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INNOVATIVE OICD STABLECOIN & LIQUIDITY MODEL OVERVIEW

This technical deck provides an in-depth look at the OICD Stablecoin and the Unified Stochastic Liquidity Stabilization Model (USLSM), designed to maintain a soft peg to USD while enhancing resilience and data-driven approaches for private credit and DeFi markets.

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OICD STABLECOIN PROTOCOL OVERVIEW

Purpose: Resilient, data-driven stablecoin for private credit and DeFi

Algorithmic peg stability

01

The stablecoin maintains a **dynamic peg** within the range of **$0.96** to **$1.04**, ensuring value consistency.

Real-world data integration

02

Utilizes **real-world data oracles** to enhance reliability and accuracy in price feeds for the stablecoin.

Unified liquidity model

03

Employs the **Unified Stochastic Liquidity Stabilization Model** to efficiently manage liquidity and maintain peg stability.

Modular smart contracts

04

Built on **Arbitrum**, these **modular smart contracts** allow for flexibility and scalability in the protocol's operations.

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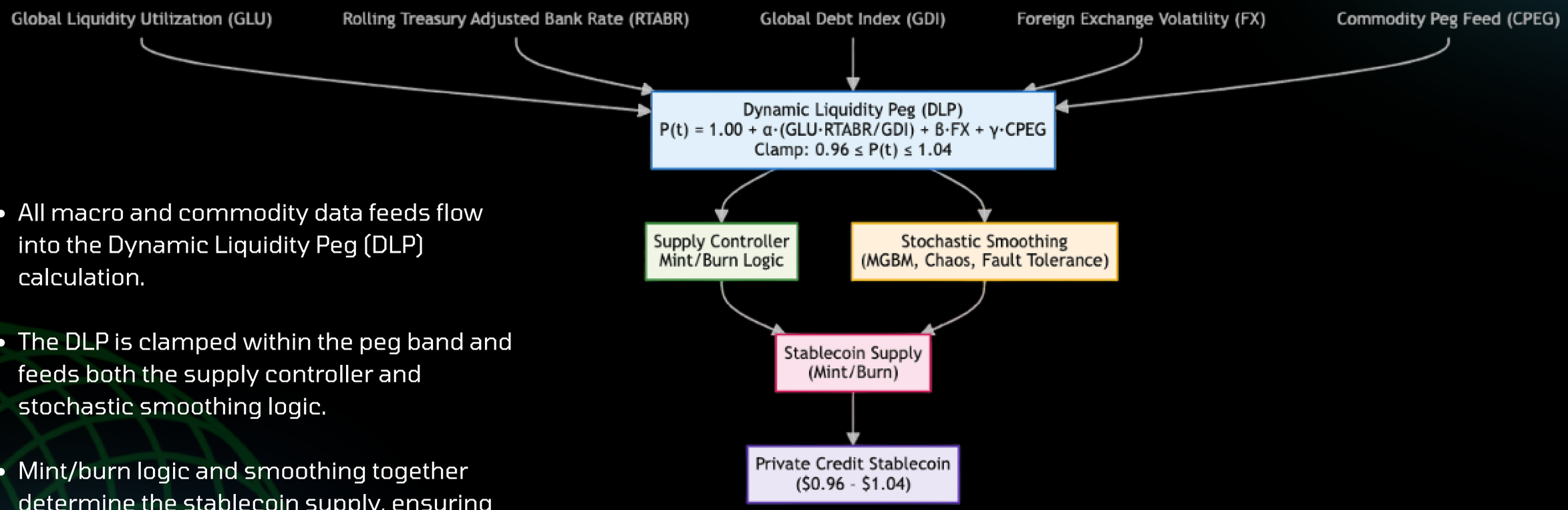
PEG STABILITY CHART



- All macro and commodity data feeds flow into the Dynamic Liquidity Peg (DLP) calculation.
- The DLP is clamped within the peg band and feeds both the supply controller and stochastic smoothing logic.
- Mint/burn logic and smoothing together determine the stablecoin supply, ensuring the peg remains within the $0.96–$1.04 band.

