

# THE UNITY PROTOCOL & VARIS OS

## A Sovereign, Hardware-Triggered Commercial Standard

Built on the XDC Network | ISO 20022 & MiCA Compliant Architecture

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**Entity:** Powell Global LLC / Powell Incorporated

**Classification:** Technical White Paper & Regulatory Prospectus

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## ABSTRACT

The global financial system is bifurcated into two incompatible silos: the regulated, high-friction world of legacy banking (SWIFT/ISO 20022) and the unregulated, high-speed world of decentralized finance (DeFi). Industries ranging from Automotive to Hospitality are suffocated by this divide, facing high inventory holding costs ("Floor Planning"), "Net-90" payment terms, and massive administrative friction. The Unity Protocol proposes a Unified Commercial Standard. By integrating proprietary physical sensory nodes (V-Shelves) with an autonomous AI procurement engine (Hey Chef) and a Triple-Entry blockchain ERP (Unity Books), the ecosystem eliminates third-party reliance. The ecosystem operates on a dual-token architecture: **Unity Gold (UGLD)** functions as a stable-rail backed strictly by physical gold, while the network's utility token, **Unity (UNT)**, is backed by a 5-metal macroeconomic treasury hedge.

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## 1.0 LEGAL CLASSIFICATION & REGULATORY COMPLIANCE

### 1.1 Statement of MiCA Alignment (EU Regulation 2023/1114)

In accordance with Article 6 of the MiCA Regulation, this document provides full transparency:

- **Unity Gold (UGLD):** Classified as an **Asset-Referenced Token (ART)** under Title III, backed exclusively by physical Gold (Au).
- **Unity (UNT):** Classified as a **Utility Token** under Title II.
- **Issuer Transparency:** Powell Global LLC acts solely as a "Passive Facilitator," executing code without discretionary intervention.

### 1.2 The Colorado Digital Token Act (SB 19-023)

Unity leverages the specific regulatory framework of Colorado Senate Bill 19-023, providing a statutory exemption from securities registration for tokens that serve a "consumptive purpose".

- **Consumptive Purpose:** UNT serves a primary consumptive purpose (Network Gas & Hardware Financing).
- **180-Day Utility Rule:** To qualify, consumptive utility must be available within 180 days of the token sale. The statutory compliance clock begins precisely on the date of the Token

Generation Event (TGE), which is dependent upon institutional capitalization. Upon TGE, the protocol is strictly bound to activate the Varis OS mainnet within an exact 180-day deadline.

### 1.3 Audit Remediation Protocol (ARP) & Seniority Rights

The TGE is legally bound to a 60-day Audit Remediation Phase requiring a cryptographic attestation from a Tier-1 auditing firm. Furthermore, smart contracts enforce Tranche 1 Seniority Rights, cryptographically barring corporate treasury liquidations during market decoupling events to protect the Day-1 liquidity peg.

## 2.0 THE MACRO THESIS: THE DECOUPLING OF VALUE

### 2.1 The Historical Context (1971-Present)

For over 5,000 years, commodity money was the bedrock of trade. This discipline ended on August 15, 1971, with the "Nixon Shock". Data from the Bureau of Labor Statistics (CPI) confirms the US Dollar has lost over 98% of its purchasing power relative to Gold since 1971. The world does not need more fiat currency; it needs a Sovereign Commercial Standard. Unity anchors digital value to physical reality.

