



Verifiable Credentials Subcommittee

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REFEDS #50 @TNC2025

W3C Verifiable Credentials (VC) are increasingly important to our community with the rise of Decentralized Identity and Wallet ecosystems. Several VC based credential definitions already exist for expressing skills and micro-credentials, like e.g. the Openbadges 3.0 specification. However, there is no consistent and community driven definition for expressing the 'identity related' credentials of the commonly used schema managed by REFEDs like e.g. eduPerson, SCHAC and voPerson.

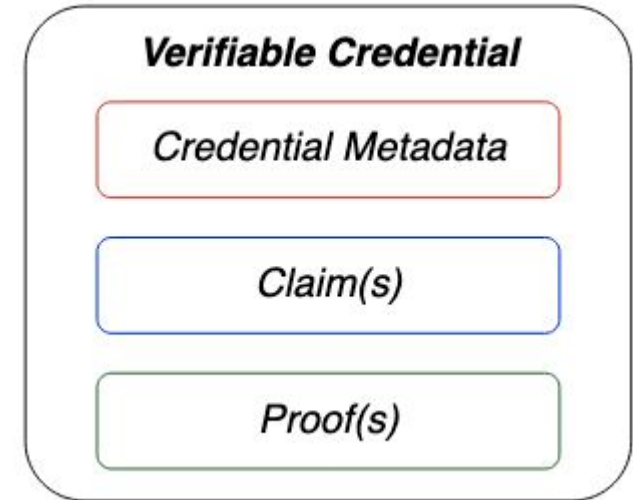
The REFEDS schema board is setting up a subcommittee to define the VC representations of these well known credentials so they may be used in an standardized and interoperable way.

Verifiable Credentials Subcommittee

- Global multi stakeholder community group (Federation, Institution, Library, Research) of about 20 participants
- Meetup bi-weekly on Monday 15:00 CEST
Next one is Monday June 16, 2025

<https://wiki.refeds.org/display/STAN/VC+Subcommittee>

```
{
  "@context": [
    "https://www.w3.org/ns/credentials/v2",
    "https://www.w3.org/ns/credentials/examples/v2"
  ],
  "id": "https://university.example/Credential123",
  "type": ["VerifiableCredential", "ExampleAlumniCredential"],
  "issuer": "did:example:2g55q912ec3476eba219812ecbfe",
  "validFrom": "2010-01-01T00:00:00Z",
  "credentialSubject": {
    "id": "https://www.example.org/persons/pat",
    "name": "Pat",
    "alumniOf": {
      "id": "did:example:c276e12ec21ebfeb1f712ebc6f1",
      "name": "Example University"
    }
  }
}
```



1. Introduction

- 1.1. General Remarks
- 1.2. Identifier Concepts
- 1.3. Scope

2. eduPerson Object Class and Attributes

- 2.1. eduPerson Object Class Definition
- 2.2. eduPerson Attribute Definitions
 - 2.2.1. eduPersonAffiliation
 - 2.2.2. eduPersonEntitlement
 - 2.2.3. eduPersonNickname
 - 2.2.4. eduPersonOrgDN
 - 2.2.5. eduPersonOrgUnitDN
 - 2.2.6. eduPersonPrimaryAffiliation
 - 2.2.7. eduPersonPrimaryOrgUnitDN
 - 2.2.8. eduPersonPrincipalName
 - 2.2.9. eduPersonPrincipalNamePrior
 - 2.2.10. eduPersonScopedAffiliation
 - 2.2.11. eduPersonTargetedID
 - 2.2.12. eduPersonAssurance
 - 2.2.13. eduPersonUniqueld
 - 2.2.14. eduPersonOrcid

2.2.15. eduPersonAnalyticsTag

2.2.16. eduPersonDisplayPronouns

3. Comments on Other Common Person Attributes

- 3.1. audio
- 3.2. cn (commonName)
- 3.3. description
- 3.4. displayName
- 3.5. facsimileTelephoneNumber
- 3.6. givenName
- 3.7. homePhone
- 3.8. homePostalAddress
- 3.9. initials

- 3.10. jpegPhoto
- 3.11. l (localityName)
- 3.12. labeledURI
- 3.13. mail
- 3.14. manager
- 3.15. mobile
- 3.16. o (organizationName)
- 3.17. ou (organizationalUnitName)
- 3.18. pager
- 3.19. postalAddress
- 3.20. postalCode
- 3.21. postOfficeBox
- 3.22. preferredLanguage
- 3.23. seeAlso
- 3.24. sn (surname)
- 3.25. st (stateOrProvinceName)
- 3.26. street
- 3.27. telephoneNumber
- 3.28. title
- 3.29. uid
- 3.30. uniqueIdentifier
- 3.31. userCertificate
- 3.32. userPassword
- 3.33. userSMIMECertificate
- 3.34. x500uniqueIdentifier

