Agenda Item II.C.

Society of American Archivists
Council Meeting
May 18-20, 2022
Chicago, Illinois

Standards Committee: EAC-CPF Revision

(Prepared by Kira Dietz, Co-chair)

BACKGROUND

The Standards Committee has received the submission packet for the revision of *Encoded Archival Context – Corporate Bodies, Persons, and Families* (EAC-CPF), as per the Procedures for Review and Approval of an SAA-Developed Standard. We have reviewed the documentation regarding the process for the revision, received satisfactory answers to our questions, and recommends that SAA Council endorse the revised version.

Link to documentation received from TS-EAS + copy of Council Item

DISCUSSION

After the release of EAD3 in 2015, SAA combined three separate but highly cooperative groups – the Technical Subcommittee on EAD (TS-EAD), the Technical Subcommittee on EAC (TS-EAC), and the SAA Schema Development Team (SAA-SDT) – into one new group. The Technical Subcommittee on Encoded Archival Standards (TS-EAS) was thus born. TS-EAS is an international committee, which currently includes around 20 members from different time zones and cultures, half of whom live outside of the United States of America.

The conception and development of the original EAC-CPF schema began in 1998. A beta version was distributed in 2004 and in 2010 the first official version of EAC-CPF schema was released (at this time without version numbering). During their annual meeting 2017 in Portland, Oregon, the TS-EAS agreed to undertake a major revision of EAC-CPF.

This process included a call for comments in the fall of 2017, a second call for comments in the fall of 2018 resulting in a minor revision (EAC-CPF 2010 revised 2018), and an extension major revision with the goals of simplifying EAC-CPF where possible, aligning with EAD where useful, implementing community feature requests, and clearing up unused components.

The major revision method was simple but thorough and effective. Each of 91 elements and of 51 attributes of EAC-CPF 2010 schema was considered. This consideration included the comparison with shared elements and attributes in EAD3 1.1.0 and EAD3 1.1.1. This process compared not only elements and attributes with same or similar names but also the technical and the content definition of elements and attributes of both standards, c.f. EAC-CPF - EAD

comparison report. During that process, new elements and attributes were also suggested and discussed. At the end, the revised EAC-CPF 2.0 schema contains a total of 91 elements (again) and 48 attributes.

The Standards Committee received the submission packet for the revision of EAC-CPF in April 2022. The detailed documentation includes an introductory narrative, with discussion of significant changes, an explanation of the consultation/feedback process, and a maintenance plan going forward. As a whole, the Standards Committee was impressed and felt that TS-EAS had done their due diligence and more in completing this revision.

The one question raised by a committee member during the Standards Committee discussion was why the submission packet didn't address the implications of the revision on SNAC and ArchivesSpace in particular. The answer, which the committee agreed was satisfactory, was that EAC-CPF in an international standard and while ArchivesSpace may be used internationally, SNAC is not an international project. In addition, there are other archival management software tools and international portals in existence. Addressing the implications for all of these would be impossible and selecting only certain ones to discuss, to the exclusion of others, would have been a difficult prioritization to determine. However, we were informed that there are direct and indirect connections to both projects on TS-EAS and the EAC-CPF subcommittee, and that there was direct feedback received from both.

The Standards Committee appreciated the time the EAC-CPF subcommittee and TS-EAS members put into the revision, the thorough packet, and the maintenance plan. We appreciate that the subcommittee is already thinking about related activities that may impact EAC-CPF going forward and, given its international nature, that they are looking for improved ways to garner additional feedback at a future revision.

RECOMMENDATION

THAT the SAA Council approve the revised version of Encoded Archival Context – Corporate Bodies, Persons, and Families (EAC-CPF) (Appendix A).

Support Statement: The SAA Council's support for the revision of EAC-CPF will allow users of the schema to implement a more up-to-date version that addresses and reflects both new needs that have arisen since the creation of the standard in 2010 and improved alignment with EAD3 and the proposed RiC-CM.

Impact on Strategic Priorities: Accepting the revision of EAC-CPF supports Goal #2 by providing updated educational content and delivering that content freely through the web. It also supports Goal #3 by keeping pacing with and reflecting the changes in archival standards by adapting EAC-CPF in new ways (and considering future adaptations, based on the maintenance plan suggested). Lastly, this revision has already supported Goal #4 by providing members and non-members alike multiple opportunities to provide feedback and participate in the revision process.

Fiscal Impact: No known fiscal impact.

March 22, 2022

Standards Committee
Society of American Archivists

Dear SAA Standards Committee,

It is our great pleasure to submit EAC-CPF 2.0 to the SAA Standards Committee on behalf of the Technical Subcommittee on Encoded Archival Standards.

Please review the following pieces of supporting documentation:

- Introductory Narrative (this document, section 1)
- Documentation of the Consultation Process (this document, section 2)
- Maintenance and Review Plan (this document, section 3)
- EAC-CPF 2.0 schema (pre-release) ("schemas" folder included in submission)
    - Both Relax NG and W3C versions of the schema is placed in the folder "schemas" together with the Schematron that can be used for stricter validation rules
    - See also https://github.com/SAA-SDT/eac-cpf-schema/releases/tag/v2.0-beta
- EAC-CPF 2.0 Tag Library ("TL" folder included in submission)
    - See Tag Library Version EAC-CPF 2.0 (eac.pdf)
- Example EAC-CPF instances ("examples" folder included in submission)
    - Matt_Urban_Center.xml
    - Mozart_Family.xml
    - eac-cpf_example_minimal.xml
    - eac-cpf_example_extended.xml

We are ready and happy to provide clarification or additional documentation.

Thank you for the opportunity to invest our time, effort, and expertise into a standard we care deeply about. Revising EAC-CPF was a significant undertaking, and we appreciate the support that we have received from the Standards Committee along the way.

Sincerely,

Karin Bredenberg
Mark Custer

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1. Introductory Narrative

1.1 Purpose or objective of proposed revision

Encoded Archival Context - Corporate Bodies, Persons, and Families (EAC-CPF) is the international metadata transmission standard for description of agent entities within the archival context. EAC-CPF is compliant with the *International Standard Archival Authority Record for Corporate Bodies, Persons and Families* (ISAAR(CPF)) published by the *International Council on Archives* (ICA).

EAC-CPF is a XML Schema definition used by the archival community worldwide to create, store, retrieve, and exchange information about agents related to archival material. It was first released in March 2010 and is used closely in association with *Encoded Archival Description* (EAD), but not limited to it.

1.2 Specific audiences, circumstances, or techniques to which the standard is directed

The EAC-CPF schema revision started two years after the release of EAD3 in 2015 and one year after the publication of the first draft of *Records in Contexts - Conceptual Model* (RiC-CM) in 2016. During the revision of EAC-CPF, both EAD3 and RiC-CM were taken into account – not only the existing EAD3 schema, but also the community's feedback on EAD3, and the proposed new concepts for archival description in RiC-CM.

