI : http://issn.org/resource/ISSN/{ISSN}

Titles : #KeyTitle, #AbbreviatedKeyTitle, Title Proper, Parallel Titles, Variant Titles

1. The KeyTitle is an object of type `bf:KeyTitle`, linked from the ISSN resource with a `bf:title` property; it holds the key title value as a literal in the `rdf:value` property;
2. The same KeyTitle is also the `schema:name` of the ISSN resource, as a plain literal;
3. The AbbreviatedKeyTitle is an object of type `bf:AbbreviatedTitle`, linked from the ISSN resource with a `bf:title` property; it holds the abbreviated key title value as a literal in the `rdf:value` property; the AbbreviatedKeyTitle is also a `schema:alternateName` of the ISSN resource, as a plain literal;
4. The TitleProper is a `schema:name` of the ISSN resource; this means the ISSN resource has 2 names : its TitleProper and its KeyTitle;
5. Parallel titles are object of type `bf:ParallelTitle`, linked from the ISSN resource with a `bf:title` property; they hold the title value as a literal in the `rdf:value` property;
6. Variant titles are object of type `bf:VariantTitle`, linked from the ISSN resource with a `bf:title` property; they hold the title value as a literal in the `rdf:value` property, and they hold the type of the title in the `bf:variantType` property;
7. Parallel and variant titles are also `schema:alternateName`s of the ISSN resource, as plain literals;

Classification: #UDC, #DDC

1. Classification from the ISSN Register may be expressed following the Universal Decimal Classification or the Dewey Decimal Classification. There are sometimes several indices, in only one classification or in both. These classifications are provided by the National Centres;
2. Each classification information is a blank node of type `bf:ClassificationUdc` or `bf:ClassificationDdc`, respectively, that is linked from the ISSN resource by a `bf:classification` property; an `rdf:value` property relates the blank node to the classification keyword as a literal;
3. Besides, most records are enriched by an additional "UDC Summary" classification computed from the UDC or DDC classifications (it is available as linked data at http://udcdata.info/).
   Each UDC Summary classification information is expressed in a `schema:about` that refers to the actual entry URI from the UDC Summary;
4. The property `schema:keywords` contains the English label of the UDC Summary class, in a literal;
5. Each classification information on the UDC Summary is also a blank node of type `bf:ClassificationUdc` that is linked from the ISSN resource by a `bf:classification`

property; a `rdf:value` property relates the blank node to the classification keyword as a literal[9];

Notes

1. Each note is an anonymous node with type `bf:Note`;
2. Each note holds the actual note as a literal in `rdf:value`;
3. Each note holds its type as a literal in `bf:noteType`;

[9] Note that it is thus not possible to distinguish between the original UDC classification and the computed UDC summary classification.

Links between ISSN

Overview diagram

dc:relation
schema:citation
schema:isPartOf
schema:hasPart
bf:hasSubseries
bf:subseriesOf
bibschema:translationOfWork
bibschema:workTranslation
bf:translationOf
bf:translation
bf:supplementTo
bf:supplement
dct:isVersionOf
bf:otherEdition
dct:isFormatOf
bf:otherPhysicalFormat
bf:issuedWith
bf:precededBy
bf:continues
bf:continuedBy
bf:continuesInPart
bf:continuedInPartBy
bf:replacementOf
bf:mergerOf
bf:absorbed
bf:absorbedBy
bf:separatedFrom
bf:replacedBy
bf:splitInto
bf:mergedToForm

Relative URIs (beginning with #) are relative to the ISSN resource URI : http://issn.org/resource/ISSN/{ISSN}

Links between 2 ISSNs

1. 2 ISSN resources can be linked by a variety of links;
2. The links are not always expressed in both directions : the existence of "A bibschema:translationOfWork B" does not necessarily imply that the statement "B bibschema:workTranslation A" exists[10];
3. Each link is generated twice: once using a BibFrame property, and once using either schema.org or DublinCore;
4. The generic property `dc:relation` is used as default property when no corresponding property could be found in DublinCore or schema.org;
5. (not depicted) Some links can be expressed multiple times: `bf:mergerOf` and `bf:splitInto` are repeated to reflect the merge or split of a resource;

[10] In particular note that schema:org does not provide an inverse link for the property `schema:citation`.

