

VERCRE

Credential Infrastructure for Compliance

Make KYC/AML checks portable. Issue once, verify everywhere.

W3C Verifiable Credentials | On-Chain Anchoring | REST API

vercre.io | pavon@vercre.io

The Problem

\$3.6B+ spent annually on redundant identity verification

- Users re-do KYC 5-10 times across platforms, each costing \$2-15 per check
- Compliance providers run checks but results are siloed and not portable
- Relying parties must integrate multiple KYC vendors or force redundant verification
- No standard way to cryptographically prove compliance status without re-running checks

EU MiCA, US stablecoin legislation, and Singapore MAS guidelines are expanding who needs compliance. The problem is growing, not shrinking.

The Solution

You run the KYC. We make it portable.

VERCRE is credential infrastructure for compliance providers and relying parties.

Compliance providers issue W3C Verifiable Credentials after running their checks. Credential hashes are anchored on-chain for tamper-proof verification. Any downstream platform verifies compliance status in one API call.

The Flow:

1. Compliance provider runs KYC/AML check (their existing process)
2. Provider issues a signed credential via VERCRE API, anchored on-chain
3. User presents credential to a DeFi protocol or exchange
4. Protocol calls POST /v1/verify -- instant result + confidence score
5. One KYC check serves every platform that trusts that issuer

Privacy: Only SHA-256 hashes stored on-chain. Never raw data.

Credential Types

Verifiers pick which credentials they need. Composable by design.

Credential	Key Fields	Use Case
KYCBasic	Country, method, verifiedAt	Lightweight identity check
KYCStandard	Name, DOB, document type	Document-verified identity
KYCEnhanced	Source of funds, PEP, risk score	Full due diligence
AMLScreening	Sanctions, PEP, adverse media	Anti-money laundering
AccreditedInvestor	Accredited, jurisdiction	SEC investor verification

A DEX might require only KYCBasic. A tokenized securities platform requires KYCStandard + AccreditedInvestor. Each credential is independently issued, anchored, and revocable.

Trust Architecture

For Compliance Providers (Issuers)

Tier	Allowed Credentials	Min Stake
INSTITUTIONAL	All 5 types	1,000
REGULATED	All 5 types	500
VERIFIED	KYCBasic, KYCStandard, AML	100
UNVERIFIED	KYCBasic only	0

- Economic staking backs each tier (skin in the game)
- Reputation scoring from issuance quality, disputes, verifier feedback
- Auto-suspension if stake slashed below tier minimum

For Relying Parties (Verifiers)

- Policy engine: require minimum issuer tier + reputation score
- Confidence score (0.0-1.0) combining validity, tier, and reputation
- Credential freshness heuristic for renewal decisions
- Composable: require KYC + AML + AccreditedInvestor in one verification call

Integration (5 Minutes)

1. Onboard

```
curl -X POST https://api.vercre.io/v1/onboard \  
  -H "Content-Type: application/json" \  
  -d '{"name":"Your Company"}'  
  
# Returns: DID, public key, API key (shown once)
```

2. Issue a Credential

```
curl -X POST https://api.vercre.io/v1/issue \  
  -H "X-API-Key: $KEY" -H "Content-Type: application/json" \  
  -d '{"issuerDid":"$DID", "subjectDid":"did:key:z6Mk...",  
      "credentialType":"KYCStandardCredential",  
      "claims":{...}, "expiration":"2027-01-01T00:00:00Z"}'
```

3. Verify (Relying Party)

```
curl -X POST https://api.vercre.io/v1/verify \  
  -H "X-API-Key: $KEY" -H "Content-Type: application/json" \  
  -d '{"credential":"<jwt>",  
      "policy":{"minTier":"VERIFIED", "minReputation":60}}'
```

Pricing

Compliance Providers (Issuers)

Plan	Monthly	Issuances/mo	Overage
Starter	Free	25	Hard cap
Professional	\$99	1,000	Per-unit
Enterprise	Custom	10,000+	Volume pricing

Relying Parties (Verifiers)

Plan	Monthly	Verifications/mo	Overage
Developer	Free	100	Hard cap
Protocol	\$49	10,000	Per-unit
Enterprise	Custom	250,000+	Volume pricing

Free tiers for evaluation. No credit card required to start. Upgrade when you're ready for production volume.

Why VERCRE?

vs. Build It Yourself

DIY	VERCRE
6-12 months engineering	5-minute integration
Own crypto + key mgmt + chain	Battle-tested (537 tests)
No trust network	Growing issuer/verifier network
~\$200K+ eng cost	\$49-99/mo

vs. EAS / Coinbase Attestations

EAS	VERCRE
Generic attestation schema	Purpose-built for compliance
No trust registry	4-tier trust hierarchy + staking
No policy engine	Tier/reputation/confidence scoring
No issuer accountability	Disputes, slashing, suspension
No monetization layer	Built-in billing + fee tracking

Security & Reliability

- **On-chain anchoring:** Base L2 with 96 Foundry tests (fuzz, invariant, formal verification)
- **Key encryption:** HKDF-SHA256 + Fernet (AES-128-CBC + HMAC-SHA256) at rest
- **API security:** SHA-256 hashed keys, constant-time comparison, 3-tier RBAC
- **Audit logging:** HMAC-chained tamper-evident log with SIEM export
- **Rate limiting:** Redis-backed adaptive rate limiting under load
- **SSRF prevention:** DNS rebinding protection on webhooks
- **Monitoring:** Prometheus + Grafana + distributed tracing
- **Deployment:** CI/CD with canary deploys + auto-rollback on metric degradation

Compliance Posture

- W3C Verifiable Credentials Data Model v2.0 compliant
- W3C StatusList2021 for portable revocation
- Smart contract audit in progress
- STRIDE threat model + OWASP penetration testing framework
- SOC2-ready audit trail with chain verification

Current Status

Milestone	Status
SDK + REST API (53 endpoints)	Complete
Smart contract (Base Sepolia)	Deployed
Stripe billing integration	Implemented
CI/CD with canary deploys	Production-grade
441 Python + 96 Solidity tests	Passing
Prometheus + Grafana monitoring	Instrumented
Smart contract audit	In progress
Base mainnet deployment	Post-audit

Open-source SDK (MIT license). Self-hostable or use our managed API.

Get Started

For Compliance Providers:

Issue portable credentials your clients can use everywhere.

One integration. New revenue stream. Stickier customers.

For Relying Parties:

Accept verified credentials instead of running your own KYC.

Reduce friction. Cut costs. Access pre-verified users.

Try the sandbox: <https://sandbox.vercre.io>

Contact: pavon@vercre.io

GitHub: github.com/pavondunbar/vercre

API Docs: <https://api.vercre.io/docs>