USDPROP

A Compliance-First Infrastructure for Tokenized Real World Asset Investments

White Paper

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Institutional infrastructure for regulated real world asset tokenization

Contents

Executive Summary

USDPROP is a compliance-first infrastructure designed to enable the issuance, management, transfer, redemption, and distribution of tokenized real estate investments through regulated blockchain technology.

Built on the ERC-3643 institutional token standard, USDPROP combines programmable compliance, investor identity verification, asset-backed tokenization, on-chain governance controls, and automated capital management into a unified framework suitable for private real estate offerings.

Unlike traditional tokenization projects that focus primarily on digitizing ownership records, USDPROP was designed from inception around regulatory compliance, investor protection, operational transparency, and institutional-grade controls.

The platform enables qualified investors to subscribe to real estate investment opportunities through a fully compliant process while allowing issuers and administrators to manage capital formation, distributions, redemptions, and ownership records with significantly reduced operational complexity.

USDPROP introduces a modular architecture composed of:

- ERC-3643 compliant security tokens
- Compliance and transfer restriction modules
- Identity and claim verification systems
- Net Asset Value (NAV) management infrastructure
- Investor subscription and redemption mechanisms
- Automated dividend distribution engines
- Treasury management through multisignature governance
- Future-ready cross-chain settlement capabilities

The result is a scalable infrastructure capable of supporting private real estate funds, income-producing properties, development projects, and institutional investment vehicles.

The Problem

Real estate remains one of the largest asset classes in the world, yet participation in private real estate investments continues to suffer from structural inefficiencies.

Traditional investment structures typically involve:

- Manual onboarding procedures
- Lengthy subscription processes
- Limited liquidity
- Fragmented investor records
- Expensive administration
- Jurisdiction-specific compliance requirements
- Delayed dividend distributions
- High minimum investment thresholds

These limitations restrict participation and increase operational costs for both issuers and investors.

While blockchain technology introduced the possibility of fractional ownership and programmable assets, most tokenization initiatives have struggled to satisfy the compliance requirements expected by institutional investors, regulators, transfer agents, and fund administrators.

USDPROP was created to bridge this gap.

Design Principles

USDPROP was developed according to five core principles.

Compliance First

Regulatory compliance is treated as infrastructure rather than an external process.

Every token transfer, issuance, redemption, and ownership change is evaluated through programmable compliance rules.

Investor Protection

The architecture incorporates mechanisms intended to minimize operational risks, including controlled issuance processes, investor consent requirements, treasury governance safeguards, and transfer restrictions.

Asset Transparency

Ownership records, token supply, distributions, and administrative actions are auditable through blockchain infrastructure.

Institutional Compatibility

The system is designed to operate alongside existing legal structures including private placements, special purpose vehicles, real estate funds, and regulated investment entities.

Modular Architecture

Each component operates independently while remaining interoperable with the broader ecosystem.

This allows future upgrades without disrupting the entire platform.

System Architecture

The USDPROP ecosystem consists of several specialized modules.

USDPROP Security Token

The token layer is built upon the ERC-3643 standard.

ERC-3643 was specifically developed for regulated financial assets and introduces identity-aware transfers.

Each token holder must satisfy compliance requirements before receiving or transferring tokens.

Core capabilities include:

- Controlled issuance
- Controlled redemption
- Identity-linked ownership
- Restricted transfers
- Regulatory lockups
- Jurisdictional restrictions
- Recovery mechanisms

The security token represents an economic interest in the underlying real estate investment vehicle.

Compliance Module

The Compliance Module acts as the regulatory enforcement layer.

Every transfer request is evaluated against predefined compliance rules before execution.

Compliance controls may include:

- Accredited investor verification
- Qualified purchaser verification
- Reg D eligibility
- Reg S restrictions
- Jurisdiction screening
- Holding period enforcement
- Transfer limitations
- Sanctions screening

The module ensures that regulatory requirements remain enforceable throughout the lifecycle of the investment.

Identity Framework

Investor eligibility is established through a claims-based identity system.

Authorized issuers may publish verified claims associated with investor identities.

Examples include:

- KYC approval
- AML verification
- Accreditation status
- Investor classification
- Residency verification
- Sanctions screening results

Only wallets associated with valid identities may interact with the investment ecosystem.

This creates a programmable compliance layer without exposing sensitive personal information on-chain.

Investment Lifecycle

Investor participation follows a structured process.

Step 1

Identity verification and compliance approval.

Step 2

Investor onboarding.

Step 3

Wallet registration.

Step 4

Subscription request.

Step 5

Capital contribution.

Step 6

Token issuance.

The entire process is recorded and auditable.

Investor Consent Framework

A distinguishing feature of USDPROP is its consent-based transaction model.

Subscriptions and redemptions may require cryptographically signed investor authorization through EIP-712 structured messages.

This mechanism allows investors to explicitly approve:

- Investment amount
- Redemption amount
- Price conditions
- Slippage limits
- Transaction deadlines
- Nonce protection

The architecture significantly reduces the risk of unauthorized administrative actions.

Net Asset Value Infrastructure

Real estate investments require accurate valuation mechanisms.

USDPROP incorporates a dedicated NAV Oracle responsible for publishing valuation data used throughout the ecosystem.

The oracle may provide:

- Net Asset Value
- Share price calculations
- Property valuation updates
- Portfolio valuation adjustments
- Fund-level accounting inputs

The NAV layer serves as the pricing reference for subscriptions and redemptions.

Dividend Distribution Engine

Income generated by real estate assets may be distributed through the Dividend Distributor module.

The distribution engine supports:

- Pro rata calculations
- Automated allocations
- On-chain accounting
- Claimable distributions
- Treasury reconciliation
- Distribution auditability

This infrastructure reduces administrative overhead while improving transparency.

Treasury Governance

All treasury operations are controlled through a multisignature governance structure.

The Safe Multisig module introduces institutional controls over critical actions.

Protected functions may include:

- Asset transfers
- Administrative changes
- Oracle management
- Contract upgrades
- Treasury withdrawals
- Distribution approvals

Multisignature governance reduces key-person risk and enhances operational security.

Security Architecture

USDPROP incorporates multiple layers of protection.

These include:

- Identity-based access controls
- Role-based permissions
- Cryptographic signatures
- Transfer validation
- Multisignature governance
- Administrative separation of duties
- Compliance enforcement
- Auditable transaction history

The security model follows principles commonly used in institutional blockchain infrastructure.

Future Cross-Chain Settlement

The architecture is designed to support future Delivery versus Payment settlement across multiple blockchain networks.

A future implementation may allow:

- Security tokens on one network
- Cash settlement on another network
- Atomic transaction execution
- Institutional-grade settlement workflows

This capability may significantly expand liquidity and interoperability opportunities.

Target Markets

USDPROP may be utilized for:

- Commercial real estate funds
- Residential development projects
- Income-producing properties
- Real estate debt vehicles
- Private placements
- Cross-border investment structures
- Institutional real estate offerings
- Alternative asset funds

Conclusion

USDPROP represents a new generation of tokenized real estate infrastructure where compliance, transparency, investor protection, and operational efficiency are embedded directly into the architecture.

By combining ERC-3643 security tokens, programmable compliance, identity verification, treasury governance, consent-based investment mechanisms, and automated distribution systems, USDPROP establishes a framework capable of supporting institutional-grade real estate investment products in a blockchain-native environment.

The platform seeks to bridge traditional capital markets and decentralized infrastructure while maintaining the regulatory and operational standards expected by professional investors.