Nonetheless, the current revision to EAC-CPF standard is based on the requirements of the SAA standards maintenance schedule and policies. For this reason, the submitted standards version will continue to be based on ISAAR(CPF) rather than the draft version of RiC-CM.

1.3 Background and supplementary information

In 2010, when the first version of EAC-CPF was released, the revision process of EAD began. After the release of EAD3 in 2015, SAA combined three separate but highly cooperative groups – the Technical Subcommittee on EAD (TS-EAS), the Technical Subcommittee on EAC (TS-EAC), and the SAA Schema Development Team (SAA-SDT) – into one new group. The Technical Subcommittee on Encoded Archival Standards (TS-EAS) was thus born. Just like the three subcommittees that came before it, TS-EAS is an international committee, which currently includes around 20 members from different time zones and cultures, half of whom live outside of the United States of America.

As a large group, the TS-EAS works in subteams: EAD, EAC-CPF, Outreach & Communications, and the Schema team. During the entire EAC-CPF revision process, the four subteams worked very closely together, with the EAC-CPF subteam taking the lead on all decisions most closely related with the EAC-CPF deliverables. As a new group, the TS-EAS also established new workflows, documentation, and communication processes during this

time. TS-EAS members from each of the subteams participated either directly (see section 1.6) or indirectly in the major revision of EAC-CPF. For example, the Outreach & Communications subteam led a variety of different outreach activities focused on the EAC standard, including the development of webinars and other online meetings.

1.4 History and methodology of the standard's revision

The conception and development of the original EAC-CPF schema began in 1998. A beta version was distributed in 2004 and in 2010 the first official version of EAC-CPF schema was released (at this time without version numbering).

During their annual meeting 2017 in Portland, Oregon, the TS-EAS agreed to undertake a major revision of EAC-CPF. The revision process started with a call for comments on this revision. Additionally, a variety of different archives, aggregators and projects started to implement EAC-CPF in 2010 and subsequently provided feedback about the standard. These comments were collected and considered by the TS-EAS throughout the revision process.

After this initial call for comments was closed in December 2017, the TS-EAS decided to follow a two-phase strategy by first publishing a minor, technical update of the standard within the first year. This minor revision would then be followed by a major, multi-year overhaul of the standard.

A second call for comments for the updated schema and Tag Library was published in September 2018. In December of that same year, the updated version of EAC-CPF was finalized and released. This update is called "EAC-CPF 2010 revised 2018" and comprised minor enhancements and bug fixes, e.g.,

- it relaxed selected element contents and attribute values defined by regular expressions,
- it added optional elements and attributes, and
- it aligned elements and attributes definitions with EAD3 already, if feasible.

This update stage (i.e. phase one) ensured that the new EAC-CPF schema was backwards compatible. The EAC-CPF Tag Library was also updated accordingly at this time.

The process of the major revision (i.e. phase two) started immediately after the release of the minor revision. This major revision aimed to modernize the standard in terms of:

- simplifying where possible,
- aligning with EAD where useful,
- implementing features and solutions upon users' request,
- clearing up unused components.

The user feedback that the TS-EAC and TS-EAS received during eight years contained comprehensive topics and touched on the basic content model, as well, such as the encoding of dates, names, identifiers, entity types and relations. Additionally, a brand new requirement to encode assertions within an EAC-CPF instance was requested by the community.

The major revision method was simple but thorough and effective. Each of 91 elements and of 51 attributes of EAC-CPF 2010 schema was considered. This consideration included the comparison with shared elements and attributes in EAD3 1.1.0 and EAD3 1.1.1. This process compared not only elements and attributes with same or similar names but also the technical and the content definition of elements and attributes of both standards, c.f. EAC-CPF - EAD comparison report. During that process, new elements and attributes were also suggested and discussed. At the end, the revised EAC-CPF 2.0 schema contains a total of 91 elements (again) and 48 attributes.

Each element and attribute, whether previously existing or not, was listed and discussed publicly via GitHub. For each element and attribute, a corresponding GitHub Issue was created within the project EAC-CPF 2.0. Just like the other GitHub repositories managed by TS-EAS, the EAC-CPF GitHub repository is a public repository that is open for read access by anyone. Additionally, the repository is open for direct feedback by anyone who creates a free GitHub account.

During monthly virtual meetings, and the occasional in-person meeting, the EAC-CPF managed the revision process. The team documented their discussions and decisions within the GitHub issues, linking out to the team's meeting minutes, also publicly available in GitHub, when appropriate.

For those decisions that the EAC-CPF subteam deemed outside the normal revision process, the team handed over those requests to the TS-EAS Schema team, the EAD team, or the TS-EAS co-chairs. For example, the Schema team developed a series of TS-EAS Design Principles to help guide the alignment between EAC-CPF and EAD3 during the revision process, so a few discussions that were related to those principles were discussed with and decided by the entire TS-EAS group.

1.5 Relationship to predecessor documents, if necessary

As outlined above, EAC-CPF is compliant with ISAAR(CPF) and closely related to EAD3. The detailed comparison of both schema definitions, EAC-CPF and EAD3, now ensures a closer alignment between the two standards than ever before.

Whereas ISAAR(CPF) did not change at all during the time of the EAC-CPF revision process, RiC-CM, which is designed to supersede ISAAR(CPF), was actively discussed and continued to evolve after the release of its first draft in 2016. RiC-CM provides a new concept and focus on agent entities, especially compared to ISAAR(CPF), and its continued development has been taken into account.

Last, it should be noted that revised schema definition EAC-CPF 2.0 takes the predecessor schema version EAC-CPF 2010 revised 2018 as its basis. However, the revised schema EAC-CPF 2.0 is not backwards compatible with previous versions of EAC.

1.6 List of who participated in the development process

The EAC-CPF revision was mainly developed by the EAC-CPF subteam in TS-EAS (alphabetical order):

Name	Institution	Term

Kerstin Arnold	Archives Portal Europe Foundation (EU)	08/2019 - 08/2022
Erica Boudreau	National Archives and Records Administration (US)	08/2017 - 08/2019
Karin Bredenberg	Kommunalförbundet Sydarkivera (SE) (until 2019 at Riksarkivet (SE))	08/2017 - 08/2022
Florence Clavaud	Archives nationales (FR)	08/2016 - 08/2021
Mark Custer	Beinecke Rare Book & Manuscript Library, Yale University (US)	08/2017 - 08/2022
Marie Elia	State University of New York at Buffalo, Archives (US)	08/2021 - 08/2022
Regine Heberlein	Princeton University (US)	08/2017 - 08/2019
Silke Jagodzinski	Geheimes Staatsarchiv Preußischer Kulturbesitz (DE) (until 2020 Bundesarchiv (DE))	08/2017 - 08/2022
Clint Johnson	Contributor (US)	08/2019 - 01/2020
Iris Lee	American Museum of Natural History Library (US)	08/2020 - 08/2022
Gerhard Müller	Staatsbibliothek zu Berlin Preußischer Kulturbesitz (DE)	08/2017 - 09/2021
Caitlin Rizzo	Eberly Family Special Collections Library, Pennsylvania State University (US)	08/2019 - 08/2020
Aaron Rubinstein	University of Massachusetts Amherst Library (US)	08/2017 - 08/2019
Sara Schliep	Folger Shakespeare Library (US)	08/2020 - 08/2021
Ailie Smith	The University of Melbourne (AU)	08/2018 - 08/2022
Anna-Maria Underhill	Staatsbibliothek zu Berlin Preußischer Kulturbesitz (DE)	10/2021 - 08/2022
Wim van Dongen	PICTURAE (NL)	08/2017 - 04/2021
Katherine M. Wisser	School of Library and Information Science, Simmons University (US)	08/2017 - 08/2019

All team members were actively involved in monthly virtual meetings (90 minutes) and/or extra in-person meetings of the EAC-CPF subteam. They contributed in discussions and decision taking, by working out papers and topics with proposals for solutions, by creating schema and/or example files, and documentation.

