procivis / one-core Public

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procivisAG ONE-8007: Fix incorrect key selection signing multiple presentations

62858fc · 2 weeks ago 2,336 Commits

.vscode	ONE-3571: bump utoipa	last year
apps/core-server	ONE-8007: Fix incorrect key...	2 weeks ago
config	ONE-7818: Adjust holder ke...	2 weeks ago
docker	ONE-7495: app version doc...	2 months ago
examples	ONE-7076 Moving shared u...	2 months ago
lib	ONE-8007: Fix incorrect key...	2 weeks ago
platforms	ONE-7819: optional holder i...	3 weeks ago
resource	ONE-4285: Update PID vct ...	11 months ago
.dockerignore	[ONE-328] Docker and hel...	2 years ago
.gitignore	ONE-6475: SDK docs sourc...	4 months ago
.gitlab-ci.yml	fix missing variable	last month
.rustfmt.toml	ONE-3231: retain proof check	last year
.taplo.toml	ONE-2752: add ble waiter f...	last year
Cargo.lock	ONE-7578: Picture data type	2 months ago
Cargo.toml	ONE-7578: Picture data type	2 months ago
LICENSE	ONE-3407: add license	last year
Makefile.toml	ONE-7273: android alignment	3 months ago
NOTICE	ONE-3407: add license	last year
README.md	ONE-7183: Improve Getting ...	3 months ago
clippy.toml	ONE-7469: CI: deny expect/...	2 months ago
deny.toml	ONE-7046: NFC engageme...	3 months ago
dev.env	ONE-7617: Renaming of aut...	3 weeks ago
sonar-project.propert...	ONE-6280: Sonarqube sup...	6 months ago

About

Issue, hold and verify digital identities and credentials on any device with eIDAS 2.0 compliancy, ISO 18013-5 mdocs, IETF SD-JWT VC, OID4VC, and W3C VCs.

docs.procivis.ch/

#ssi #eidas #self-sovereign-identity #decentralized-identity #digital-credentials #w3c-vc #sd-jwt #oid4vci #oid4vp #openid4vp #openid4vci #mdocs #oid4vc #openid4vc #iso-18013-5 #eudi-wallet #sd-jwt-vc #w3c-vcdm #iso-18013-7

Readme
Apache-2.0 license
Activity
Custom properties
152 stars
8 watching
8 forks
Report repository

Releases 10

Release v1.66.1 Latest
2 weeks ago

+ 9 releases

Packages

No packages published

Contributors 5

Languages

Rust 98.5% Other 1.5%

README Apache-2.0 license

Procivis One Core

Table of Contents

The *Procivis One Core* is a robust solution capable of powering every element of the digital identity credential lifecycle, flexibly handling a broad array of different protocols and trust models, ensuring compatibility with different digital identity regulations, and can be installed and operated almost anywhere, ensuring seamless integration through a powerful API.

Procivis One is built to connect your organization to the SSI ecosystem, become compatible with regulations such as **eIDAS 2.0**, and be extensible as new regulations and requirements emerge.

See the key features and complete solution architecture.

Get started

Prerequisites

- Rust 1.88+ - Install via rustup.rs
- Docker with Docker Compose - Docker Desktop recommended for easiest setup
- Install cargo-make: `cargo install cargo-make`

Quick start

1. Verify Docker is running: `docker compose version`
2. Compile the project: `makers build`
3. Start the database: `makers dbstart`
4. Start the server: `makers run`
5. Open http://localhost:3000/swagger-ui/index.html
   You should see the Swagger UI interface
6. Click the green "Authorize" button and set the authorization bearer token: `test`

→ *You can now make API calls directly to the server using the Swagger UI interface*

What's running:

- Database: running in Docker
- API server: http://localhost:3000
- Swagger UI: http://localhost:3000/swagger-ui/index.html

If you want some guidance on where to go from here, see Issue your first credential on the docs.

Troubleshooting

- Issues compiling - check `rustc --version` and run `rustup update` if your version is <1.88.
- Issues starting the database - make sure Docker is running.
  - Mac: you should see the whale icon in your menu bar.
  - Windows: you should see the whale icon in your system tray.
- Issues making API calls - make sure you have added the authorization bearer token `test` to the swagger.
  - If you still have issues with calls, check the value of `app.authToken` in `config/config-local.yml` as this determines your authorization token.

Advanced configurations

Values set in `dev.env` will override the configuration files found in `/config`.