4. Change Log

5. References

6. Acknowledgments

**VC !=
attributes**

1. Standardize the claims

White Paper for implementation of mappings between SAML 2.0 and OpenID Connect in Research and Education (2018)

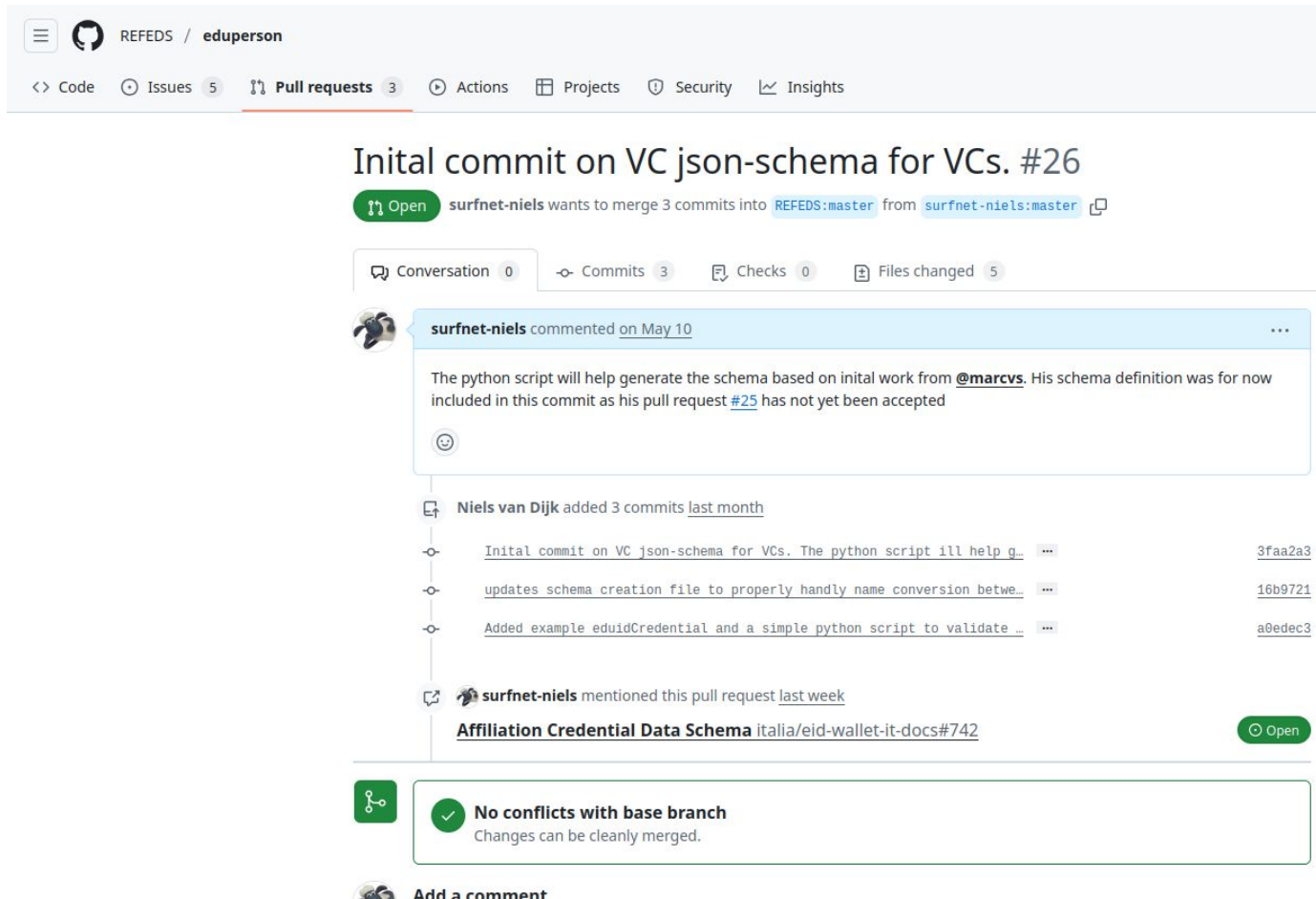
<https://docs.google.com/document/d/1b-Mlet3Lq7qKLEf1BnHJ4nL1fq-vMe7fzpXyrq2wp08>

2. Standardized specific VCs based on common use cases

Create and Register JSON schema for these VCs

Describe VC credential types for our identity credentials

JSON-LD schema which describes eduPerson, VOperson and SCHAC



The screenshot shows a GitHub pull request interface for the `REFEDS / eduperson` repository. The pull request is titled "Initial commit on VC json-schema for VCs. #26" and is being opened by `surfnet-niels`, who wants to merge 3 commits into `REFEDS:master` from `surfnet-niels:master`. The interface includes tabs for Conversation (0), Commits (3), Checks (0), and Files changed (5). A comment from `surfnet-niels` dated May 10 explains that a python script will generate the schema based on initial work from `@marcvs`, and that his schema definition was not included in this commit as his pull request #25 has not yet been accepted. Below the comment, a list of commits by `Niels van Dijk` from last month is shown, including "Initial commit on VC json-schema for VCs. The python script ill help g..." (3faa2a3), "updates schema creation file to properly handly name conversion betwe..." (16b9721), and "Added example eduidCredential and a simple python script to validate ..." (a0edec3). A mention from `surfnet-niels` from last week is also visible, linking to the "Affiliation Credential Data Schema" (italia/eid-wallet-it-docs#742). At the bottom, a green checkmark indicates "No conflicts with base branch" and "Changes can be cleanly merged." The interface also includes a "Add a comment" button and a "Open" button for the pull request.