During the EAC-CPF revision, the following all-day and/or multi-day meetings were held:

1. Alongside the *Joint Annual Meeting of CoSA and SAA*, August 1, 2019 in Austin
2. E*AC-CPF revision meeting*, March, 9 - 12, 2020 in Berlin with Cory Nimer, Brigham Young University (US), Joost von Koutrik, Het Utrechts Archief (NL), Regine Heberlein, Princeton University (US)

3. Alongside the *Virtual Joint Annual Meeting of CoSA and SAA*, 27 - 31 July 2020 (planned in Chicago) with Alexander Duree, New York Public Library (US) and Eric Sonnenberg, Sterling Memorial Library, Yale University(US).

Furthermore, the whole TS-EAS supported the revision process. The Schema subteam created, tested and released W3C XSD schema files, RNG files, and conversion stylesheets. The Outreach and Communications subteam wrote and proofed text documents for outreach, the website, calls for comments, for documentation, and also organized a webinar about EAC-CPF for different time zones. The EAD subteam discussed change requests for shared elements and attributes, and also provided valuable feedback on new and omitted elements.

SAA's EAS Section spread the news about the EAC-CPF revision process, and they also included presentations and discussions about EAC during EAS Section meetings.

A general thank you goes to those people who were not actively involved in the revision process but who nevertheless brought inspiration to this project.

1.7 Discussion of significant changes from earlier versions

Following ISAAR(CPF), the established structure of the control area, identity area, description area, and relations is still available in EAC-CPF, as is the idea of encoding multiple identities in one EAC-CPF instance. In this respect, the new version of EAC-CPF 2.0 will look very familiar to anyone who has worked with EAC before. However, there are also a lot of changes, which we will enumerate in this section.

1.7.1 Version control

The EAC-CPF schema was first released in 2004 as a beta version, officially adopted by SAA in 2010 and updated in 2018. None of these schemas got a proper name or version numbering. In order to differentiate and track minor and major releases of EAC-CPF, TS-EAS has adopted a semantic versioning scheme (see https://semver.org). For EAC-CPF, we consider the first three releases to all be part of the first generation. Therefore, this major version of EAC-CPF will be released as EAC-CPF 2.0.

EAC-CPF 2.0 is a major version that will not be backwards compatible with previous releases. If any subsequent versions of EAC are released as part of this generation, then the next minor version would be released under the name EAC-CPF 2.1, and it would be backwards compatible with EAC-CPF 2.0. Furthermore, if any bug fixes are required, which do not bring additional functionality to the schema, then that version would be released as either EAC-CPF 2.0.1 or EAC-CPF 2.1.1, depending on with which minor version the patch was associated.

1.7.2 Spelling

The question of spelling in regards to the schema's attribute and element names, as well as its default values, was widely discussed. This particular issue wound up being one that was brought to the entire committee. This issue was especially difficult to navigate since the EAD standard has always utilized a lower-case naming

scheme (e.g. archdesc) and EAC-CPF has employed a camel-case naming scheme (e.g. cpfDescription). For easier reading and teaching, it was agreed to keep the camel-case spelling and to align EAD with that approach in the future.

1.7.3 List of removed, renamed or replaced and added elements and attributes

This section summarizes the changes for elements and attributes, each presented in alphabetical order.

The following elements were removed without substitution:

<level>
<objectBinWrap>
<outline>

The following elements were renamed or replaced to be more precise or to align with EAD:

<abbreviation>	renamed to	<shortCode>
<agentType>	replaced by	<agent @agentType>
<alternativeForm>	replaced by	<nameEntry @status="alternative">
<authorizedForm>	replaced by	<nameEntry @status="authorized">
<citation>	renamed to	<reference>
<cpfRelation>	replaced by	<targetEntity @targetType="person" or "family" or "corporateBody" or"agent">
<eac-cpf>	renamed to	<eac>
<entityId>	renamed to	<identityId>
<eventType>	replaced by	<maintenanceEvent @maintenanceEventType>
<functionRelation>	replaced by	<targetEntity @targetType="function">
<maintenanceStatus>	replaced by	<control @maintenanceStatus>
<nameEntryParallel>	renamed to	<nameEntrySet>
<placeEntry>	renamed to	<placeName>
<preferredForm>	replaced by	<nameEntry @preferredForm>
<publicationStatus>	replaced by	<control @publicationStatus>
<relationEntry>	replaced by	<targetEntity>
<resourceRelation>	replaced by	<targetEntity @targetType="resource">
<script>	renamed to	<writingSystem>
<sourceEntry>	replaced by	<reference>

The following elements were added:

<chronItem>
<chronItemSet>
<citedRange>
<contact>
<contactLine>
<geographicCoordinates>

<head>
<relation>
<relationType>
<representation>
<targetEntity>
<targetRole>

The following attributes were removed without substitution:

@accuracy
@altitude
@lastDateTimeVerified
@latitude
@longitude
@transliteration
@xlink:actuate
@xlink:arcrole
@xlink:show

The following attributes were renamed/replaced:

@scriptCode	renamed to	@scriptOfElement
@xlink:href	replaced by	@href
@xlink:linkrole	replaced by	@linkRole
@xlink:linktitle	replaced by	@linkTitle
@xml:base	replaced by	@base
@xml:id	replaced by	@id
@xml:lang	replaced by	@languageOfElement

And last, the following attributes were added:

@agentType
@audience
@calendar
@certainty
@contactLineType
@conventionDeclarationReference
@coordinateSystem
@countryEncoding
@dateEncoding
@detailLevel
@era
@languageEncoding
@listType
@localTypeDeclarationReference
@maintenanceEventReference
@maintenanceEventType
@maintenanceStatus
@preferredForm
@publicationStatus
@repositoryEncoding
@scriptEncoding
@sourceReference
@status
@target
@targetType
@unit
@value
@vocabularySourceURI
@vocabularyURI

1.7.4 Simplified schema

To support and facilitate EAC-CPF schema usage, especially due to older versions of the XSD standard, the following general principles were defined by the team:

1.7.4.1 Elements

Elements are ordered within their parent elements as follows, cf. GitHub #257:

1. required, not repeatable elements
2. required, repeatable elements
3. optional, not repeatable elements
4. optional repeatable elements

Following the communities feedback from 2012 to harmonize the role and function of singular and plural elements, cf. GitHub #21, the current EAC-CPF schema has two concepts to bundle elements:

1. Plural elements

Plural elements serve as wrapper elements for one or more singular elements of the same kind. Examples include <functions>, <legalStatuses>, and <mandates>.