- Set a new server authorization token: `ONE_app__authToken=yourTokenHere`
- Provide new encryption tokens for OpenID4VCI and private keys (default configuration has placeholder values allowing the server to start):
  - `ONE_issuanceProtocol__OPENID4VCI_DRAFT13__params__private__encryption=yourTokenHere`
  - `ONE_issuanceProtocol__OPENID4VCI_DRAFT13_SWIYU__params__private__encryption=yourTokenHere`
  - `ONE_keyStorage__INTERNAL__params__private__encryption=yourTokenHere`

Encryption keys must be a 32 byte hex-encoded value. Use `openssl rand -hex 32` or another qualified tool to generate a cryptographically-secure key.

For more, see the configuration guide.

Trial

You can use the full enterprise stack when you join our Trial Environment. Here you are given control of an organization in the Procivis One Desk UI.

Tests

To run only the unit tests

```
cargo test --lib
# or
makers unit-tests
```

To run integration-tests

```
cargo test --test integration_tests
# or
makers integration-tests
```

To run integration-tests with MariaDB

```
makers dbstart
ONE_app__databaseUrl="mysql://root:Qpq5nDb5MKD6v9bt8dPD@localhost/core" makers integration-tests
```

Run Wallet

You can start a separate instance of a service that will play wallet role. This instance is accessible on port 3001.

```
makers runwallet
```

Live Reload

Using `cargo-watch`, the code can be automatically recompiled when changes are made.

Setup

```
cargo install cargo-watch
```

Run the REST server

```
makers runw
```

Run compiled application (Local env)

```
./target/debug/core-server --config config/config-procivis-base.yml --config config/config-local.yml
```

Docker

- Run MariaDB for local developing

```
docker compose -f docker/db.yml up -d
or
makers dbstart
```

- Stop MariaDB for local developing

```
docker compose -f docker/db.yml down
or
makers dbstop
```

- Drop MariaDB for local developing - removes everything

```
makers dbdrop
```

- Print MariaDB logs

```
docker compose -f docker/db.yml logs -f
```

- Build project

```
docker build -t one-core -f docker/Dockerfile .
```

- Run project on Windows or Mac

```
docker run --init -p 3000:3000 -it --rm \
  -e RUST_BACKTRACE=full \
  -e ONE_app__databaseUrl=mysql://core:886eOqVMmlHsayu6Vyxw@host.docker.internal/core \
  one-core --config config/config-procivis-base.yml --config config/config-local.yml
```

- Run project on Linux

```
docker run --init -p 3000:3000 -it --rm \
  -e RUST_BACKTRACE=full \
  -e ONE_app__databaseUrl=mysql://core:886eOqVMmlHsayu6Vyxw@172.17.0.1/core \
  one-core --config config/config-procivis-base.yml --config config/config-local.yml
```

- Run shell in the container

```
docker run -it --rm --entrypoint="" one-core bash
```

SBOM

Source:

- https://github.com/CycloneDX/cyclonedx-rust-cargo
- https://github.com/CycloneDX/cyclonedx-cli
- Install cyclonedx-cli

```
sudo curl -L https://github.com/CycloneDX/cyclonedx-cli/releases/download/v0.25.0/cyclonedx-linux-x64 -o /usr/loc
sudo chmod +x /usr/local/bin/cyclonedx-cli
```

- Install cyclonedx

```
cargo install cargo-cyclonedx
```

- Generate JSON format

```
cargo cyclonedx -f json
```

- Prepare env

```
export DEPENDENCY_TRACK_BASE_URL=https://dtrack.dev.one-trust-solution.com
export DEPENDENCY_TRACK_API_KEY="<api_key>"
export DEPENDENCY_TRACK_PROJECT_NAME="ONE-Core"

export D_TRACK_PATH=${DEPENDENCY_TRACK_BASE_URL}/api/v1/bom
export SBOM_FILE_PATH="apps/core-server/bom.json"
export APP_VERSION="local-test-1"
```

- Upload JSON BOM file

```
file_content=$(base64 -i merged_sbom.json)

curl -v -X PUT \
  -H "Content-Type: application/json" \
  -H "X-API-Key: ${DEPENDENCY_TRACK_API_KEY}" \
  --data @- ${D_TRACK_PATH} <<EOF
{
  "projectName": "${DEPENDENCY_TRACK_PROJECT_NAME}",
  "projectVersion": "${APP_VERSION}",
  "autoCreate": true,
  "bom": "${file_content}"
}
EOF
```

- Merge all SBOM files to one

```
FILES="apps/core-server/bom.json lib/migration/bom.json lib/one-core/bom.json lib/shared-types/bom.json lib/sql-d
cyclonedx-cli merge --input-files ${FILES} --input-format=json --output-format=json > merged_sbom.json
```