ISSN linked data entities detailed description

ISSN resource

Resource	The ISSN resource
Object class	ISSN whose Record has the status Register, Work, Legacy will have the classes schema:Periodical , bf:Work and bf:Instance.
Object class	ISSN whose Record has the status Unreported, Cancelled, Suppressed or ValidationRequest don't have a class.
URI pattern	http://issn.org/resource/ISSN/{ISSN}

Property label	URI	Range	Usage note	Card.	MARC21
carrier type	bf:carrier	http://id.loc.gov/vocabulary/carriers	"Categorization reflecting the format of the storage medium and housing of a carrier."	0…*	338$b
classification	bf:classification	bf:Classification	This property refers to a classification object giving the classification value and the classification scheme it comes from.	0…*	080$a, 082$a
content type	bf:content	http://id.loc.gov/vocabulary/contentTypes	"Categorization reflecting the fundamental form of communication in which the content is expressed and the human sense through which it is intended to be perceived."	0…*	336$b
reproduced as	bf:hasReproduction	schema:CreativeWork	This property refers to another resource that reproduces this resource (a blank node)	0…*	533

identified by	bf:identifiedBy	bf:Identifier	This property refers to an identifier of the resource : an ISSN, ISSN-L, CODEN, key title or abbreviated key title.	1…*	022$a, 022$l, 030$a, 210$a, 222$a
main title	bf:mainTitle	xsd:string	This property contains the title proper of the resource.	1…1	245$a
media type	bf:media	http://id.loc.gov/vocabulary/mediaTypes	"Categorization reflecting the general type of intermediation device required to view, play, run, etc., the content of a resource."	0…*	337$b
note	bf:note	bf:Note	This property refers to a note object (blank node) that gives additional descriptive information associated with the resource.	0…*	538$a, 588$a
provision activity statement	bf:provisionActivityStatement	xsd:string	This property transcribes the statement relating to providers of a resource, generally known as “publication statement”	1…*	260#, 2602, 2603, 264#, 2642, 2643
title	bf:title	bf:VariantTitle or bf:ParallelTitle or bf:KeyTitle or bf:AbbreviatedTitle or bf:Title	This property refers to one of the title object for the ISSN resource.	0…*	245$a, 246#$a, 2461$a, 2462$a, 2463$a, 2464$a, 2465$a, 2466$a, 2467$a, 2468$a

regularity	bfmarc:regularity	m21terms:continuingreg	The intended publication regularity of a continuing resource	0…1	008/19
reproduction note	bfmarc:reproduction Note	xsd:string	This property stores the reproduction note as a string literal.	0…*	533
issuing body	bfrel:isb	schema:Organization	This property relates the resource to the organization in charge of editing its intellectual content (generally a university, a specific department within an internationalorganization…). In very rare cases, it may be an individual person. In the ISSN data model, this property is similar to schema:contributor but it is used in parallel as more precise.	0…*	710$a, 710$b, 711$a
issn	bibo:issn	xsd:string	This property contains the ISSN string of the continuing resource.	1…1	022$a
format	dc:format	One of media:Print (paper), media:Online (online publication), media:DigitalCarrier (CD-ROM, USB keys) or media:Other (Loose-leaf publications, braille, etc.)	Special information about the physical characteristics of the resource. They are often related to information in other parts of the MARC record especially from field 300 (Physical Description) or one of the 5XX note field	1…*	007
identifier	dc:identifier	xsd:string	This property contains the ISSN string of the continuing resource.	1…1	022$a

accrual periodicity	dct:accrualPeriodicity	http://purl.org/cld/freq/ or the literal values "unknown" or "other" that are not in this table.	This property contains the publication frequency of the continuing resource, from the Dublin Core Collection Description Frequency Namespace, or as the literal values "unknown" or "other".	1…1	008/18
spatial	dct:spatial	MARC code lists for countries (http://id.loc.gov/vocabulary/countries), and ISO code list for countries (https://www.iso.org/obp/ui/#search)	This property links the resource to the reference country of its publisher, which is generally used to decide what National Centre is responsible for ISSN assignment	2…2	008/15-17, 044$c
type	dct:type	m21terms:formofmaterial (see http://metadataregistry.org/concept/list/vocabulary_id/211.html)	This property indicates the type of material of the resource, which will decide on the type of record which will be used to describe it	1…1	LDR/06
has cancelled ISSN-L	issnprop:hasCancelledISSN-L	xsd:string	This property indicates the value of a former ISSN-L of the resource, which has been cancelled. This generally happens when it is recognized that a link between two different medium versions of the same resource has not been recorded in the original record.	0…*	022$m
has incorrect ISSN	issnprop:hasIncorrectISSN	xsd:string	This property indicates the value of an incorrect ISSN wrongly displayed on the resource. The incorrect ISSN may be structurally invalid (e.g. wrong control number) or it may be a valid ISSN assigned to another resource.	0…*	022$y