Plural elements can occur once, all are optional and not repeatable, and they must contain at least one singular element, but can include unlimited additional singular elements, plus a descriptive note. A new singular element within its plural wrapper is needed for a new entry. Translations can be given in a repeated term of the singular element.

Even a single singular element needs to be wrapped by a plural element.

2. Element sets

Element sets bundle elements with different concepts/information. Examples include <dateSet> and <chronItemSet>.

1.7.4.2 Attributes

In addition to the official EAC attributes, all elements may also contain additional attributes from any other namespace. This feature was introduced to help combat against the non-standard use of fields that have been defined exclusively for the standard (e.g. in EAD, the @altrender attribute often gets utilized as a place for users to store non-standard but nevertheless very important data, since users have no other locations to store that information by default).

Furthermore, there are now three global EAC attributes for all elements:

1. @id to refer to the element,

2. @target to point to another element within the EAC-CPF instance (not available in <eac>. the document node, however),
3. @audience to control the visibility of an element.

The attribute @status is introduced to elements for identifiers, codes, names, and dates to add status information about their validity or currency.

1.7.5 Relaxed data type and elements definition

Restrictions on element content and attribute values were relaxed for the following cases:

- <recordId> relaxed from NMTOKEN to text (must have at least one non-whitespace character)
- <agencyCode> relaxed the constraint ISO 15511 to text
- @countryCode, @languageCode, @scriptCode relaxed the constraint ISO standards (ISO 3166-1, ISO 639-2, ISO 15924) to NMTOKEN
- @localType data type relaxed from anyURI to token
- @vocabularySource data type relaxed from NMTOKEN to token

1.7.6 Schema alignment with EAD

TS-EAS is currently responsible for maintaining two archival encoding standards: EAD and EAC-CPF. The user communities of both standards overlap; therefore, the alignment of both schemas, where possible, shall ease the maintenance, usage, teaching, and learning of both standards.

1.7.6.1 Elements

To harmonize the control area of both standards, EAC-CPF contains the following changes:

1. The element <control> contains new optional attributes to reference external encoding standards: @countryEncoding, @dateEncoding, @languageEncoding, @repositoryEncoding, and @scriptEncoding.
2. The element <representation> is introduced as an optional child element of <control>.
3. The element <geographicCoordinates> is introduced as an optional child element of <place>.
4. The element <chronItemSet> is introduced as an optional child element of <chronItem> to bind several events and places to a date.

1.7.6.2 Attributes

Changes to attributes resulting from the EAD3 realignment, with some attributes borrowed from EAD and introduced in EAC-CPF 2.0, include:

1. Removed XML namespace:
   a. @xml:id becomes optional attribute @id that is available for all elements

b. @xml:lang becomes optional attribute @languageOfElement and is available for non-empty elements, i.e., the element can contain text directly or via its child elements
c. @xml:base becomes optional attribute @base

2. Removed XLink namespace
   a. @xlink:actuate, @xlink:arcrole, and @xlink:show were removed
   b. @xlink:linkrole, @xlink:linktitle, and @xlink:href become optional attributes under the new names @linkRole, @linkTitle, and @href, respectively

3. Newly added attributes borrowed from EAD
   a. @audience as a global optional attribute for all elements with the values: external, internal
   b. @calendar, @certainty, and @era as optional attributes for date elements, cf. date encoding
   c. @coordinateSystem as a required attribute in <geographicCoordinates> to enter the code for a system used to express geographic coordinates, cf. place encoding
   d. @listType as an optional attribute in <list> to specify the type of a list with the values: ordered, unordered
   e. @unit as an optional attribute in the new element <citedRange>, cf. assertion description
   f. @value as a required attribute in <entityType> with the values: corporateBody, person, family, c.f. identity area

1.7.7 Modified encoding

With the goal of simplifying the schema and aligning it with EAD, some encoding concepts were modified. For linking internally within an EAC-CPF instance and referencing externally to other sources, coherent basics have been defined. Formatting options were also cleared up and those now emphasize the usage of W3C CSS values.

1.7.7.1 Linking and referencing

The EAC-CPF schema now provides possibilities to link internally to any other element within the same EAC-CPF instance and externally to any other online resource.

Internal linking between the EAC-CPF elements can be realized with the global optional attribute @id to tag an element uniquely. The new global optional attribute @target can then be used to point to any element with an attribute @id. Furthermore, there are four attributes to link directly to declarations of rules and conventions, local type definitions, maintenance events, and sources. These specific reference attributes (@conventionDeclarationReference, @localTypeDeclarationReference, @maintenanceEventReference, and @sourceReference) are optionally available in all elements in the identity area, except in <entityType>, in the description area, and in the relations. All attributes for internal linking are defined with data type IDREFS to provide multiple link targets, if necessary.

To support interoperability with linked data next to the existing attribute @vocabularySource, two new linking attributes, @vocabularyURI and @vocabularySourceURI, were added. They serve as optional attributes in all elements that can contain any type of entity (e.g., the attributes are available in elements

encoding identifiers like <otherRecordId>, <otherAgencyCode>, and <identityId>). They are also available in the elements <event>, <function>, <legalStatus>, <localControl>, <localDescription>, <mandate>, <nameEntry>, <occupation>, <otherEntityType>, <place>, <placeName>, <relationType>, and <targetRole> where links to vocabularies, thesauri, or authority files might be useful.

When creating links to external generic resources (like any website, preferably with a persistent URI) the element <reference>, formerly known as <citation>, with the optional attribute @href should be used. The element <reference @href> is available in a wide range of EAC-CPF elements as a child element of <p>. If there is not a <descriptiveNote> with <p> available, the element <reference> is added. The optional attributes @linkRole, and @linkTitle accompany @href. The attribute @lastDateTimeVerified next to @href was removed as it is underused and it seems a relic of early internet days.

To clarify, if a link to a Wikipedia page is provided, use the element <reference @href>, but if a reference to a Wikidata ID shall be given, use @vocabularyURI.

1.7.7.2 Formatting

Generally, EAC-CPF does not provide any formatting possibilities. However, as EAC-CPF is an encoding standard for archival descriptions (which may comprise narrative text), some formatting options are needed to assist readers with easily ascertaining the text.

The element , as a child element of some text elements (<abstract>, <event>, <eventDescription>, <head>, <item>, <reference>, <p>) with the optional attribute @style, is used to format words or phrases for linguistic effect. Values of the attribute @style should conform to W3C CSS.

Lists can be formatted as an ordered or an unordered list, specified in the optional attribute @listType, with the attribute @style and a W3C CSS value.

Along with <list>, elements designed to include descriptive text such as <biogHist>, <generalContext>, and <structureOrGenealogy> can contain the new element <head> to encode a title or caption for a section of text.