Testing

Run tests

```
cargo llvm-cov --no-clean --workspace --release --ignore-filename-regex=".*test.*\.rs$|tests/.*\.rs$"
```

Generate report

- Cobertura

```
cargo llvm-cov report --release --cobertura --output-path cobertura.xml
```

- Lcov

```
cargo llvm-cov report --release --lcov --output-path lcov.info
```

Migration

Generate new migration

- Using Sea-ORM CLI

```
makers generate_migration description_of_new_migration
```

Background

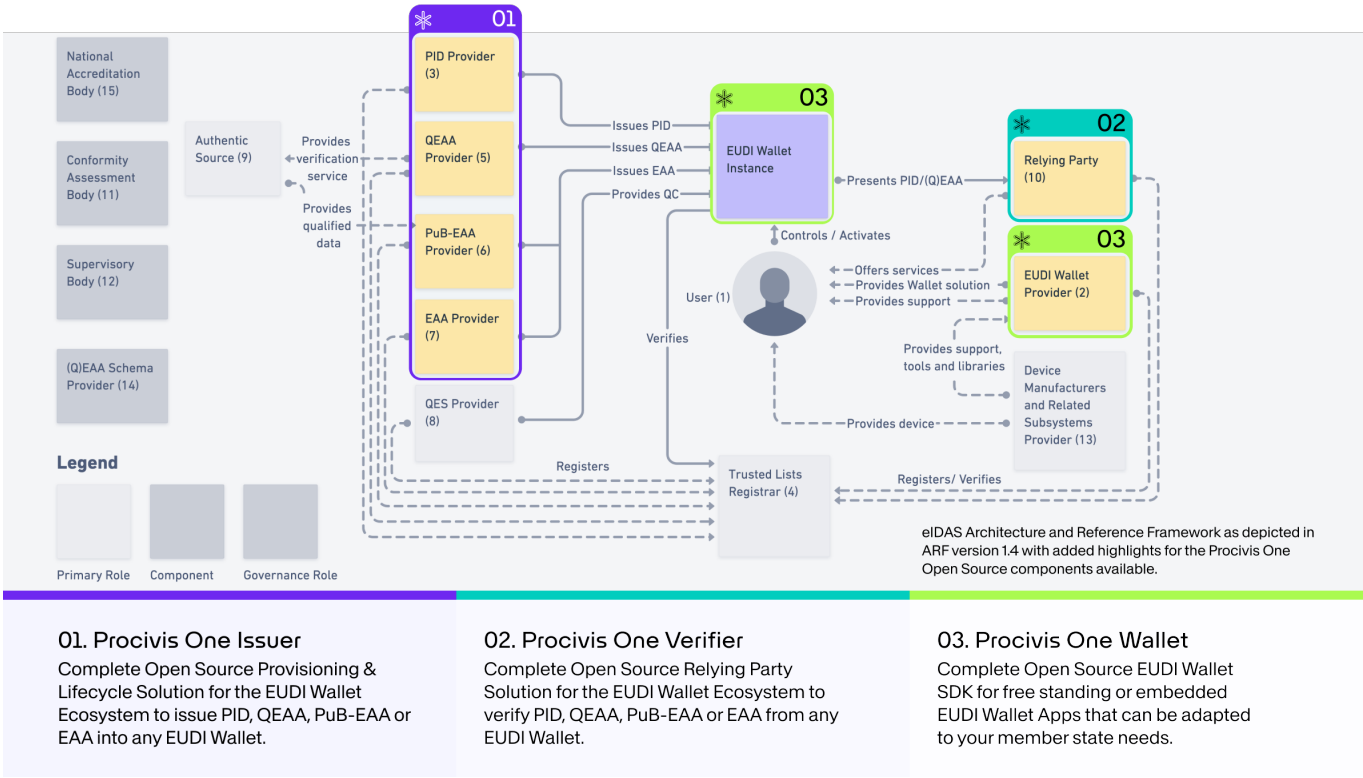
Decentralized digital identities and credentials is an approach to identity that relocates digital credentials from the possession and control of centralized authorities to the digital wallet of the credentials holder. This architecture eliminates the need for the user to "phone home" to use their credentials as well as the verifier to communicate to the issuer via back-channels, keeping the wallet holder's interactions private between only those parties directly involved in each interaction. This model of digital identity is often referred to as Self-Sovereign Identity, or SSI.

eIDAS 2.0

Whether you want to:

- issue into an EUDI Wallet
- provide an EUDI Wallet
- offer services to an EUDI Wallet holder

Procivis One provides production grade open source components to get certified and connect your organization to the eIDAS 2.0 ecosystem.