None

FIGURE 2.1: THE GREAT DECOUPLING (1971-2026)  
USD PURCHASING POWER vs. GOLD PRICE



## 3.0 THE TECHNOLOGY STACK: XDC NATIVE (ISO 20022)

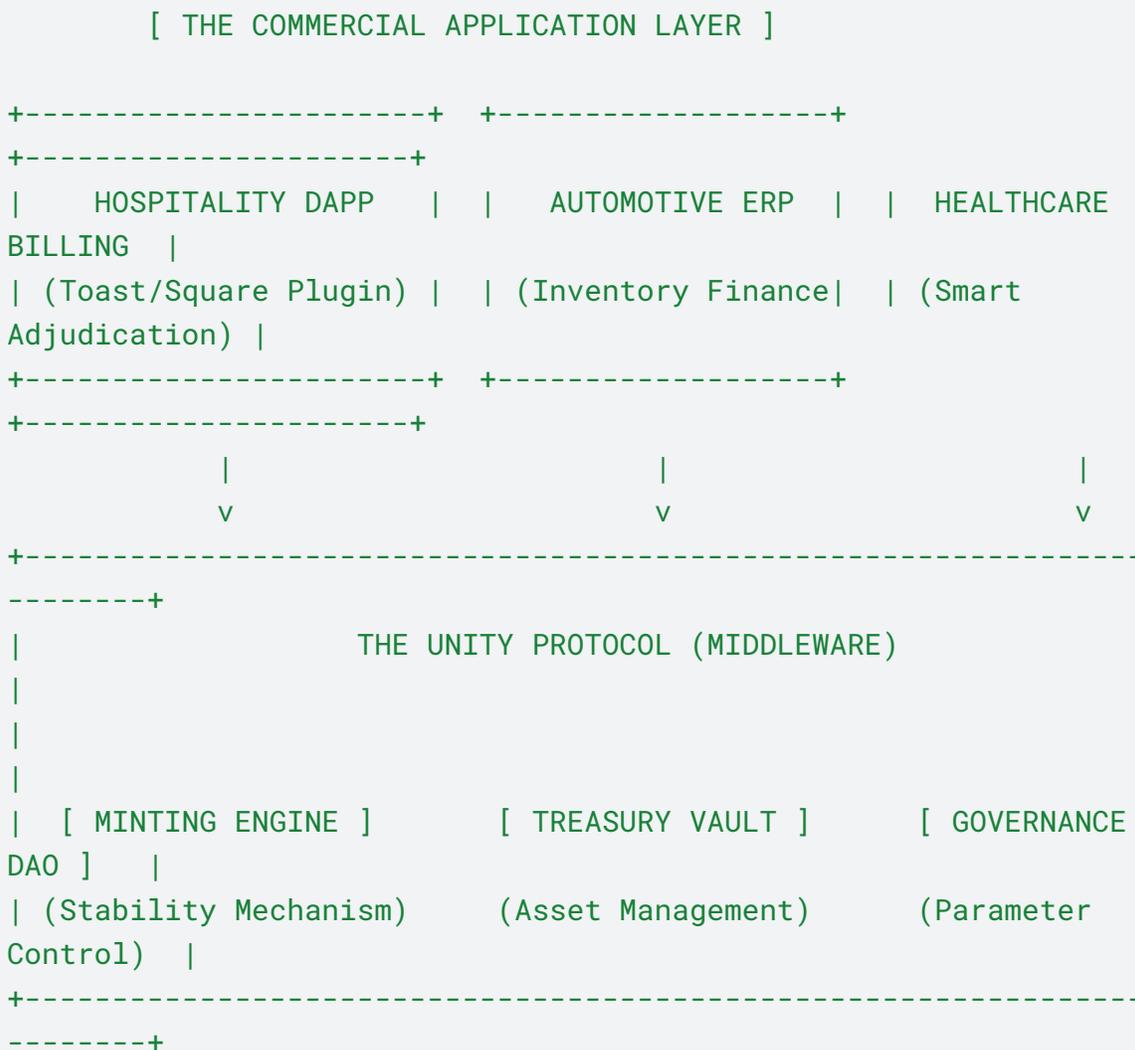
### 3.1 The XDC Advantage & Cross-Chain Convertibility