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MOTIVATION AND OBJECTIVES FOR OICD AND USLSM

Exploring the need for a stablecoin solution in volatile decentralized finance markets

01

Transparent Stablecoin Need

The current landscape of DeFi markets requires a **transparent** and **resilient** stablecoin to ensure stability and user confidence.

02

Price Stability Goal

Our primary objective is to maintain price stability within a targeted range of **$0.96** to **$1.04** to mitigate volatility risks.

03

Liquidity Generation

To enhance market efficiency, our model aims to generate **liquidity** specifically for **illiquid exchanges**, improving transaction capabilities.

04

Dynamic Market Response

The stablecoin will be designed to **dynamically respond** to market volatility, ensuring adaptability in changing market conditions.

05

Fault Tolerance Mechanism

Our approach includes bridging market dislocations with a **fault tolerance** strategy that accommodates unexpected market shifts.

06

Debt-Market Backing

Supply will be backed by a combination of **debt-market** and **FX metrics** to provide a robust foundation for the stablecoin's value.

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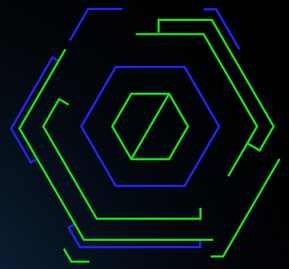
COMPONENTS OF THE OICD STABLECOIN SYSTEM

Exploring the need for a stablecoin solution in volatile decentralized finance markets

OracleFeed Integration

Ingests r**eal-world data** including GLU, RTABR, GDI, FX, and volatility to ensure accurate market representation.



SupplyController Mechanism

Executes **peg logic** and manages supply adjustments to maintain the stability of the OICD Stablecoin.

Governance by ObsidianCapital

Manages **treasury** and governance functions for protocol control, ensuring effective decision-making and resource allocation.

Frontend UI Development

Provides a **React app** and Streamlit dashboard for user interaction and analytics, enhancing user experience and engagement.

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MATHEMATICAL FRAMEWORK - PEG FORMULA

Analyzing Elastic Peg Oscillation Dynamics in Financial Models

The OICD stablecoin peg is dynamically calculated using a weighted sum of macroeconomic and commodity signals:

$$P(t) = 1.00 + \alpha \cdot \left(\frac{GLU(t) \cdot RTABR(t)}{GDI(t)}\right) + \beta \cdot FX(t) + \gamma \cdot CPEG(t)$$

Where:

P(t)P(t): Peg value at time tt
α,β,γα,β,γ: Weight coefficients (admin/oracle settable)
GLU(t)GLU(t): Global Liquidity Utilization
RTABR(t)RTABR(t): Rolling Treasury Adjusted Bank Rate
GDI(t)GDI(t): Global Debt Index
FX(t)FX(t): Foreign Exchange Volatility (basket)
CPEG(t)CPEG(t): Commodity Peg Feed (e.g., oil, metals, or basket)

Clamp Range:0.96≤P(t)≤1.040.96≤P(t)≤1.04
The peg is always clamped within this band for stability.

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EXPLORING STOCHASTIC DYNAMICS IN MATHEMATICAL MODELS

An in-depth analysis of stochastic volatility, nonlinear oscillators, and fluid dynamics equations.

01

Stochastic Volatility

- The **MGBM model** describes asset price dynamics influenced by random market factors through a stochastic process.

02

Nonlinear Oscillator

- The **Van der Pol** equation illustrates a nonlinear oscillator's behavior, showcasing oscillatory dynamics influenced by damping.

03

Navier-Stokes Smoothing

- The **Navier-Stokes equation** models fluid dynamics, representing the interaction of velocity and pressure in fluid flow.