Type of date or Publication status of All materials	m2100X:M00806	m21terms:alltyp	This property indicates if the resource is currently published, ceased, or if its status is unknown	1…1	008/06
Form of original item of Continuing Resources	m2100X:M008CR22	m21terms:continuingori	This property indicates the form of material in which an item was originally published	0…1	008/22
Form of item of Continuing Resources	m2100X:M008CR23	m21terms:commonfor	This property indicates the form of material for the item being described	1…1	008/23
Original alphabet or script of title of Continuing Resources	m2100X:M008CR33	m21terms:continuingscr	This property indicates the original alphabet or script of the language of the title on the source item upon which the key title is based	1…1	008/33
Dates of publication and sequential designation in Dates of Publication and Sequential Designation (Formatted style)	m213xx:M3620_a	xsd:string	This property indicates the beginning/ending date(s) of a resource and/or the sequential designations used on each part. The information is formatted. Dates in this field may be identical to the information in fields 008/07-10 (start date) and/or 008/11-14 (end date)	0…*	3620$a
Source of information in Dates of Publication and Sequential Designation (Formatted style)	m213xx:M3620_z	xsd:string	This property provides additional information about the source of information used to record the Dates of Publication and Sequential Designation	0…*	3620$z

Dates of publication and sequential designation in Dates of Publication and Sequential Designation (Unformatted note)	m213xx:M3621_a	xsd:string	This property indicates the beginning/ending date(s) of a resource and/or the sequential designations used on each part. The information is unformatted.	0…*	3621$a
Source of information in Dates of Publication and Sequential Designation (Unformatted note)	m213xx:M3621_z	xsd:string	This property provides additional information about the source of information used to record the Dates of Publication and Sequential Designation	0…*	3621$z
additionnal type	rdf:type	One of schema:Dataset, schema:BookSeries, schema:WebSite, bibschema:Atlas, bibschema:Map, bibschema:AudioObject, bibschema:VideoObject, bibschema:Newspaper, bf:Tactile or dctype:Text	An additionnal rdf:type statement may be expressed on the resource depending on its characteristics.	0…*	007, 008/21
about	schema:about	A URI in the UDC http://udcdata.info/udc-schema	This property refers to a classification URI value from the UDC Summary.	0…*	989$u

alternate name	schema:alternateName	xsd:string	This property contains an alternate title for the continuing resource i.e. any title other than the key title and title proper.	0…*	210$a+210$b, 222$a+222$b, 246a, 246$1, 246$2, 246$3, 246$4, 246$5, 246$6, 246$7, 246$8
contributor	schema:contributor	schema:Organization	This property relates the resource to the organization in charge of editing its intellectual content (generally a university, a specific department within an international organization…). In very rare cases, it may be an individual person. In the ISSN data model, this property is similar to bfrel:isb but has been kept in parallel as it is a schema.org property.	0…*	710$a, 710$b, 711$a
end date	schema:endDate	xsd:string	This property contains the end date of the ISSN. The value "u" indicates that the date or a part of a date is unknown. Hence the datatype is kept as xsd:string. Value 9999 means that the resource is still running.	1…1	008/11-14

in language	schema:inLanguage	http://id.loc.gov/vocabulary/languages	This property refers to the language of the continuing resource.	1…*	008/35-37, 041$a
is part of	schema:isPartOf	An ISSN-L resource, URI http://issn.org/resource/ISSN-L/{ISSN-L}	This property refers to the ISSN-L of which this ISSN is part of (http://issn.org/resource/{ISSN-L}).	1…1	022$l
issn	schema:issn	xsd:string	This property contains the ISSN string of the continuing resource.	1…1	022$a
keywords	schema:keywords	xsd:string	The label of the UDC classification summary	0…*	989$a
name	schema:name	xsd:string	This property contains the key title and title proper of the continuing resource.	2…2	222$a, 245$a
publication	schema:publication	schema:PublicationEvent	This property refers on one hand to the reference publication event of that ISSN resource (#ReferencePublicationEvent), and on the other hand to each of the publication event in the publication history (#EarliestPublicationEvent, #InterveningPublicationEvent{n}, #LatestPublicationEvent).	1…*	008/15-17, 260#, 2602, 2603, 264#, 2642, 2643
publisher	schema:publisher	schema:Organization	This property refers to the publisher(s) of the resource (#Publisher-{publisherName}). In very rare cases, it may be an individual person even though the schema:Organization class is used, as this person is acting as an organization.	1…*	260#$b, 2602$b, 2603$b, 264#$b, 2642$b, 2643$b