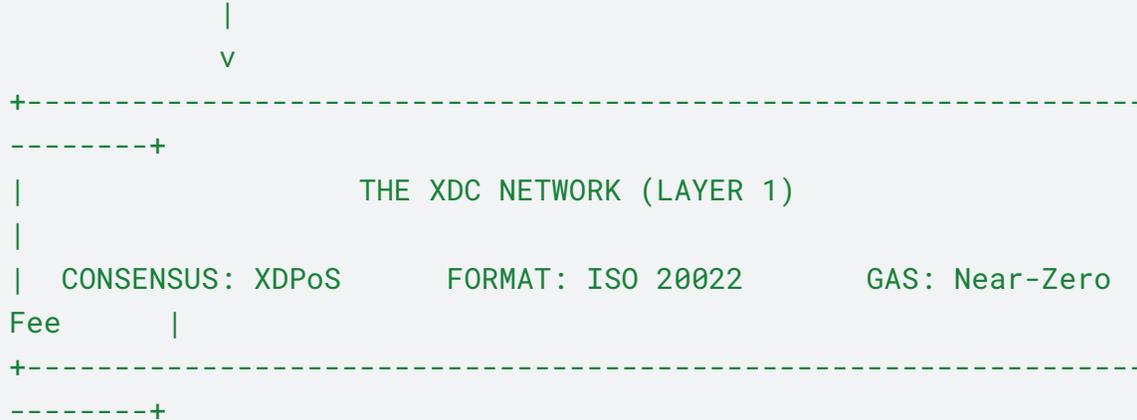
To interface with both decentralized networks and legacy banking systems, the Protocol is built on the XDC Network, optimized for Trade Finance.

- **XDPOS Consensus:** Ensures 2-second finality and near-zero gas fees, making high-frequency micro-trading viable.
- **KYC-Enabled Validators:** XDC nodes add a layer of regulatory safety for institutional partners.
- **ETH & XRP Convertibility:** To ensure deep liquidity and global settlement, UNT and UGLD utilize decentralized cross-chain bridges, allowing seamless 1:1 algorithmic wrapping and convertibility to ERC-20 (Ethereum) and XRPL (Ripple) standards.

None

FIGURE 3.1: NETWORK ARCHITECTURE





### 3.2 Code Proof: The ISO 20022 Message Wrapper

To prove Unity can interface with banking standards, the smart contract utilizes an emit function that mirrors an ISO 20022 pacs.008 message.

#### Solidity

```

None
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
contract ISO20022Emitter {
    // Event structure mirrors pacs.008 (Financial Institution
    Credit Transfer)
    event Pacs008Payment(
        string msgId,          // ISO Message ID
        string instrId,       // Instruction ID
        string endToEndId,    // End-to-End ID for Bank Tracking
        uint256 amount,       // Transaction Amount
        string currency,      // "UGLD" or "USD"
        address debtor,       // Sender Address
        address creditor      // Receiver Address
    );

    function executeISOPayment(string memory _msgId, string
memory _instrId, address _creditor, uint256 _amount) external {
        // ... Transfer Logic Here
    }
}

```

```

        emit Pacs008Payment(_msgId, _instrId, "UNITY-TX-REF-001",
        _amount, "UGLD", msg.sender, _creditor);
    }
}

```

## 4.0 VARIS OS ARCHITECTURE & HARDWARE MECHANICS

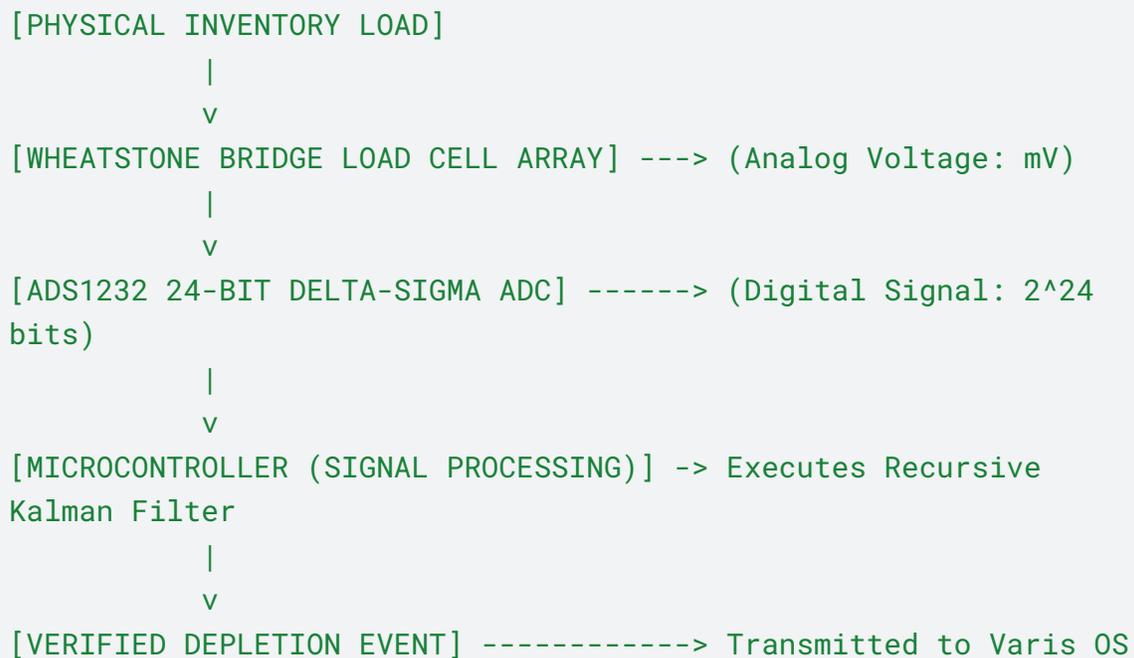
### 4.1 Gravimetric Hardware Execution (V-Units)