01. Procivis One Issuer

Complete Open Source Provisioning & Lifecycle Solution for the EUDI Wallet Ecosystem to issue PID, QEAA, PuB-EAA or EAA into any EUDI Wallet.

02. Procivis One Verifier

Complete Open Source Relying Party Solution for the EUDI Wallet Ecosystem to verify PID, QEAA, PuB-EAA or EAA from any EUDI Wallet.

03. Procivis One Wallet

Complete Open Source EUDI Wallet SDK for free standing or embedded EUDI Wallet Apps that can be adapted to your member state needs.

Use the *Procivis One Core* for Issuer or Verifier solutions. For an EUDI Wallet, use the One Core React Native SDK for embedding into an existing app, or use the Procivis One Wallet with adaptations to fit your needs.

Interoperability and conformance

Procivis One is built using open standards and tested to ensure interoperability with different software vendors and across different international regulatory ecosystems.

- W3C standards
  - The W3C offers several test suites for standards conformance. See the latest test results for Procivis One at canivc.com.
- ISO/IEC 18013-5 mDL
  - *Procivis One*'s implementation of the ISO mDL standard is compatible with the OpenWallet Foundation's verifier: *Procivis One* can successfully issue mDL credentials to a *Procivis One Wallet*, and these credentials can successfully be verified by the OpenWallet

Foundation's verifier. See the OpenWallet Foundation libraries.

- eIDAS 2.0; EUDI Wallet
  - The EU Digital Wallet is developing issuer and verifier testing for interoperability in mdoc and SD-JWT formats using OID4VC protocols. We follow the ongoing development of the testing platform and regularly test against it.

We continue to look for more opportunities for interoperability testing as the standards and regulations mature and harden.

Supported standards

Credential models

W3C VC

- W3C Verifiable Credentials Data Model 2.0 in the following variations:

Securing mechanism	Supported representations	Supported proof/signature types
W3C Data Integrity Proofs (embedded)	JSON-LD in Compacted Document Form	• W3C Data Integrity ECDSA Cryptosuites v1.0 / ecdsa-rdfc-2019 • W3C Data Integrity EdDSA Cryptosuites v1.0 / eddsa-rdfc-2022 • W3C Data Integrity BBS Cryptosuites v1.0 / bbs-2023
W3C VC-JOSE-COSE (enveloping)	• SD-JWT • JWT	• JOSE / ECDSA ES256 • JOSE / EdDSA Ed25519 • JOSE / CRYSTALS-DILITHIUM 3 CRYDI3*

* CRYSTALS-DILITHIUM is a post-quantum resistant signature scheme, selected by NIST for Post-Quantum Cryptography Standardization. Support for the recently published FIPS-204 is planned for the near future.

- **Backwards compatibility**: Procivis One supports verification of proofs which use VCDM 1.1.
- **Additional VC formats**: Procivis One supports verification of VCs embedded in optical barcodes. See Verifiable Credentials Barcode v0.7.

ISO mdoc

- ISO/IEC 18013-5:2021 standard for mdoc credentials.
  - COSE proofs
    - ECDSA ES256
    - EdDSA Ed25519

IETF SD-JWT VC

- IETF SD-JWT-based Verifiable Credentials:

Standard	Supported representations	Supported proof/signature types
IETF SD-JWT VC	SD-JWT	• JOSE / ECDSA ES256 • JOSE / EdDSA Ed25519 • JOSE / CRYSTALS-DILITHIUM 3 CRYDI3*

* CRYSTALS-DILITHIUM is a post-quantum resistant signature scheme, selected by NIST for Post-Quantum Cryptography Standardization. Support for the recently published FIPS-204 is planned for the near future.

Exchange and transport

- OpenID4VCI (Issuance)
  - ID-1
- OpenID4VP (Verification)
  - v1.0
  - Draft 25

    - Draft 20
    - OID4VP over BLE; optimized version of Draft 00
    - OID4VP over MQTT; proprietary adaptation of "OID4VP over BLE" via MQTT channel
- ISO/IEC 18013
    - 18013-5: Device engagement using either NFC or QR Code, data retrieval using BLE
    - 18013-7: Online data retrieval via OID4VP

Key storage

- Secure Enclave (iOS) and Android Keystore (TEE or Strongbox)
- Azure Key Vault (HSM)
- Internal encrypted database

Revocation methods

- Bitstring Status List v1.0
- Linked Validity Verifiable Credentials (LVVC)
- Token Status List - Draft 03

DID methods

- Decentralized Identifiers (DIDs) v1.0
    - did:key
    - did:web
    - did:jwk
    - did:webvh
- Universal DID resolution

See our supported technology page for more details.

Support

Need support or have feedback? Contact us.

License

Procivis