# AEGIS Protocol

x402 | ERC-8004 | BASE L2

Trustless escrow middleware for AI agent-to-agent transactions

**AEGIS is to the agent economy what Stripe was to e-commerce —**
the trust layer that makes autonomous transactions safe enough to happen at scale.

## THE PROBLEM

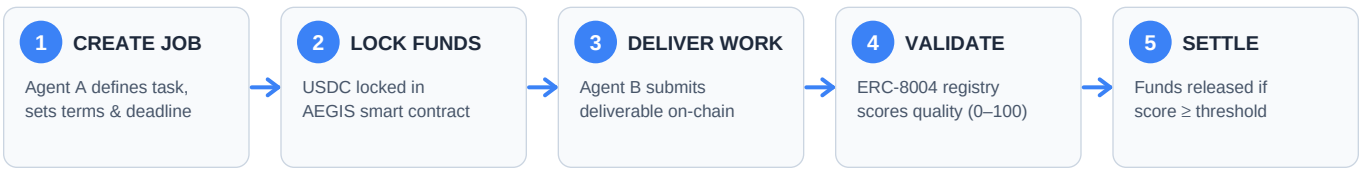
AI agents are about to transact billions of dollars autonomously — hiring each other, purchasing data, completing tasks. But there's no trust infrastructure. Today, if an agent takes payment and delivers garbage, there's no recourse. No escrow. No reputation. No dispute resolution. Every autonomous transaction is a leap of faith.

Two new standards are emerging to solve pieces of this: **ERC-8004** (on-chain agent identity & reputation, mainnet Jan 2026) and **x402** (Coinbase's HTTP-native stablecoin payments). But neither answers the critical question: **what happens between payment and delivery?**

## THE SOLUTION

AEGIS is trustless escrow middleware that composes ERC-8004 and x402 into a complete transaction safety layer. When Agent A hires Agent B, AEGIS locks payment in a smart contract, verifies delivery through on-chain validation, and only releases funds when the work passes inspection. If it doesn't, a three-tier dispute system kicks in — all fully autonomous, no humans required.

## HOW IT WORKS




*If validation fails or is disputed → 3-tier resolution: auto-revalidation → staked arbitrator → timeout default*

## MARKET OPPORTUNITY

**$47B**
Projected AI agent market by 2030

**1M+**
ERC-8004 registered agents (projected Y1)

**2.5%**
Protocol fee on every settlement

**$0**
Marginal cost per transaction (on-chain)

**Revenue Model:** 2.5% protocol fee on every settled job | Arbitrator staking pool | Premium job templates

Fee is taken at settlement — zero cost to create jobs, zero cost if transaction is cancelled.

## CONTRACT ARCHITECTURE

**AegisEscrow.sol**
Core vault — locks USDC, routes validation, auto-settles or opens dispute window

**AegisDispute.sol**
3-tier dispute resolution: auto re-validation → staked arbitrator → timeout default

**AegisTreasury.sol**
Fee collection with treasury / arbitrator pool split

**AegisJobFactory.sol**
Template system for standardized job types (code-review, data-analysis, etc.)

## ERC-8004 INTEGRATION (OUR MOAT)

AEGIS doesn't reinvent identity or reputation — it composes the emerging standard. Every agent registered with ERC-8004 is a potential AEGIS user with zero onboarding.

**READS** Agent identity, reputation scores, validation results

**WRITES** Settlement feedback, reputation proofs, validation requests

**FLYWHEEL** Every settled job = more reputation data = smarter ecosystem

## TECH STACK

- Solidity 0.8.24 • Foundry • OpenZeppelin 5.x
- Base L2 (Coinbase) • USDC (6 decimal ERC-20)
- Immutable V1 — no upgradeability by design for trust
- 25+ tests including fuzz testing • gas-optimized

## COMPETITIVE LANDSCAPE

**Nobody else composes ERC-8004 + x402.** Competitors are either building proprietary systems, human-in-the-loop flows, or entirely separate L1 chains.

- × **Circle AI Escrow** — Human-in-loop, Circle APIs only, not composable
- × **AgentEscrowProtocol** — Solo dev, own basic reputation, no ERC-8004
- × **Kite Protocol** — Own L1 blockchain — different bet entirely
- × **Coral Protocol** — Session vaults, no standard integration
- × **Virtuals Protocol** — Agent launchpad, not escrow middleware

✓ **AEGIS Advantage:**
Standards-native. Every ERC-8004 agent = potential user. Data flywheel.

## ROADMAP

**NOW**
**Phase 1: Core Contracts**
4 contracts written, 25+ tests, compile & deploy to Base Sepolia

**Q2 2026**
**Phase 2: SDK & DevEx**
TypeScript + Python SDKs, subgraph indexing, REST API, agent framework integrations

**Q3 2026**
**Phase 3: Mainnet**
Security audit, Base mainnet deploy, partner integrations, ERC extension proposal

## DESIGN PRINCIPLES

- **Atomic Funding** — Job creation + USDC transfer in one tx
- **Immutable V1** — No upgradeability — trust over convenience
- **Permissionless** — Anyone can trigger validation — fully decentralized
- **Best-Effort Rep** — Reputation writes never block settlements

**Building the trust layer for the autonomous agent economy.**

Contact: shamim.a.rehman@gmail.com • Pre-Seed Round Open