DIDroom

Multistandard Modular SSI Solution

https://forkbomb.solutions

November 2023

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Unique value proposition

- Focus on cryptography and interoperability
- 100% Open Source tech stack
- Core component (Zenroom) built in-house with 0 dependencies

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DidRoom:

Multitenant, multistandard, modular identity solution

- W3C-DID and W3C-VC, eIDAS 2.0 (EUDI-ARF), OpenID4VCI (Verifiable Presentations, relying party, Federation) - maybe EBSI Credentials
- Document signatures PaDES/CaDES/JaDES signature via DSS
- Cryptography: hashes, sigs (ecdsa, eddsa, Schnorr, Dilithium, Ethereum,) zero knowledge proof (BBS+, Coconut), homomorphic multisig on BLS381
- Ethereum interop (signatures, smart contracts), Fabric interop
- Web, mobile (TEE support), browser extension (JS vanilla, WASM)
- Programmable/extendable in Zencode

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Architecture

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Modular, microservice-based

Multiplatform, multipurpose DID/SSI wallet

- Web-based dashboard: Pocketbase, LiteFS, Zenroom/Slangroom/Restroom-mw
  - Setup of issuer and verification flows
  - Provisioning of microservices
  - Users/organization management
  - REST-APIs, logs, auditing, web-hooks
- Microservices for issuance (auth. server and issuer) and verifier (relying party), based on Zenswarm (programmable in Zencode) or 3rd party service (compatible OpenID4VCI)
- DSS back-end for PaDES/CaDES/JaDES signatures
- Mobile app Holder/Verifier: CapacitorJS, Android/iOS with TEE

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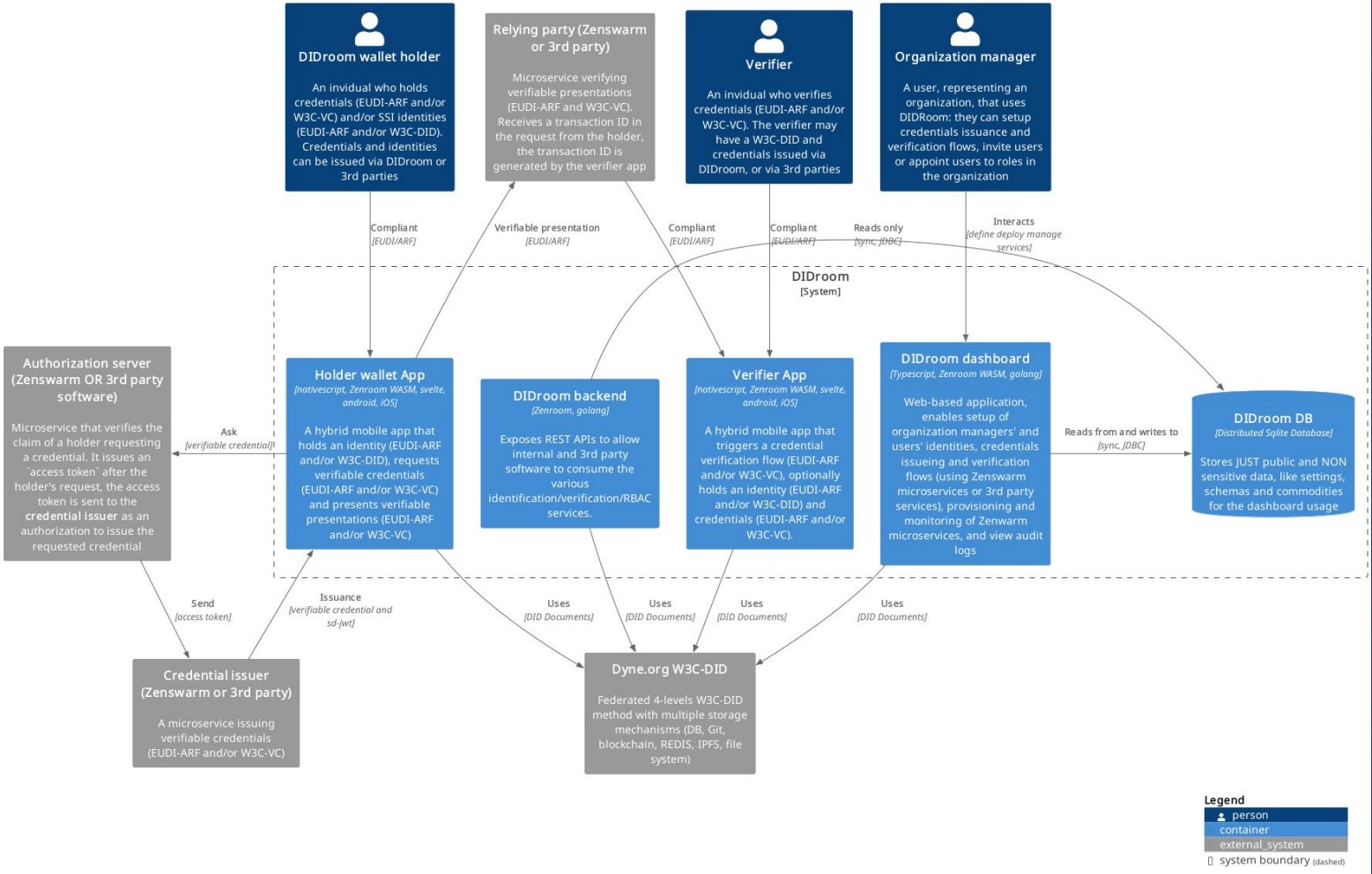
Container diagram for DIDroom