1.7.8 Updated content models

Community feedback between 2010 and 2018 included issues about ambiguous descriptions in the Tag Library as well as unclear solutions to use the provided elements and attributes for encoding. Therefore the content model for the encoding of dates, languages, entity types, names, places, lists, and relations is updated. The encoding for descriptions of assertions and demographic information is newly introduced.

1.7.8.1 Date encoding

Date encoding is possible for single dates (<date>), for time spans (<dateRange> with child elements <fromDate> and <toDate>), and for complex dates (<dateSet> with child elements <date> and <dateRange>). This concept was introduced with EAD many years ago; it is well established and did not change for EAC-CPF 2.0.

All text date elements (<date>, <fromDate>, <toDate>) can contain the new optional attributes @calendar and @era to specify the date being encoded and to be aligned with EAD.

The users community asked for best practise to encode uncertain and unknown dates, cf. GitHub #31, #32, #34. So, the elements <date>, <fromDate> and <toDate> may also include the new optional attribute @status to indicate unknown or open dates, using the values unknown or ongoing. The optional attribute @certainty can be used to indicate the level of confidence for the information given in <date>, <fromDate>, or <toDate> (e.g., approximate or circa).

Additionally, the usage of Extended Date/Time Format (EDTF) integrated in ISO 8601-2019, to qualify a date as uncertain (?), approximate (~), or uncertain and approximate (%), is possible via the optional attribute @standardDate.

1.7.8.2 Language encoding

Language information can be given in several places of an EAC-CPF instance depending on the context and the object of the attributed language.

1.7.8.2.1 Encoding standards

First, the encoding standard for the representation of a language name and script needs to be specified in <control> using the new optional attributes @languageEncoding and @scriptEncoding (e.g., iso639-1 or iso15924). All language and script codes specified in one EAC-CPF instance should follow the same standard.

This approach follows EAD and introduces the specification for the language and script codes. Besides, the issue of different language code recommendations in EAC-CPF 2010 is solved with this solution, cf. GitHub #29. As for EAD, EAC-CPF does not recommend the usage of a specific list of short codes for language names but facilitates the use of international standards like ISO 639 code sets and any other language and script code, defined in <conventionDeclaration>. Additionally, EAC-CPF 2.0 explicitly proposes the usage of IETF language tags often used by computing standards.

In the call for comments, a question for usage of IETF language tags was addressed to the community, but did not gain any feedback so far, cf. Questionnaire.

1.7.8.2.2 Language used in the EAC-CPF instance

Second, the language and script codes themselves might be entered in the attributes @languageCode and @scriptCode, following the once declared encoding standard. This approach did not change with EAC-CPF 2.0. The attribute @languageCode is required to be used within the element <languageDeclaration> as a child element of <control>; on the other hand, @scriptCode is an optional attribute of this element. Due to simplifying the schema, <languageDeclaration> now declares the language and script in which an EAC-CPF instance is written with both attributes and it cannot contain any text, but can have a descriptive note.

The language and the writing system of the content of each single text element can be specified by using the optional attributes @languageOfElement and @scriptOfElement. Both elements may reference language and script codes, following the once declared encoding standard. To achieve greater distinction, the attributes @xml:lang and @scriptCode were renamed.

This new approach enables users to create multilingual EAC-CPF descriptions. Languages and scripts for elements' content might be specified in an element or in the parent or wrapper element to summarize language and script information for an encoding section. Most text elements in the description area are, therefore, repeatable for the purposes of translation.

While it is possible to specify the language and the writing system for each single element, it might be more feasible to encode the primary language in the EAC-CPF instance in <languageDeclaration>. Implementers are encouraged to use the single element language attribute @languageOfElement only in cases where the content language differs from the primary language.

1.7.8.2.3 Language used in the creative work of an CPF entity

Third, the attribute @languageCode is also available as an optional attribute in the element <language>, a child element of <languageUsed>. The element <language> identifies a particular language used in the creative work of the CPF entity being described and can contain the name of the language itself, next to the attribute @languageCode using the code for said language.

In the same sense, the optional attribute @scriptCode is available in the element <writingSystem>, formerly known as <script>, also a child element of <languageUsed>. The element <writingSystem> identifies the writing script for a language in which the CPF entity being described was creative or productive. The element <writingSystem> can contain the name of the script, whereas the attribute @scriptCode uses the code for said script.

1.7.8.2.4 Transliteration

The attribute @transliteration was removed from EAC-CPF 2.0 in the process of cleaning up unused or redundant components.

In order to specify the system, conventions, or rules applied for the purposes of transliteration, the element <conventionDeclaration> in <control> should be used. The optional attribute @conventionDeclarationReference can be used to refer to the according convention declaration for the transliteration scheme.

1.7.9 Control area

The control area is mainly updated for EAD alignment and to simplify the schema.

1.7.9.1 Transformed elements

Upon evaluation of the elements and attributes, some elements were removed and superseded by attributes in their parent elements in EAC-CPF 2.0.

Elements to encode status information on an EAC-CPF instance:

- <maintenanceStatus> becomes the mandatory attribute @maintenanceStatus in <control> with the values: revised, deleted, new, deletedSplit, deletedMerged, deletedReplaced, canceled, derived
- <publicationStatus> becomes the optional attribute @publicationStatus in <control> with the values: approved, inProcess, published
- <localControl localType="detailLevel"> with child element <term>minimal</term> becomes the optional attribute @detailLevel in <control> with the values: minimal, basic, extended

Elements with type information:

- <eventType> becomes the mandatory attribute @maintenanceEventType in <maintenanceEvent> with the values: canceled, created, deleted, derived, revised, unknown, updated
- <agentType> becomes the mandatory attribute @agentType in <agent> with the values: human, machine, unknown

1.7.9.2 Emphasized elements

The convention declaration in control will be used to provide rules for transliteration and rules for authorized, alternative, and preferred forms of names, cf. name encoding and language encoding. A new optional attribute @conventionDeclarationReference in the elements of the identity area, the description area, and the relations allows for linking to a specific convention declaration (i.e., to <conventionDeclaration @id> in the current EAC-CPF instance).

Information given in the elements <source> and <maintenanceEvent> lay the foundation to the description of an assertion to the EAC-CPF description, cf. assertion description. The new optional attributes @sourceReference and @maintenanceEventRefercence in the elements of the description area allow for linking to a specific source and maintenance event (i.e., to <source @id> or <maintenanceEvent @id> in the current EAC-CPF instance).

The optional attribute @localType is still used to support an element semantically. The specification of values available in @localType is given in the <localTypeDeclaration>. The new optional attribute @localTypeDeclarationReference accompanies each attribute @localType and allows for linking to a specific local type declaration (i.e., to <localTypeDeclaration @id> in the current EAC-CPF instance).

1.7.10 Identity area

The identity area has changed slightly.