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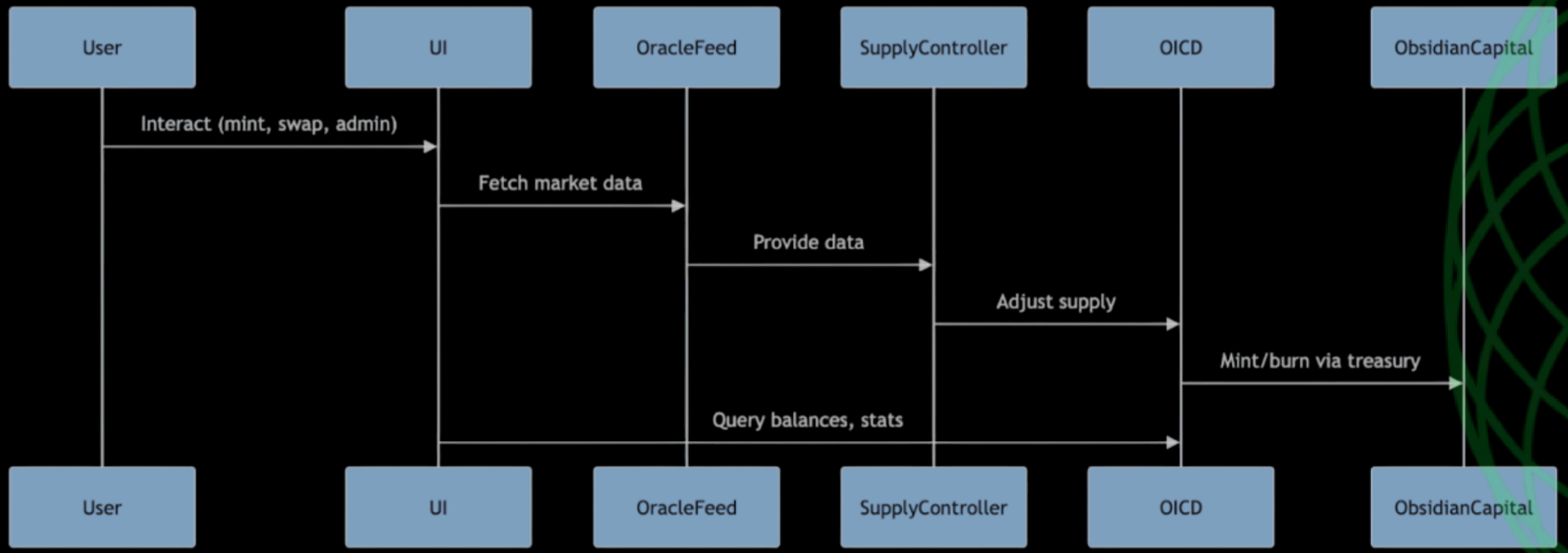
SYSTEM DATA FLOW



ObsidianCapital OICD SupplyController OracleFeed UI User

- User: Interact (mint, swap, admin)
- OracleFeed: Fetch market data, provide data
- SupplyController: Adjust supply
- ObsidianCapital: Mint/burn via treasury
- UI: Query balances, stats

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KEY MILESTONES

- Designed and implemented a dynamic stablecoin peg using macro, FX, and commodity signals.
- Built and tested smart contracts (SupplyController, OracleFeed) with advanced peg logic.
- Developed an AdminPanel UI for contract management and peg control
- Created and ran end-to-end tests; provided technical docs and diagrams.
- Pending: UI error handling, analytics, multi-commodity support, production deployment, and security review.

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08

BUDGET AND RESOURCES

Estimated Budget:Total: $150,000

- **Phase 1 (Design & Prototyping):** $30,000
- **Phase 2 (Development & Testing):** $80,000
- **Phase 3 (Deployment & Analytics):** $40,000

Resource Allocation:Core Team:

- 1 Lead Blockchain Engineer
- 1 Smart Contract Developer
- 1 Frontend/UI Developer
- 1 Backend/Analytics Engineer
- 1 Project Manager/QA

Key Deliverables:

- **Mathematical model & peg logic**
- **Smart contracts (SupplyController, OracleFeed, etc.)**
- **AdminPanel UI**
- **Testing & documentation**
- **Analytics dashboard**
- **Security review & deployment**

Timeline:3–4 months (agile, milestone-based)

- **Notes:Includes professional services, infrastructure, and security audit.**
- **Option for equity/bonus based on milestone delivery.**

THANK YOU!

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