Physical inventory depletion is measured via networked gravimetric load arrays.

- **Sensory Array:** Utilizes a Wheatstone bridge load cell array (4x S-Type Strain Gauges) interfaced with an ADS1232 24-bit ADC.
- **Algorithmic Verification:** The microcontroller executes a Recursive Kalman Filter to clear anomalies:  $x_k = x_{k-1} + K_k(z_k - Hx_{k-1})$ .

None

FIGURE 4.1: V-UNIT ELECTRICAL SCHEMATIC & SIGNAL FLOW



### 4.2 Autonomous Procurement (Hey Chef AI)

Hey Chef acts as an autonomous digital sous chef, analyzing operational velocity to generate Smart Purchase Orders (SPOs) and execute vendor restock payments via the Unity Protocol.

#### **4.3 Premium Hospitality Expansion: The V-Band (Optional)**

The V-Band is an optional, enterprise-grade biometric wearable.

- **Biometric Tri-Factor Authentication (TFA):** Utilizes UWB Time-of-Flight sensors. Verification requires: (1) Capacitive skin-contact; (2) Acoustic voice-print via DSP Fast Fourier Transform; and (3) Optical fingerprint verification .
- **OTA Wireless Power Delivery:** V-Bands integrate a rectifying antenna (Rectenna) that harvests low-energy RF waves (900MHz/2.4GHz) to autonomously trickle-charge the device based on proximity .

#### **4.4 Thermal Compliance & Defrost Logic**

V-Shelves feature live NIST-traceable Platinum RTD temperature gauges for walk-ins, instantly triggering automated HACCP protocols. An Autonomous Defrost-Cycle Recognition Algorithm prevents false-positive critical thermal alerts during mechanical maintenance.

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## **5.0 TOKENOMIC ARCHITECTURE: DUAL-TOKEN THEORY**

Modern economic theory suggests a single asset cannot serve as both a "Store of Value" and a "Medium of Exchange". Unity resolves this by bifurcating functions.

### **[ UNITY GOLD (UGLD) ]**

- TYPE: Stablecoin (ART)
- PEG: \$1.00 USD (Soft Peg)
- BACKING: 100% Physical Gold
- FUNCTION: Medium of Exchange

### **[ UNITY (UNT) ]**

- TYPE: Utility & Governance
- VALUE: Market Determined
- BACKING: Network Revenue (5-Metal Hedge)
- FUNCTION: Gas & Collateral

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## **6.0 THE COMMERCIAL ENGINE**

### **6.1 The Hospitality Core: The Split-Settlement Contract**

The Service Industry suffers from the "Tip Trap" (credit card batches take 24-48 hours to settle) . Unity utilizes a "Payment Splitter" at the POS. A \$120 payment instantly routes \$100 to the Merchant and \$20 to the Server .