start date	schema:startDate	xsd:string	This property contains the start date of the ISSN. The value "u" indicates that the date or a part of the date is unknown. Hence the datatype is kept as xsd:string	1…1	008/07-10
url	schema:url	xsd:string	This property indicates the URL address where the resource may be accessed or was previously accessible. It may also link to a web archive.	0…*	856$u

ISSN resource links

Property label	URI	Range	Usage note	Card.	MARC21
absorbed	bf:absorbed	An ISSN resource	*See Bibframe documentation*	0…*	78005$x, 78006$x
absorbed by	bf:absorbedBy	An ISSN resource	*See Bibframe documentation*	0…*	78504$x, 78505$x
continued by	bf:continuedBy	An ISSN resource	*See Bibframe documentation*	0…*	78500$x
continued in part by	bf:continuedInPartBy	An ISSN resource	*See Bibframe documentation*	0…*	78501$x
continues	bf:continues	An ISSN resource	*See Bibframe documentation*	0…*	78000$x
continues in part	bf:continuesInPart	An ISSN resource	*See Bibframe documentation*	0…*	78001$x
hasSubseries	bf:hasSubseries	An ISSN resource	*See Bibframe documentation*	0…*	762$x
issuedWith	bf:issuedWith	An ISSN resource	*See Bibframe documentation*	0…*	777$x
merged to form	bf:mergedToForm	An ISSN resource	*See Bibframe documentation*	0…*	78507$x
merger of	bf:mergerOf	An ISSN resource	The property is repeated to reflect the merge.	0…*	78004$x
other edition	bf:otherEdition	An ISSN resource	*See Bibframe documentation*	0…*	775$x
other physical format	bf:otherPhysicalFormat	An ISSN resource	*See Bibframe documentation*	0…*	776$x
preceded by	bf:precededBy	An ISSN resource	*See Bibframe documentation*	0…*	7800#$x
replaced by	bf:replacedBy	An ISSN resource	*See Bibframe documentation*	0…*	78502$x, 78503$x
replacement of	bf:replacementOf	An ISSN resource	*See Bibframe documentation*	0…*	78002$x, 78003$x
separated form	bf:separatedFrom	An ISSN resource	*See Bibframe documentation*	0…*	78007$x
split into	bf:splitInto	An ISSN resource	The property is repeated to reflect the split.	0…*	78506$x
subseries of	bf:subseriesOf	An ISSN resource	*See Bibframe documentation*	0…*	760$x
supplement	bf:supplement	An ISSN resource	*See Bibframe documentation*	0…*	772$x
supplement to	bf:supplementTo	An ISSN resource	*See Bibframe documentation*	0…*	770$x

translation	bf:translation	An ISSN resource	*See Bibframe documentation*	0…*	767$x
translation of	bf:translationOf	An ISSN resource	*See Bibframe documentation*	0…*	765$x
translation of work	bibschema:translationOfWork	An ISSN resource	*See schema.org documentation*	0…*	765$x
work translation	bibschema:workTranslation	An ISSN resource	*See schema.org documentation*	0…*	767$x
relation	dc:relation	An ISSN resource	*See DCMI documentation*	0…*	770$x, 772$x, 777$x, 787$x, 7800$x, 7850$x, 7870$x
is format of	dct:isFormatOf	An ISSN resource	*See DCMI documentation*	0…*	776$x
is version of	dct:versionOf	An ISSN resource	*See DCMI documentation*	0…*	775$x
citation	schema:citation	An ISSN resource	This property refers to another continuing resource that is cited by this one.	0…*	510$x
hasPart	schema:hasPart	An ISSN resource	*See schema.org documentation*	0…*	762$x
is part of	schema:isPartOf	An ISSN resource	*See schema.org documentation*	0…*	760$x

Activity (Record Creation Event)

Resource	An activity in the provenance history of the record.
Object class	prov:Activity
URI pattern	http://issn.org/resource/ISSN/{ISSN}#RecordCreation