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Commercialization

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Freemium, microservices, integration

- Free plan: 10 users, 3 credentials, 20 credentials/month (TBD), on our Zenswarm iss./ver., standard mob. app
- Paid plan: pay per user/credential/verification (TBD), can use Zenswarm on premises iss./ver. Or 3rd party, white label mob. app
- Solution hosted on premises (Zenswarm or 3rd party for iss./ver.), white labeled mob. app
- Microservices as a service:
  - hosted microservices (setup cost and pay per use)
  - Cloud images (AMI/Azure): pay per use
- Customization, integration with 3rd party software (both platform and microservices)

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About Forkbomb BV

- Forkbomb BV (est. 2021) is a spin-off of Dyne.org (est. 2005)
- Team 15 ppl: 12 devs, sysadmins, PM, UX/UI designer
- Dyne.org received ca. 4M EUR in grants and tenders from the EC (DECODE, REFLOW, Ledger, EBSI PCP, Interfacer)
- Dyne.org/Forkbomb software entirely open-source

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Tech stack

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Identity: W3C-DID/VC, EUDI-ARF, ZKP

- W3C-DID: federated 4-layers DID/SSI implementation (source🔗)
  - did:global:domain.*context*:12345
  - Multiple storage capabilities
  - Did explorer🔗
- W3C-VC: native verifiable credentials support in Zenroom
- EUDI-ARF: SD-JWT and ISO 18013-5
- Zero knowledge proof:
  - BBS+: ABC, selective disclosure
  - Coconut: ABC, selective disclosure, blinding at issuance

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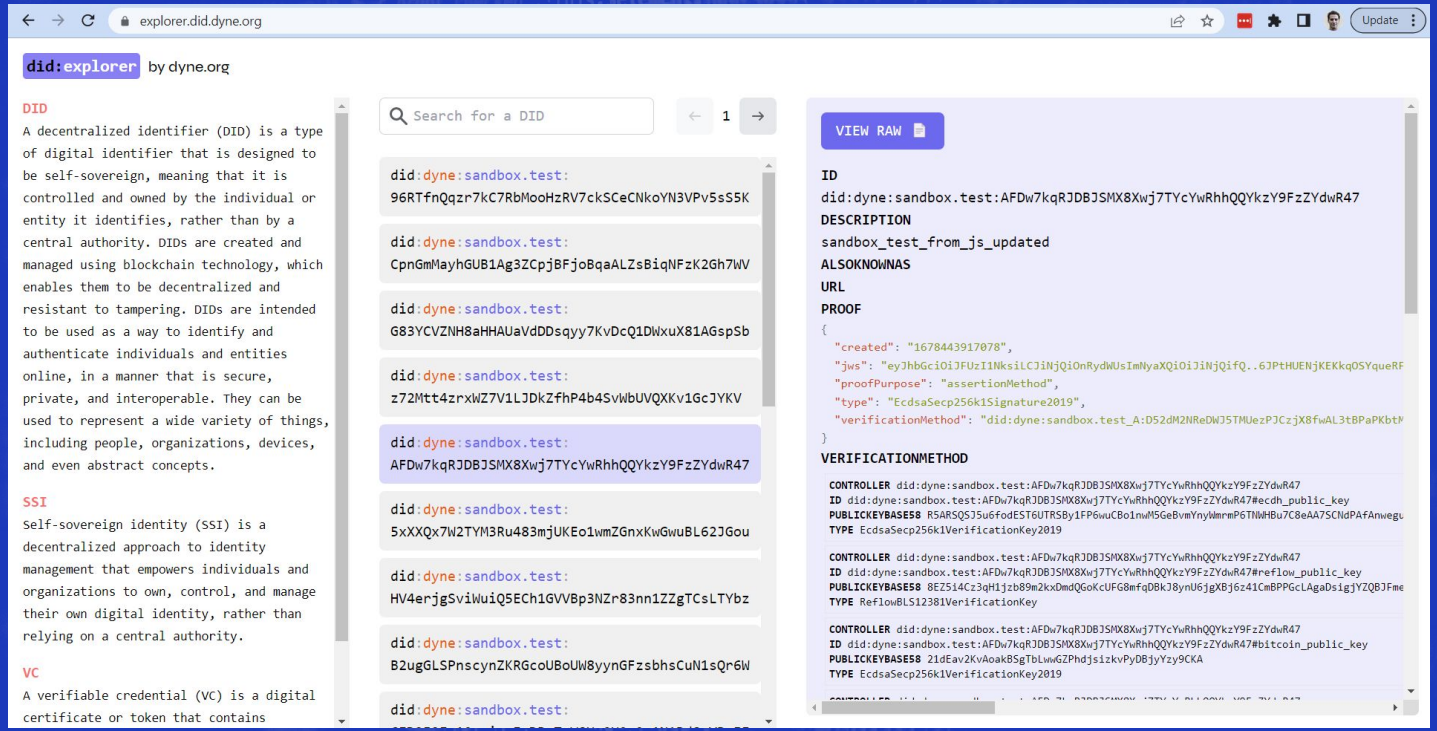
DID Explorer