## TECHNICAL PROOF 6.1: THE SPLITTER LOGIC (Solidity)

Solidity

```
None
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
contract TipSplitter {
    event PaymentSplit(address indexed restaurant, address
indexed server, uint256 revenue, uint256 tip);

    function settleBill(address _serverWallet, uint256
_tipPercentage) external payable {
        require(msg.value > 0, "Bill must be paid");
        require(_tipPercentage < 100, "Tip cannot exceed 100%");

        uint256 tipAmount = (msg.value * _tipPercentage) / 100;
[cite: 3583-3584, 4093-4094, 4604-4605]
        uint256 revenueAmount = msg.value - tipAmount; [cite:
3585-3586, 4095-4096, 4606-4607]

        // Atomic Transfer: Both happen in the same block
        payable(_serverWallet).transfer(tipAmount); [cite: 3589,
4099, 4610]
        payable(msg.sender).transfer(revenueAmount); [cite: 3590,
4100, 4611]

        emit PaymentSplit(msg.sender, _serverWallet,
revenueAmount, tipAmount);
    }
}
```

### 6.2 The Automotive Expansion: "Base Load Capital"

Dealerships pay massive monthly interest ("Floor Plan") . Dealerships stake UNT into the Commercial Vault Smart Contract. The Protocol pays a yield that is swept via ISO 20022 to pay the Floor Plan bill .

## TECHNICAL PROOF 6.2: COMMERCIAL VAULT LOGIC (Solidity)

### Solidity

```
None
// SPDX-License-Identifier: MIT
pragma solidity ^0.8.0;
contract CommercialVault {
    struct Stake { uint256 amount; uint256 timestamp; uint256
earnedYield; } [cite: 3611-3614, 4121-4124, 4632-4635]
    mapping(address => Stake) public dealershipStakes;
    uint256 public constant APY_BASIS_POINTS = 1200; // 12% APY
    Target

    function stakeCapital(uint256 _amount) external {
        dealershipStakes[msg.sender].amount += _amount;
        dealershipStakes[msg.sender].timestamp = block.timestamp;
[cite: 3620-3621, 4130-4131, 4641-4642]
    }

    function claimYield() external {
        Stake storage ds = dealershipStakes[msg.sender]; [cite:
3627-3628, 4137-4138, 4648-4649]
        require(ds.amount > 0, "No Capital Staked");

        uint256 timeStaked = block.timestamp - ds.timestamp;
[cite: 3631-3633, 4141-4143, 4652-4654]
        uint256 yield = (ds.amount * APY_BASIS_POINTS *
timeStaked) / (365 days * 10000);

        ds.timestamp = block.timestamp; [cite: 3636-3637,
4146-4147, 4657-4658]
        // Transfer Yield (UGLD) to Dealership to offset Floor
    Plan
    }
}
```

---

## 7.0 PROGRAMMABLE MERCHANT ECONOMICS

### 7.1 The "Rollercoaster" Processing Smart Contract

Legacy processing fees are replaced by programmable epoch trackers that reward lock-in.

- **Years 1–3:** 1.25% (Standard Processing Fee).
- **Years 3–5:** 1.00% (Automatic Step-Down).
- **Years 5–10:** 0.80% (Loyalty Tier).
- **Year 10+:** 0.70% (The Sovereign Floor) .

*Note: The 0.70% floor is dynamically adjustable downward by the Deflationary Governor (See Section 13.5).*

### 7.2 Ecosystem Licensing & Hardware Financing

A merchant can commit to a 10-Year OS license (\$45,000) and execute a market-buy of **\$11,000 USD** equivalent in UNT into a 3-year staking contract. This waives the hardware rental fees/deposit and instantly unlocks the **0.70% Sovereign Processing Fee** on Day 1.

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## 8.0 THE RECYCLING ENGINE: SMART CONTRACT SPECS

### 8.1 The Sovereign Split Fee (60/40) & The "Sovereign Switch"

During the initial network growth phase, every transaction incurs a Utility Fee . This is automatically bifurcated :

- **Stream A (Reserve 60%):** Procures the 5-metal basket .
- **Stream B (Operations 40%):** Yield, Maintenance, and Burn .