REFEDS / eduperson

<> Code Issues 5 Pull requests 3 Actions Projects Security Insights

Initial commit on VC json-schema for VCs. #26

Open surfnet-niels wants to merge 3 commits into REFEDS:master from surfnet-niels:master

Conversation 0 Commits 3 Checks 0 Files changed 5

surfnet-niels commented on May 10

The python script will help generate the schema based on initial work from @marcvs. His schema definition was for now included in this commit as his pull request #25 has not yet been accepted

Niels van Dijk added 3 commits last month

- Initial commit on VC json-schema for VCs. The python script ill help g... 3faa2a3
- updates schema creation file to properly handly name conversion betwe... 16b9721
- Added example eduidCredential and a simple python script to validate ... a0edec3

surfnet-niels mentioned this pull request last week

Affiliation Credential Data Schema italia/eid-wallet-it-docs#742 Open

✓ No conflicts with base branch
Changes can be cleanly merged.

Add a comment

VC for transporting a basic academic identity

```
{
  "exp": 1775735208,
  "vc": {
    "@context": [
      "https://www.w3.org/2018/credentials/v1"
    ],
    "type": [
      "VerifiableCredential",
      "eduIDCredential"
    ],
    "credentialSubject": {
      "sub": "8485502fb53e25d94f1f87892f68f45ab0489571e924fc3898b344067deab153@uvh.nl",
      "eduperson_unique_id": "8485502fb53e25d94f1f87892f68f45ab0489571e924fc3898b344067deab153@uvh.nl",
      "given_name": "Fetze",
      "family_name": "Alsvanouds",
      "name": "Fetze Alsvanouds",
      "schac_home_organisation": "uvh.nl",
      "email": "falsvanouds.uvh@dev.eduwallet.nl",
      "eduperson_scoped_affiliation": ["employee@uvh.nl", "faculty@uvh.nl", "member@uvh.nl"],
      "entitlements": ["urn:mace:dir:entitlement:common-lib-terms-example"],
      "eduperson_assurance": ["https://refeds.org/assurance",
        "https://refeds.org/assurance/profile/cappuccino",
        "https://refeds.org/assurance/ATP/ePA-1m"]
    ]
  },
}
```



```
"credentialStatus": {
  "id": "https://status.dev.eduwallet.nl/eduid_revoke/1#8115",
  "type": "StatusList2021Entry",
  "statusPurpose": "revocation",
  "statusListIndex": 8115,
  "statusListCredential": "https://status.dev.eduwallet.nl/eduid_revoke/1"
},
"credentialSchema": [
  {
    "id": "https://refeds.org/eduperson/eduperson_4_4_0_202208_schema.json",
    "type": "JsonSchema"
  },
  {
    "id": "https://refeds.org/schac/schac_1_6_0_20220523_schema.json",
    "type": "JsonSchema"
  }
],
"issuer": {
  "id": "did:web:uvh.dev.eduwallet.nl",
  "name": "Universiteit of Harderwijk",
  "description": "Universiteit of Harderwijk"
},
"iss": "did:web:uvh.dev.eduwallet.nl",
"name": "Educational Identity Credential",
"description": "Educational Identity Credential issued by Universiteit of Harderwijk",
"sub":
"did:key:z2dmzD81cgPx8Vki7JbuuMmFYrWPgYoytykUZ3eyqht1j9Kboo8S7gFXczPUEsyh5HzNt6hm46rMhGTbv9dq7EYtHoUGoLiV4LawSGTkBG
LFsfFuGEww5NCaS8wizjGtzbDgZTLhp2BmPsrcDzWTrqY8bcJ1qHV6eys5Ciz2kzWKyrpLwn",
"nbf": 1744631208
}
```

Other considerations (out of scope for this WG)

1. Where are our VCs?

We may be looking at having many, many different VCs. How do we keep track? (Should we?)

2. Transport layer interoperability

OpenID4VCI and OpenID4VP are too broad for practical interoperability. How, when and where do we define (global) interop? Should we use HAIP or perhaps e.g. DIIP is a better fit?

3. Describe best practices for presenting the VCs in the wallet

HAIP: https://openid.net/specs/openid4vc-high-assurance-interoperability-profile-1_0-03.html

DIIP (v4): <https://fidescommunity.github.io/DIIP/>