Due to RiC-CMs new concept of advanced agent entities, it is now possible to encode additional entity types complementary to the given options person, family, and corporate body. Next to the mandatory element <entityType> (now designed as an empty element with the mandatory attribute @value, values: person, family, corporateBody) a new optional element (<otherEntityTypes>) provides the option to enter one or more entity types as text information or as reference to a vocabulary.

Inspired by community feedback, cf. GitHub #55, the element <entityId> was renamed to <identityId> to be more precise .

The wrapper element <nameEntryParallel> was renamed to <nameEntrySet>, cf. name encoding and Elements.

1.7.10.1 Name encoding

Encoding various forms of names is essential for EAC-CPF producers. There are different reasons that make it necessary to encode several names for one entity. According to community feedback, the control of names, i.e. authorized, alternative and preferred names, was confusing in EAC-CPF 2010, cf. GitHub #26.

1.7.10.1.1 Rename the grouping element

The grouping element for names is renamed from <nameEntryParallel> to <nameEntrySet>. A name entry set can contain one or more name entries and dates. It can record parallel names that have equal statuses of being authorized and it can also encode multiple name forms, including translations of a name or an abbreviation.

1.7.10.1.2 Status of a name

The quality of a name, authorized or alternative form, can now be given with the new optional attribute @status (values: authorized, alternative) in each element <nameEntry>.

Rules or conventions to express the name can be defined in <conventionDeclaration> in the control area; the same applies to any rule or convention according to which the name is the authorized or alternative form. The optional attribute @conventionDeclarationReference in <nameEntry> points directly to the according convention declaration (i.e., to <conventionDeclaration @id>).

The optional attribute @preferredForm (values: true, false) supersedes the element <preferredForm> and specifies whether or not a name entry provides the preferred form of a name for display. A convention declaration can be used to define the rules or conventions according to which a name is deemed as preferred to others.

1.7.10.1.3 Translations and parallel names

The optional attribute @localType (value: parallel) in <nameEntrySet> should be used to reflect the usage of parallel names.

The same optional attribute @localType in <nameEntry> should be used to indicate what kind of parallel name is used (e.g., transliteration).

The added optional attribute @localTypeDeclarationReference points directly to the corresponding local type declaration (i.e., to <localTypeDeclaration @id>).

1.7.11 Description area

The description area keeps all descriptive information according to ISAAR(CPF) but changes the encoding of plural elements, cf. Elements. Two new description aspects were added due to users requests: description of assertions and descriptions of demographic information.

1.7.11.1 Place encoding

Places are, along with names and dates, paramount when describing archival context. A place can be given to locate a function, a legal status, a local description, a mandate, an occupation, and any other entity types, but also to describe a biography or history and to locate a relation. Of course, the element <places> still serves as a plural element to include one or more elements <place> to describe any place connected with the entity described.

The element <placeEntry> is renamed to <placeName> to be more precise. The optional attribute @accuracy was removed since there was not a single use case available.

The element <place> has two new child elements. Next to the existing optional element <address> as a wrapper element for any physical or analog address information, the new optional element <contact> allows for bundling digital addresses and contact information. Both follow the same content model of at least one or more address lines or contact lines. The <address> element is ideally bound with a place name. The other new optional child element of <place> is <geographicCoordinates>. Following EAD encoding, the element <geographicCoordinates> is used to express a set of geographic coordinates as text. The mandatory attribute @coordinateSystem specifies the system used to express the geographic coordinates. In this context, the optional attributes @altitude, @latitude, and @longitude are removed.

1.7.11.2 List encoding

The encoding of lists was revised and simplified in EAC-CPF 2.0.

An element <list> can contain the new optional element <head>, the optional element <item>, and the optional element <list>. This results in a new way of nesting lists to express hierarchies or family trees, which replaces the use of the element <outline> with <level> that has been removed.

The optional attribute @listType, with the values ordered and unordered, specifies the type of a list and the optional attribute @style can be used to define the style of the list type with W3C CSS values.

1.7.11.3 Assertion description

The EAC-CPF user community has long desired the ability to add evidence-based assertions, cf. GitHub #43. With EAC-CPF 2.0, it is possible to enter new information with a range of existing elements in the control area. Additionally, all information in the description area is repeatable in order to add assertions there as well, as desired.

To provide additional, differing, or new information, the corresponding element in the description area must be repeated with the new information entry.

The source supporting the information can be given in the control area in the repeatable element <source>. Here, the new optional element <citedRange> with the optional attribute @unit (no limited values) can contain detailed information like page number(s), paragraphs, or editions, in order to give detailed evidence to a source. Next to <citedRange>, the element <source> can contain <descriptiveNote>, <objectXMLWrap>, and <reference>. The optional attribute @sourceReference in the elements in the description area links directly to the according element <source> (i.e., to <source @id>).

The agent responsible for adding an assertion and the date when an assertion was added or revised has to be entered in <maintenanceEvent> in the control area. A <maintenanceEvent> can be described with <agent>, <eventDateTime>, and <eventDescription>. The optional attribute @maintenanceEventReference in the elements in the description area links directly to the corresponding element <maintenanceEvent> (i.e., to <maintenanceEvent @id>).

A rule used for formulating the assertion can be added in <conventionDeclaration> in the control area. The optional attribute @conventionDeclarationReference in the elements in the description area links directly to the according convention declaration (i.e., to <conventionDeclaration @id>).

1.7.11.4 Demographic description

One of the community feedback on the call for comments affects distinct descriptive information on persons, cf. GitHub #273. EAC-CPF 2010 recommends the usage of <localDescription> “[...] to extend the descriptive categories to others available in a local system. Its meaning will depend on the context in which it occurs.”[1] In practice, any information about gender, citizenship, or religion of an entity would be encoded in this generic and semantically weak element.

[1] EAC-CPF Tag Library Version 2010 Revised Edition 2018. Prepared and maintained by the Technical Subcommittee for Encoded Archival Context of the Society of American Archivists and the Staatsbibliothek zu Berlin.

To be more precise, the new element <demographicDescription> is introduced in EAC-CPF 2.0 to provide this kind of demographic information on entities. Depending on requirements around culture and tradition, data privacy and legal rules of the maintenance agency, any kind of demographic information can be added to this new element.

1.7.11.5 Relations

Relations were updated with a new encoding structure in order to simplify them and to achieve better interoperability.

The optional element <relations> still serves as a wrapper element for one or more single relation entries.

Each element <relation> contains one required element <targetEntity> to identify the entity that is being targeted by the relation. The mandatory attribute @targetType specifies the type of the entity as an agent, a corporate body, a person, a family, a resource, or a function, whereas the attribute value agent is foreseen mainly for conversion from EAC-CPF 2010 to EAC-CPF 2.0. The targeted entity can be encoded with URIs and references to an authority record or any other external file using the optional attributes @vocabularySource, @vocabularyURI, and @vocabularySourceURI.

The optional element <relationType> within <relation> specifies the type of relation that the entity being described within the EAC-CPF instance has to the targeted entity. Relation types are not fixed and can be given as identity, hierarchical, temporal, family, or associative, but also as creator or subject of a resource. Relations between the entity being described and a function could be controls, owns, or performs. The relation type is given as element text content and also allows using the optional attributes @vocabularySource, @vocabularyURI, and @vocabularySourceURI.