#### Post-Deflationary Phase (The Sovereign Switch)

Once the protocol successfully reaches the 35B UNT hard floor (halting all burn mechanisms), the smart contract executes the "Sovereign Switch". The 40% Operations stream that was previously incinerated is dynamically redirected to merge with the Reserve Stream. At this milestone, 100% of processing fee revenue is utilized to purchase physical metals, triggering a hyper-collateralization effect for the remaining 35B circulating tokens.

#### TECHNICAL PROOF 8.1: SPLIT LOGIC (Solidity)

Solidity

None

```
interface IUnityTreasury {
    uint256 public constant FEE_SPLIT_RESERVE = 6000; // 60.00%
-> Reserve
    uint256 public constant FEE_SPLIT_OPS = 4000; // 40.00%
-> DAO/Burn
}
// CORE FUNCTION: The "Sovereign Split"
function processFees() external payable {
    require(msg.value > 0, "No fees to process"); [cite: 3668,
4178, 4689]
    uint256 reserveShare = (msg.value * FEE_SPLIT_RESERVE) /
10000; [cite: 3671, 4181, 4692]
    uint256 opsShare = (msg.value * FEE_SPLIT_OPS) / 10000;
[cite: 3672, 4182, 4693]

    payable(RESERVE_WALLET).transfer(reserveShare); [cite: 3674,
4184, 4695]
    payable(OPS_WALLET).transfer(opsShare); [cite: 3675, 4185,
4696]
}
```

## 8.2 Circuit Breaker Logic & UGLD Minting

UGLD is minted strictly against physical Gold stored in bail-free vaults at a **90% Collateral Factor** . If the Chainlink Oracle reports a price change of >10% within a single block, the contract automatically triggers a 24-Hour Freeze on all minting functions to prevent Oracle Attacks .

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## 9.0 THE STRATEGIC RESERVE: ASSET ALLOCATION

To create a currency that captures value from both Monetary Premiums and Industrial Demand, the UNT Protocol Treasury utilizes a multi-commodity strategy .

None

FIGURE 9.1: THE COMMODITY ALLOCATION MATRIX

```
+-----+-----+-----+
-----+
```

ASSET CLASS	ALLOCATION TARGET	ECONOMIC FUNCTION
GOLD (Au) Stability	45.00%	Sovereign Anchor / Stability
PALLADIUM (Pd) (Automotive)	20.00%	Industrial Key
PLATINUM (Pt)	20.00%	Energy Hedge (Hydrogen)
SILVER (Ag)	10.00%	Volatility Engine
COPPER (Cu)	5.00%	Global GDP Proxy

(Note: Copper is strictly capped at 5.00% to mathematically negate localized sales tax drag ).

## 10.0 GOVERNANCE & OPERATIONAL CONTROLS

### 10.1 Corporate Structure

- **Powell Incorporated:** Parent Entity & IP Holder .
- **Powell Global LLC:** Operating Subsidiary & Issuer.
- **The Unity Treasury DAO:** On-Chain Asset Manager .

### 10.2 The Anti-Obstruction Safeguard (Governance Override Logic)

To prevent a "Rogue Governance" attack where DAO members maliciously starve the company of capital, the Protocol includes a Founder's Safety Valve . If the DAO freezes funds maliciously, an Independent Auditor can verify the expense and execute an override .

## TECHNICAL PROOF 10.1: OVERRIDE CONTRACT (Solidity)

### Solidity

None

```
contract GovernanceOverride {
    address public auditorAddress;
    address public businessWallet;
    bool public hostileEventTriggered = false; [cite: 3761-3762,
4271-4272, 4782-4783]

    modifier onlyAuditor() { require(msg.sender ==
auditorAddress, "Not authorized"); _; } [cite: 3763-3764,
4273-4274, 4784-4785]

    function executeOverride(uint256 _amount) external
onlyAuditor {
        // 1. Force Release Funds
        payable(businessWallet).transfer(_amount); [cite:
3768-3769, 4278-4279, 4789-4790]
        // 2. Trigger Hostile Event (Freezes DAO Voting)
        hostileEventTriggered = true; [cite: 3771-3772,
4281-4282, 4792-4793]
    }
}
```