Property label	URI	Range	Usage note	Card.	MARC21
generated	prov:generated	schema:CreativeWork or bf:Identifier	This property refers to the entities that the Activity generated : the ISSN Record (http://issn.org/resource/ISSN/{ISSN}#Record) and the identifiers ISSN, ISSN-L, Key title and Abbreviated key title (http://issn.org/resource/ISSN/{ISSN}#ISSN, http://issn.org/resource/ISSN/{ISSN}#ISSN-L, http://issn.org/resource/ISSN/{ISSN}#KeyTitle, http://issn.org/resource/ISSN/{ISSN}#AbbreviatedKeyTitle)	1..*	699$v
was associated with	prov:wasAssociatedWith	schema:Organization	This property refers to the ISSN Centre (including ISSN International Centre) that created the record (http://issn.org/organization/ISSNCentre#{CentreCode})	1..1	699$v

ISSN-L

Resource	An ISSN-L resource
Object class	schema:CreativeWork
URI pattern	http://issn.org/resource/ISSN-L/{ISSN-L}

Property label	URI	Range	Usage note	Card.	MARC21
identified by	bf:identifiedBy	bf:IssnL	This property refers to the ISSN-L that identifies this resource.	1…1	022$l
has part	schema:hasPart	An ISSN resource	This property refers to the ISSN resources that are part of this ISSN-L.	1…*	022$l

ISSN record

Resource	The ISSN record
Object class	schema:CreativeWork
URI pattern	http://issn.org/resource/ISSN/{ISSN}#Record

Property label	URI	Range	Usage note	Card.	MARC21
modified	dct:modified	xsd:date	This property contains the date of last modification of the record.	1…1	005
main entity	schema:mainEntity	An ISSN resource (http://issn.org/resource/ISSN/{ISSN})	This property refers to the ISSN resource that this record describes (http://issn.org/resource/ISSN/{ISSN})	1…1	022$2
was attributed to	prov:wasAttributedTo	schema:Organization	This property refers to the centre that is responsible for the record. The PROV ontology indicates that "Attribution is the ascribing of an entity to an agent." This fits with the intended meaning of the link between the record and the ISSN centre, since ISSN records can be re-attributed between ISSN centres, so the ISSN centre referred to by this property cannot be said to be the "creator" or the "author" of the record.	1…1	022$2
status	bf:status	One of http://issn.org/vocabularies/RecordStatus#Register, ...#Unreported, ...#Provisional, ...#Legacy, ...#Cancelled, ...#Suppressed	This property refers to the status of this record.	1..1	699$8

Publication Events

ReferencePublicationEvent, EarliestPublicationEvent, InterveningPublicationEvent, LatestPublicationEvent

Resource	A publication event
Object class	schema:PublicationEvent
URI pattern	http://issn.org/resource/ISSN/{ISSN}#ReferencePublicationEvent
URI pattern	http://issn.org/resource/ISSN/{ISSN}#EarliestPublicationEvent
URI pattern	http://issn.org/resource/ISSN/{ISSN}#InterveningPublicationEvent{n}
URI pattern	http://issn.org/resource/ISSN/{ISSN}#LatestPublicationEvent
URI pattern	*In the case of Reproductions, the associated PublicationEvent is a blank node*

Property label	URI	Range	Usage note	Card.	MARC21
location	schema:location	On the #ReferencePublicationEvent : MARC code lists for countries (http://id.loc.gov/vocabulary/countries), or ISO code list for countries (https://www.iso.org/obp/ui/#search) On the other events in the publication event history : schema:Place	On the #ReferencePublicationEvent, this property will refer to the MARC or ISO code list for the country. Note that the country URI will have an rdfs:label property containing the country name. On the other events in the publication event history, this property refers to the place of the publication event (http://issn.org/resource/ISSN/{ISSN}#PublicationPlace-{placename} or http://issn.org/resource/ISSN/{ISSN}#ReproductionPlace-{placeName}).	1…1	#ReferencePublicationEvent : 008/15-17, 044$c Other events : 260$a, 264$a, 533$b

published by	bibschema:publishedBy	schema:Organization	This property refers to the publisher that published (or reproduced) the continuing resource during that period. This property is not present on the #ReferencePublicationEvent.	1…1	260$b, 264$b, 533$c
temporal	dcterms:temporal	xsd:string	This property contains the start date and end date (if any) of the period covered by this publication event. As the content of the originalMARC field is generally not structured, use of schema:startDate and schema:endDate is not possible. The content is typed as a string. This property is not present on the #ReferencePublicationEvent.	0…1	260$c, 264$c, 533$d