https://explorer.did.dyne.org/



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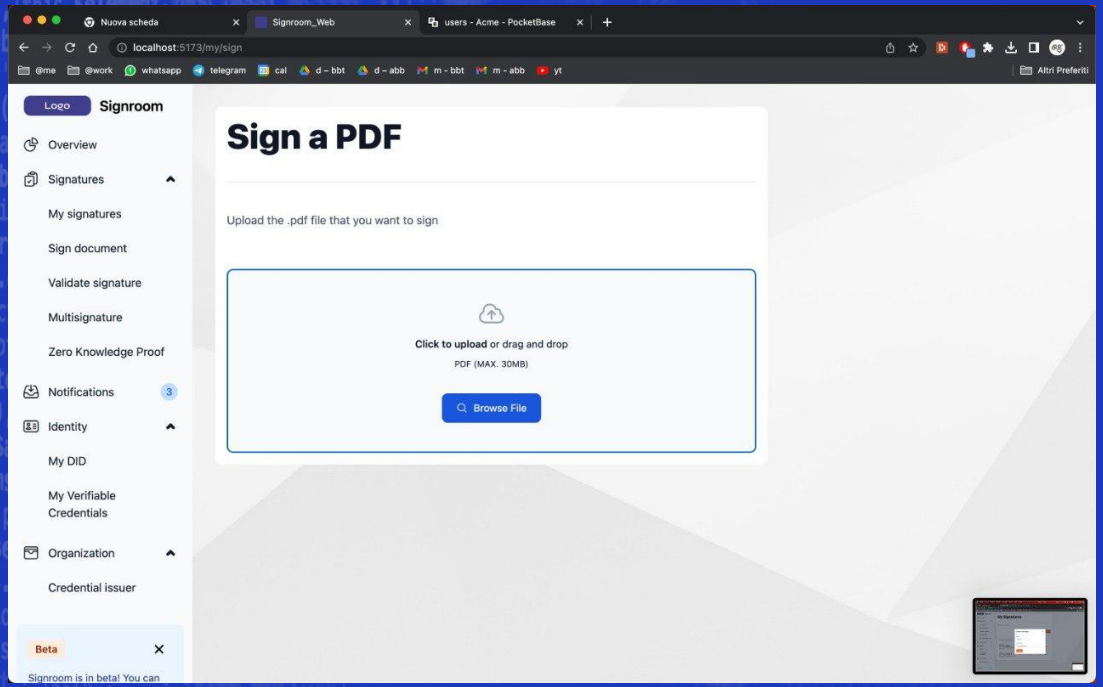
Signroom: customizable DID/SSI back-end

- Modular, white-labeled
- Identity based on W3C-DID
- JSON object signatures (ECDSA, EDDSA, Schnor, BBS, Quantum-Proof)
- PADES, XADES, JADES, CADES for PDF, DOC, img



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Zenroom ecosystem

- Zenroom: cryptographic virtual machine, cryptography, SC, blockchain interop
- Restroom-mw/Slangroom: JS based Zencode extender, wraps Zenroom (WASM)
- Zenswarm: oracles, off-chain cryptography, blockchain interop and computation
- Apiroom: online IDE for Zenroom, rapid microservice creation and deployment
- Zenflows: GraphQL based backend for DPP, end-to-end crypto
- Zenswarm-storage: distributed storage, trusted CDN with signed data

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Track record

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Selected Projects

- EBSI PCP
- DECODE, REFLOW (success stories)
- Interfacer

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Selected clients and partners

- European Commission
- Partito Democratico (Italian democratic party)
- Gemeente Amsterdam
- Infocert

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Members of:

- ISO TC/307 (Blockchain standardization)
- Inatba
- NEN (Dutch Standardization Body)
- Rome Call

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Thank you!

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