---

## 11.0 SECURITY & PROOF OF RESERVE

To prove that every UGLD token is backed, Unity utilizes a custom Chainlink Proof of Reserve (POR) adapter: **Physical Vault -> Independent Auditor -> Chainlink Node -> Minting Engine**

### TECHNICAL PROOF 11.1: ORACLE INTERFACE (Solidity)

## Solidity

None

```
interface IVaultOracle {
    function verifyReserves(uint256 totalGoldGrams, uint256
totalTokenSupply) external view returns (bool status); [cite:
3793-3798, 4303-4308, 4814-4819]
}
contract MintingEngine {
    IVaultOracle public oracle; [cite: 3799-3800, 4309-4310,
4820-4821]
    function mintUGLD(uint256 amount) external {
        // THE SAFETY CHECK:
        require(oracle.verifyReserves(totalGold, newSupply) ==
true, "Minting Paused: Reserve Verification Failed"); [cite:
3804-3806, 4314-4316, 4825-4827]
        // ... Execute Mint
    }
}
```

---

## 12.0 RISK FACTORS & ATTACK VECTOR ANALYSIS

- **The Decoupling Event (Peg Failure):** If the price of Gold collapses, reducing UGLD backing below \$1.00, the 110% Over-Collateralization Buffer activates. If the ratio drops below 105%, the "Emergency Stabilizer" automatically pauses all non-essential Treasury spend .
- **The Rogue Vault Scenario:** If a Third-Party Vault Provider denies access, the Decoy Protocol ensures distributed vaults (max 40% per jurisdiction) maintain network solvency .

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## 13.0 TOKEN DISTRIBUTION & THE 40-YEAR BURN GUARANTEE

### 13.1 Token Allocation Breakdown

Total Supply is fixed at **70,000,000,000 UNT**.

None

FIGURE 13.1: TOKEN ALLOCATION BREAKDOWN

ALLOCATION POOL PURPOSE	PERCENT	TOKEN AMOUNT	STRATEGIC
NETWORK CIRCULATION Float / Base Fuel	88.42%	61.89 Billion	Market
FOUNDER (Brad Powell) Architecture	6.00%	4.20 Billion	Core
TREASURY & OPERATIONS Security*	2.00%	1.40 Billion	Protocol
SOCIAL IMPACT Kids / Mental	2.00%	1.40 Billion	Veterans /
FOUNDING TEAM (Probationary)	1.50%	1.05 Billion	20 Units
INSTITUTIONAL SEED Capitalization	~0.08%	55.00 Million	Initial

\* Note: The 2.00% Treasury base is dynamically supplemented by the 40% Operations

Stream routing applied to daily network gas fees prior to the Sovereign Switch.

### 13.2 Founder Vesting & Employee Probation (The "Smart Waterfall")

The Founder's 6.00% allocation utilizes a "Yield-First" logic . A bi-monthly payout trigger checks if the staked principal earned rewards. If the yield meets the target, payout occurs via rewards and the principal remains 100% locked, creating ZERO sell pressure . The 1.50% Founding Team allocation is bound by a mandatory probationary smart contract lock, ensuring team alignment with long-term protocol health.

### 13.3 The 4-Layer Burn Logic & The Sovereign Switch

To mathematically enforce deflation down to a **35,000,000,000 UNT Hard Floor**, the protocol utilizes a stringent 4-Layer Burn mechanism:

1. **Network Gas Burn:** Every transaction processed natively on the XDC network incurs a base protocol gas burn.

2. **Varis Processing Fee Burn (The Sovereign Split):** Every merchant transaction processing fee triggers an automated market-buy of UNT. Exactly **40%** of this acquired UNT (The Operations Stream) is routed directly to a non-recoverable cryptographic null address.
3. **Administrative Micro-Burns:** Non-sales state-changing events (e.g., manual overrides, triple-entry ledger edits, biometric UWB database pings, HACCP logging) incur fractional UNT micro-burns to ensure 24/7 token velocity.
4. **The Hard-Floor Circuit Breaker & Sovereign Switch:** To guarantee the protocol never exceeds its deflationary target, an immutable smart contract layer continuously monitors the total circulating supply. The exact millisecond the **35,000,000,000 UNT** hard floor is reached, this circuit breaker mathematically halts all protocol burn functions. Simultaneous to the burn halt, the "Sovereign Switch" is flipped, instantly redirecting the 40% burn allocation directly into the 5-metal macroeconomic hedge, fundamentally hyper-collateralizing the remaining 35B tokens.