Publication places

Resource	Publication places in the publication history of the ISSN.
Object class	schema:Place
URI pattern	http://issn.org/resource/ISSN/{ISSN}#PublicationPlace-{placename}
URI pattern	http://issn.org/resource/ISSN/{ISSN}#ReproductionPlace-{placeName}

Property label	URI	Range	Usage note	Card.	MARC21
label	rdfs:label	xsd:string	This property contains the name of the place (generally a city).	1…1	260#$a, 2602$a, 2603$a, 264#$a, 2642$a, 2643$a,533$b
same as	schema:sameAs	gn:Feature	This property refers to an equivalent entry for this place in the Geonames database (i.e. the Geonames URI)	0…1	260#$a, 2602$a, 2603$a, 264#$a, 2642$a, 2643$a, 533$b (URI en 926$u)
geo	schema:geo	schema:GeoCoordinates	This property refers to the position of this place (http://issn.org/resource/ISSN/{ISSN}#PublicationPlace-{placename}-GeoCoordinates)	0…1	926, 953, 533$b

Geocoordinates

Resource	Geographical location of a place.
Object class	schema:GeoCoordinates
URI pattern	http://issn.org/resource/ISSN/{ISSN}#PublicationPlace-{placename}-GeoCoordinates
URI pattern	http://issn.org/resource/ISSN/{ISSN}#ReproductionPlace-{placeName}-Geocoordinates

Property label	URI	Range	Usage note	Card.	MARC21
latitude	schema:latitude	xsd:number	This property contains the latitude of the geographic coordinates.	1..1	926$l, 953, 533$b
longitude	schema:longitude	xsd:number	This property contains the longitude of the geographic coordinates.	1..1	926$o, 953, 533$b
addressCountry	schema:addressCountry	xsd:string	This property contains the name of the country of the geographic coordinates.	1…1	926$b, 953$b

Reproductions

Resource	A Reproduction
Object class	schema:CreativeWork
URI pattern	*reproductions are blank nodes*

Property label	URI	Range	Usage note	Card.	MARC21
publisher	schema:publisher	schema:Organization	This property refers to the publisher (i.e. Reproduction Agency) of reproduction.	1…1	533$c
spatial	dct:spatial	schema:Place	This property refers to the publication place of the reproduction.	1…1	533$b
publication	schema:publication	schema:PublicationEvent	This property refers to the publication event of the reproduction.	1…1	533

Identifiers

Resource	An identifier, ISSN or ISSN-L, Cancelled ISSN, CODEN, as well as KeyTitle and AbbreviatedKeyTitle
Object class	bf:Identifier or a subclass bf:Issn or bf:IssnL or bf:Coden, as well as bf:KeyTitle and bf:AbbreviatedTitle
URI pattern	http://issn.org/resource/ISSN/{ISSN}#ISSN
URI pattern	http://issn.org/resource/ISSN/{ISSN}#ISSN-L
URI pattern	http://issn.org/resource/ISSN/{ISSN}#CODEN
URI pattern	http://issn.org/resource/ISSN/{ISSN}#KeyTitle
URI pattern	http://issn.org/resource/ISSN/{ISSN}#AbbreviatedKeyTitle

Property label	URI	Range	Usage note	Card.	MARC21
value	rdf:value	xsd:string	This property contains the actual string value of the identifier.	1…1	022$a, 022$l, 022$m, 022$y, 022$z, 030$a, 210$a, 222$a
status	bf:status	One of idStatus:Valid, idStatus:Incorrect, idStatus:Cancelled	This property refers to the status of the ISSN (valid, incorrect or cancelled). This property is used on the ISSN and the ISSN-L identifier.	0…1;	022$a, 022$l, 022$m, 022$y, 022$z, 210$a, 222$a
has cancelled ISSN	issn:hasCancelledISSN	bf:Issn	This property refers to an ISSN which has been cancelled in favour of the actual ISSN. This property is used only on the ISSN identifier.	0…*	022$z
cancelled in favor of	issn:cancelledInFavorOf	bf:Issn	This property refers to an ISSN that replaces this cancelled ISSN. This property is used only on the ISSN identifier.	0…*	022$z