A third target element, named <targetRole>, can be used to provide information about the role of the targeted entity toward the entity described. For example, a myriad of family roles such as parent, child, or sibling can be given as part of that free-text element.

Furthermore, relation context can be given with date, place, and descriptive information in the according child elements of <relation>: <date>, <dateRange>, <dateSet>, <descriptiveNote>, <objectXMLWrap>, and <place>.

1.7.12 Pending issues

During the revision of every single element, the usage of one element remains uncertain and pending. The only use case for the element <localControl> in EAC-CPF 2010 is the encoding of the level of detail according to ISAAR(CPF) 5.4.5.[2] In the sense of simplifying the schema and clearing up unused components, this element seems to be better transformed into an attribute @detailLevel within <control> with limited values, cf. GitHub #274.

The element <localControl> is a shared element with EAD3, however. The decision of keeping or removing <localControl> from EAS schemas was handed over to the TS-EAS EAD subteam to discuss use cases, usage

[2] ISAAR(CPF), 2nd ed., 2004. p. 27.

and gathering community feedback during the upcoming EAD3 revision process. The next EAC-CPF revision will follow the decision for EAD. The element <localControl> therefore is marked as *on hold* in the EAC-CPF documentation.

1.8 Schema versions and maintenance

EAC-CPF 2.0 replaces EAC-CPF 2010 revised 2018 as the current, official version of EAC-CPF.

EAC-CPF 2010 revised 2018 was available as a Relax NG schema and W3C XSD schema, and EAC-CPF 2.0 continues to be available in Relax NG and W3C XSD versions, both of which will be now released under a CC0 license. A Schematron schema is also available to provide further XML validation functionality for EAC-CPF instances, imposing data constraints that cannot be expressed in either Relax NG nor XSD. Implementers are encouraged to create their own local validation rules that restrict, rather than expand, the core schemas, cf. TS-EAS Design Principles.

The EAC-CPF 2.0 schema files will be found in the main branch (currently the development branch) of the schema repositories on GitHub and on the standard's publication page. When the EAC-CPF 2.0 is approved, any previous versions of that schema will be put into read-only mode. The schemas that are in read-only mode will no longer be updated by TS-EAS, but they will remain available online for anyone to reference.

1.9 Bibliography

EAC-CPF Discussion

- Summary of changes in EAC-CPF 2.0:
  EAC-CPF 2.0 (draft) Revision Notes (March 2021)
  https://eac.staatsbibliothek-berlin.de/schema-revision-2021/revision-notes
- TS-EAS webinar "Introducing Revisions to Encoded Archival Context—Corporate Bodies, Persons, and Families (EAC-CPF)" recorded and posted at SAA's YouTube channel:
  https://www.youtube.com/watch?v=AXZF5b2jHV8

Related Standards

- Encoded Archival Description (EAD).
  https://loc.gov/ead/
- ICA Committee on Descriptive Standards. *ISAAR(CPF): International Standard Archival Authority Record for Corporate Bodies, Persons and Families - Second edition*. (2004)
  https://www.ica.org/en/isaar-cpf-international-standard-archival-authority-record-corporate-bodies-persons-and-families-2nd
- ICA Expert Group on Archival Description. *RiC-CM: Records in Contexts - Conceptual Model - Consultation Draft v0.2*. (July 2021)
  https://www.ica.org/en/records-in-contexts-conceptual-model

2. Documentation of the Consultation Process

TS-EAS made every effort to make the EAC-CPF revision process open and inclusive. After the decision for revision in August 2017 the TS-EAS opened three comment periods via different channels. Technical developments, topic papers and comments have been publicly available on GitHub. The news and announcement section of the standards homepage at the Staatsbibliothek zu Berlin was used to update the community about the revision progress. Regular updates on the revision were presented at the annual EAS section meetings and SAA Standards Committee meetings at the SAA annual meetings (in person and virtually).

2.1 Comment Periods

TS-EAS accepted comments on the revision of EAC-CPF during the following comment periods.

2.1.1 Call for comments

1. Gathering feedback from user community after the release of EAC-CPF 2010: 2010 - 2017
   a. Purpose
      General receiving feedback from the user community.

   b. Circulation
      General offer to send feedback to TS-EAC on the EAC-CPF homepage.

   c. Method
      Accepted via email and collected within several documents by TS-EAC.

   d. Result
      Gathered comments from TS-EAC since 2010 were created as issues in the EAC-CPF repository on GitHub: issues #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, #18, #19, #20, #21, #22, #23, #24, #25, #26, #27, #28, #29, #30, #31, #32, #33, #34, #35, #36, #37, #41, #42, #43.

   e. Response
      TS-EAS EAC-CPF subteam systematically addressed all issues in monthly virtual meetings. Discussion and decisions were logged in GitHub.

2. Call for proposed changes to EAC-CPF 2010: 19 September 2017 - 11 December 2017.

a. Purpose
To start the revision process TS-EAS invited proposals for changes to EAC-CPF 2010 from the EAC-CPF community and beyond.

b. Circulation
The initial call for comments was published on the EAC-CPF homepage and was sent to the following email lists: EAD mailing list, EAS Section, Archivliste (German and German-speaking archivists), METS

c. Method
Accepted via email and published on GitHub

d. Result
Comments from the present call were created as issues in the EAC-CPF repository on GitHub: issues #44, #45, #46 , #58

Issues derived from earlier feedback: #47, #48, #49, #50, #53, #54, #55

e. Response
TS-EAS EAC-CPF subteam systematically addressed all issues in monthly virtual meetings. Discussion and all decisions were logged in GitHub.

Announcement of a two-tier strategy with a minor update in 2018 and the major revision afterwards: https://eac.staatsbibliothek-berlin.de/next-steps-for-eac-cpf.

Development of drafted EAC-CPF 2010 revised 2018.

3. Call for comments on EAC-CPF 2010 revised 2018 (draft): 3 September 2018 - 31 October 2018.

a. Purpose
Call for comments on minor technical schema updates in EAC-CPF 2010 revised 2018 (draft).

b. Circulation
The call for comments was published on the EAC-CPF homepage and was sent to the following email lists: EAD mailing list, EAS Section, Archivliste (German and German-speaking archivists), METS, APEF mailing list

c. Method
Accepted via email and published on GitHub

d. Result
Feedback from National Library of Australia approving the suggested changes.

e. Response
Release of EAC-CPF 2010 revised 2018 on 10 December 2018
https://eac.staatsbibliothek-berlin.de/schemata-and-tag-library

GitHub issues solved with EAC-CPF 2010 revised 2018: #1, #2, #10, #11, #12, #13, #16, #17, #19, #22, #24, #31, #33, #46, #58, #47, #48, #49, #50, #53, #54
TS-EAS EAC-CPF subteam started the major revision process, cf. History and methodology of the standard's revision. All issues and decisions were logged in GitHub.