#### 13.4 The 40-Year Asset-Backed "True-Up" Guarantee

To ensure the protocol reaches absolute maximum scarcity regardless of organic transaction volume, a programmatic safety feature is hardcoded into the genesis contract. If the organic 4-Layer Burn does not successfully reduce the total supply to the **35B UNT Hard Floor by Year 40 (2066)**, a "Burn True-Up" smart contract will automatically execute.

- **The Liquidity Sweep:** Before simply incinerating the excess UNT, the protocol will intelligently sweep the inactive Treasury and reserve UNT, executing massive programmatic swaps into fiat (strictly bound by available liquidity depth).
- **Physical Asset Conversion:** All fiat generated from this sweep is instantly utilized to purchase physical precious metals, permanently fortifying the UGLD vault and protocol treasury.
- **Final Burn:** Any remaining UNT required to hit the target is then routed to the null address until the 35B absolute hard floor is mathematically achieved.

#### 13.5 The Deflationary Governor (Dynamic Fee Throttling)

If organic network volume is exceptionally high, threatening to consume the supply and hit the 35B floor prematurely, the smart contract engages the **Deflationary Governor**.

- **Algorithmic Throttle:** The smart contract continuously measures circulating supply against the 40-year chronological epoch curve.
- **Merchant Reward:** If the burn rate trajectory is too aggressive, the governor automatically lowers merchant processing fees *below* the 0.70% Sovereign Floor (e.g., to 0.60% or 0.50%). This mathematically throttles the burn rate back into alignment with the 40-year trajectory, while simultaneously rewarding high-volume merchants with unprecedentedly low transaction fees.

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## 14.0 INSTITUTIONAL YIELD ROUTING (THE TRINITY PROTOCOL)

The Trinity Protocol autonomously divides merchant processing yields to Institutional Nodes based on Seed Round participation.

### Tranche 1 (Alpha Node) — \$450,000 Provisioning

- **Capital & Token Mapping:** The institutional investor receives their designated portion of UNT at a highly favorable pre-public sale price of **\$0.025 USD per token**.
- **Liquidity Gate Math:** To enforce network stability, a **\$95,000** algorithmic liquidity deployment securely gates an initial **18,000,000 UNT** circulating release, establishing a strict **\$0.05 USD** entry peg on Day-1 of public trading.
- **Priority Recoupment:** 10% of Licensing revenue and 0.10% of Processing Volume until the initial \$450K is recovered.
- **Capped Royalties:** Post-recoupment, capped at **\$1,000,000** annually on processing and **\$400,000** on licensing.

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## 15.0 EXECUTION & DEPLOYMENT TIMELINE

The "Sovereign Clock" is triggered upon signing and deposit of initial Seed Capital.

None

FIGURE 15.1: THE EXECUTION TIMELINE (THE SOVEREIGN CLOCK)



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## 16.0 INTELLECTUAL PROPERTY & PROPRIETARY MOAT

- **Utility Patent Application No. 19/559,956:** Protects the hardware-software middleware bridge, gravimetric sensory nodes, biometric authentication, and smart-contract routing protocols .
  - **Provisional Patent Application No. 63/997,798:** System and Method for Autonomous Distributed Ledger Accounting, AI-Driven Hospitality Procurement, and Multi-Metal Asset-Backed Settlement .
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## **17.0 LEGAL DISCLAIMER & VERSION CONTROL**

This document (Document ID: UNT-VARIS-MASTER-V26) serves as the foundational genesis prospectus for the Unity Protocol and Varis OS. To maintain cryptographic and institutional integrity, the core text of this specific genesis white paper will remain immutable and will not be retroactively edited, overwritten, or replaced in-line.

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