Titles

Resource	A title of an ISSN bf:KeyTitle or bf:VariantTitle or bf:ParallelTitle or
Object class	bf:AbbreviatedTitle
URI pattern	http://issn.org/resource/ISSN/{ISSN}#KeyTitle
URI pattern	http://issn.org/resource/ISSN/{ISSN}#AbbreviatedKeyTitle
URI pattern	*blank nodes for the Variant titles and Parallel titles*

Property label	URI	Range	Usage note	Card.	MARC21
value	rdf:value	xsd:string	This property contains the actual title string.	1…1	245$a, 246#$a, 2461$a, 2462$a, 2463$a, 2464$a, 2465$a, 2466$a, 2467$a, 2468$a
variant type	bf:variantType	xsd:string	This property stores the type of the title, in the case of a variant title. For a key title or a parallel title it is not present.	0…1	246#$a, 2461$a, 2462$a, 2463$a, 2464$a, 2465$a, 2466$a, 2467$a, 2468$a

Organizations (Publishers, Issuing Bodies, ISSN Centres)

Resource	An ISSN Centre, a Publisher or an Issuing Body
Object class	schema:Organization
URI pattern	http://issn.org/organization/ISSNCentre#{CCID}
URI pattern	http://issn.org/resource/ISSN/{ISSN}#Publisher-{publisherName}
URI pattern	http://issn.org/resource/ISSN/{ISSN}#IssuingBody-{issuingBodyName}
URI pattern	http://issn.org/resource/ISSN/{ISSN}#ReproductionAgency-{reproductionAGencyName}

Property label	URI	Range	Usage note	Card.	MARC21
name	schema:name	xsd:string	This property contains the name of the Organization.	1…1	2601$b, 2602$b, 2603$b, 533$c. For ISSN Centre label, this is not from the MARC21 file.
sameAs	schema:sameAs	A publisher URI (http://issn.org/organization/publisher/{PublisherID}), or an ISNI URI	This property refers to an equivalent URI for the organization, in the case of publishers or reproduction agencies.		710, 711, 720, 533$c
parent organization	schema:parentOrganization	Another schema:Organization this one is part of.	This property refers to the parent organization of this organization, in the case of issuing bodies.	0…1	710$b

Classifications

Resource	A classification value
Object class	bf:ClassificationUdc or bf:ClassificationDdc (both subclasses of bf:Classification)
URI pattern	*blank nodes*

Property label	URI	Range	Usage note	Card.	MARC21
value	rdf:value	xsd:string	This property contains the actual classification value.	1…1	080$a, 082$a

Notes

Resource	Note
Object class	bf:Note
URI pattern	*notes are blank nodes*

Property label	URI	Range	Usage note	Card.	MARC21
note type	bf:noteType	xsd:string	This property contains the type of the note, as a string literal.	1…1	538$a, 588$a
value	rdf:value	xsd:string	This property contains the actual note value, as a string literal.	1…1	538$a, 588$a

ISSN controlled vocabularies

List of record statuses

ConceptScheme URI	http://issn.org/vocabularies/RecordStatus
skos:prefLabel	ISSN Record Status List

URI	skos:prefLabel
http://issn.org/vocabularies/RecordStatus#Register	Register
http://issn.org/vocabularies/RecordStatus#Legacy	Legacy
http://issn.org/vocabularies/RecordStatus#Provisional	Provisional
http://issn.org/vocabularies/RecordStatus#Unreported	Unreported
http://issn.org/vocabularies/RecordStatus#Cancelled	Cancelled
http://issn.org/vocabularies/RecordStatus#Suppressed	Suppressed

List of identifier statuses

ConceptScheme URI	http://issn.org/vocabularies/IdStatus
skos:prefLabel	ISSN Identifiers Status List

URI	skos:prefLabel
http://issn.org/vocabularies/IdStatus#Valid	Valid
http://issn.org/vocabularies/IdStatus#Incorrect	Incorrect
http://issn.org/vocabularies/IdStatus#Cancelled	Cancelled

List of media

ConceptScheme URI	http://issn.org/vocabularies/Medium
skos:prefLabel	ISSN Media List

URI	skos:prefLabel
http://issn.org/vocabularies/Medium#Print	Print
http://issn.org/vocabularies/Medium#Online	Online
http://issn.org/vocabularies/Medium#DigitalCarrier	Digital carrier
http://issn.org/vocabularies/Medium#Other	Other