

MAPLEMARKETS // ESCROW SYSTEM ARCHITECTURE DEEP DIVE

Multi-Chain Cryptographic Settlement, In-Game Barter Verification & Anti-Ban Architecture

CLASSIFICATION: ENTERPRISE CLEARINGHOUSE SPECIFICATION • VERSION: 2026.2

1. OBJECTIVES & PROBLEM SOLVED

ELIMINATION OF COUNTERPARTY RISK

In unorganized gaming commerce, 15-25% of all transactions result in disputes or fraud due to unaccountable Discord middlemen, malicious credit card chargebacks, naive in-game transfers triggering account bans, and lack of delivery visibility.

- **Cryptographic Custody:** Funds are locked on-chain in smart escrow vaults prior to any in-game dispatch.
- **Automated Barter Protocol:** In-game delivery uses bilateral low-value item trades, defeating heuristic game bans.

2. BIDIRECTIONAL STATE SYNCHRONIZATION

ESCROW & ORDER LIFECYCLE STATE DEFINITIONS

| State Identifier   | Customer Order Stage   | Escrow Vault Status        | System Action                                   |
|--------------------|------------------------|----------------------------|-------------------------------------------------|
| pending            | Checkout Initiated     | Unfunded / Waiting Memo    | Unique deposit address & memo generated         |
| funded             | Payment Confirmed      | Locked in Escrow Vault     | Blockchain RPC verifies...                      |
| courier_dispatched | In-Game Transit        | Held in Escrow Vault       | Courier assigned; FM1 r...                      |
| delivered          | In-Game Trade Complete | Pending Buyer Confirmation | Mutual junk barter comp...                      |
| completed          | Order Complete         | Released to Seller Wallet  | Buyer confirms or 2h ti...                      |
| disputed           | Arbitration Active     | Frozen Pending Review      | Dispute ticket assigned...                      |
| refunded           | Canceled / Expired     | 100% Refunded to Buyer     | 30-minute SLA timeout or dispute upholds refund |

### 3. CRYPTOGRAPHIC SETTLEMENT HARDENING

#### ANTI-FRAUD & INTEGRITY CONTROLS

- **Replay Attack Prevention:** Strict database UNIQUE index on tx\_hash prevents double-spending. Re-broadcast 409 Conflict.
- **Multi-Node RPC Verification:** Deposit validity, confirmation depth (1-3 blocks), and token amounts are verified across multiple nodes.
- **Multi-Sig Cold Storage:** 90%+ of platform treasury is secured in Gnosis Safe 2-of-3 multi-signature wallets.

### 4. AUTOMATED 30-MINUTE SLA ESCALATION

#### BUYER PROTECTION TIMEOUT MECHANISM

Every funded order starts a real-time 30-minute delivery countdown. If an order remains unfulfilled after 30 minutes without active courier trade:

- **Automated Flagging:** The order triggers an urgent audio/visual notification in the Staff Operator Control Room.
- **1-Click Buyer Refund:** The buyer gains direct access to the "Claim Instant SLA Refund" button in the order details without fees.
- **Seller Penalty:** In P2P trades, unresponsive sellers incur a reputation penalty and temporary listing suspension.

5. IN-GAME DETECTION EVASION & FULFILLMENT

THE 4-STAGE BILATERAL BARTER PROTOCOL

| Fulfillment Step             | In-Game Operational Action                     | Anti-Detection Mechanism                                       |
|------------------------------|------------------------------------------------|----------------------------------------------------------------|
| 1. Courier Character Persona | Trades executed by vetted act...               | Neutralizes "level 1 throwaway mule" heuristic filters         |
| 2. Free Market Location      | Trades conducted in Free Mark...               | Mimics legitimate high-volume marketplace trade volume         |
| 3. Mutual Junk Barter        | Buyer places 1 Snail Shell, B...               | Converts transaction from one-way transfer to bilateral barter |
| 4. 100% Tax Absorption       | MapleMarkets pays all in-game trade taxes (4%) | Buyer receives exact net meso ...                              |
| 5. Strict Chat Silence       | Couriers maintain absolute si...               | Bypasses automated keyword and chatlog scanners                |

6. CONVENTIONAL RMT VS. MAPLEMARKETS PROTOCOL

COMPARATIVE RISK ANALYSIS

| Dimension        | Unorganized Discord RMT                          | MapleMarkets Escrow Protocol                         |
|------------------|--------------------------------------------------|------------------------------------------------------|
| Payment Risk     | Chargebacks, fake receipts, stolen cards         | Irreversible multi-chain crypto settlement           |
| Ban Risk         | Direct one-way trades flag heuristic log filters | Vetted active characters + bilateral barter          |
| Delivery SLA     | 30-60 minutes manual wait, frequent ghosting     | 30-minute guaranteed SLA or instant 100% refund      |
| Dispute Recourse | Zero recourse; middleman disappears              | Dedicated staff arbitration docket with proof upload |

7. DISPUTE RESOLUTION & ARBITRATION DOCKET

OPERATOR CONTROL ROOM WORKFLOW

- **Embedded Buyer Dispute UI:** Buyers can flag non-delivery directly inside OrderTrackerModal via DisputeM timestamps.
- **Immediate Vault Freeze:** Flagging an order instantly suspends automatic payout timers and routes the transaction to the /staff Operator docket.
- **Evidence Verification:** Staff compare courier delivery logs against buyer claims. If verified, fund buyer.

8. PLATFORM UNIT ECONOMICS & CASH FLOW

TAKE RATES & ZERO CAPITAL RISK

| Service Category     | Platform Fee               | Cash Flow Mechanics                                    | Capital Exposure          |
|----------------------|----------------------------|--------------------------------------------------------|---------------------------|
| Meso Exchange        | 15% - 25% Wholesale Spread | Wholesale supplier paid AFTER customer crypto confirms | Zero Working Capital Risk |
| P2P Freelance Escrow | 12% Flat Haircut           | 12% retained upon release to service provider          | Zero Inventory Holding    |
| VIP Boss Carries     | 20% Net Commission         | Raid team paid upon boss kill & loot drop confirmation | Customer pay...           |
| Power Leveling       | 20% Net Commission         | Booster paid per 10-level milestone release            | Staged milestone release  |