4. Call for comments on EAC-CPF 2.0 (draft): 14 March 2021 - 30 June 2021.

a. Purpose
Call for comments on major schema revision in EAC-CPF 2.0 (draft).

b. Circulation
The call for comments was published on the EAC-CPF homepage, TS-EAS microsite news update and was sent to the following channels: EAD mailing list, ICA mailing list, EAS Section, Archivliste (German and German-speaking archivists), SAA EAS Section, West_Archi, Archives & Records (A&R) Japanese FB group.

The proposed changes were explained and presented in the TS-EAS webinar "Introducing Revisions to Encoded Archival Context—Corporate Bodies, Persons, and Families (EAC-CPF)" on 27 and 29 April 2021 to cover different time zones, cf. Presentations.

c. Method
Accepted via email, GitHub issue tracker, and TS-EAS Report an Issue Form

d. Result
Comments from the present call were received via email that were created as issues in the EAC-CPF repository on GitHub and via issues in the corresponding repository directly.

There were three types of feedback, 20 in all from

a. TS-EAS Schema subteam: some minor issues identified during schema updating

b. Community feedback from three persons

c. EAD team feedback

Github issues issue labeled 'comments period': issues #112, #124, #141, #151, #162, #170, #179, #194, #219, #226, #233, #254, #266, #267, #268, #269, #270, #271, #272, #273

e. Response
TS-EAS EAC-CPF subteam systematically addressed the issues in monthly virtual meetings. All decisions were logged in GitHub.

2.1.2 TS-EAS EAD subteam

From the very beginning, a reconciliation between the EAC-CPF and EAD3 schemas was a goal for this revision process. The EAD subteam lead Kerstin Arnold serves as EAC-CPF subteam member and provided ongoing feedback from the EAD subteam towared revision proposals and decisions on single elements and attributes, cf. History and methodology of the standard's revision. Changes to shared elements and attributes were agreed with the EAD subteam and the schema subteam, cf. GitHub issues labeled EAD3 Reconciliation. On the other hand, changes due to EAC-CPF 2.0 will affect EAD3 schema and are designated for the upcoming EAD revision, cf. GitHub issues label EAC Reconciliation.

2.1.3 Community feedback

As outlined above, next to the call for comments periods, the users community did send feedback first via email, later directly via comments in GitHub. All emails ended up in GitHub issues.

The public EAC-CPF repository is watched by 24 persons getting updates on changes and issues. Some of these watchers also added comments within the issues, e.g. GitHub issue #36, #43, #215, #171.

2.2 GitHub

During the whole revision process GitHub was used as a platform for technical development, issue and topic tracking and documentation. There are three relevant public GitHub repositories, used for the revision process:

1. eac-cpf-schema: schema, transformation stylesheets, releases, issues on elements, attributes, bugs and communities feedback
2. EAS-TagLibraries: tag library texts, translations, transformation stylesheets for TEI-HTML and TEI-PDF conversion
3. TS-EAS-subteam-notes: meeting minutes, topic papers

Within the eac-cpf-schema repository schema development was transparent to all following users by automatic notifications on pull requests and merges of schema files. GitHub issues were discussed from TS-EAS members and subscribed to by some community members. Notifications on changes are sent to all participating subscribers of an issue.

- EAC-CPF 2010 revised 2018 issues: https://github.com/SAA-SDT/eac-cpf-schema/projects/2
- EAC-CPF 2.0 issues:https://github.com/SAA-SDT/eac-cpf-schema/projects/1
- EAC-CPF 2.0 repository: https://github.com/SAA-SDT/eac-cpf-schema
- EAC-CPF releases: https://github.com/SAA-SDT/eac-cpf-schema/releases

2.3 Presentations

Members of TS-EAS regularly presented to the EAS Section and other sections and reported to the SAA Standards Committee at the SAA Annual Meeting during the revision process. TS-EAS members also taught a SAA webinar on the changes from EAC-CPF 2010 to EAC-CPF 2.0.

- 2018 EAS Section
- 2019 EAS Section and 2019 EAS Sections Meetings
- 2020 EAS Section and TS-EAS Open Meeting
- 2021 EAS Section and 2021 EAS Sections Meetings
- April 2021: TS-EAS webinar "Introducing Revisions to Encoded Archival Context—Corporate Bodies, Persons, and Families (EAC-CPF)" recorded and posted at SAA's YouTube channel: https://www.youtube.com/watch?v=AXZF5b2jHV8

3. Maintenance and Review plan

The ongoing maintenance and review of EAC-CPF 2.0 shall follow the general review cycle of SAA Standards Committee, cf. V.C.2. Review cycle set, and the agreed minor revision cycle of the TS-EAS by regarding the EAS Design principles.

In order to maintain the current standard EAC-CPF 2.0 all released documents, i.e. schema and schematron files, conversion stylesheets and the Tag Library are provided via the EAC-CPF homepage for free public access. Also, contact details of TS-EAS to receive community and user feedback after the release and during implementation of the new standard version will be provided.

TS-EAS differentiates between major and minor revision of the standards. Major revisions follow the five years cycle suggested by the SAA Standards Committee to fully review the whole standard definition. The revised version is not needed to be backwards compatible against the previous schema version.

Minor revisions include minor and technical changes not invalidating the core schema and therefore remaining backwards compatible. Each minor review cycle starts with an SAA term in August and ends with (maybe) an annual release of minor changes for schema and schematron files, conversion stylesheets and the Tag Library. A proper version control guarantees transparency for all changes, cf. Version control.

All decisions on minor or major changes within the standard shall follow the EAS Design Principles and will keep schema alignment in mind between EAD, EAC-CPF and possibly EAC-F. Preferably the EAC-CPF subteam leader or alternatively at least one member of the EAC-CPF subteam should be also a member of the EAD subteam and join the current EAD revision process. By accompanying the EAD revision process, potential effects on shared and similar elements and attributes can be discussed in both subteams and, if necessary, the whole of TS-EAS.

The established workflow and communications process within the EAC-CPF subteam and with TS-EAS as a whole will also be evaluated as needed. Maintaining code, feedback and key documents on EAC-CPF subteams work in GitHub is approved and required by TS-EAS.

Following topics might be considered for the upcoming maintenance:

There is a chance that Records in Contexts with its Conceptual Model, the according Ontology and the Introduction in Archival Description will be released by the ICA shortly after EAC-CPF 2.0. The publication process, possible effects and community requests on Encoded Archival Standards must be closely monitored by TS-EAS.

There might be a way to lower the threshold to contact the TS EAS for feedback on standards. Next to the current options like emailing, a contact form, and GitHub participation, the TS-EAS might have a distinct contact person for EAC-CPF feedback. Also, although the TS-EAS conducts its work in English, we recognize that accepting feedback in languages other than English might be a significant opportunity to receive more

comments from the international community. All TS-EAS subteam and most of all the Outreach & Communications team may work on these kinds of strategies in the future.

Last, we expect that TS-EAS will start to consider the next major revision of EAC-CPF no later than 2028, after the current major revision of EAD3 is finalized.