IRSB Protocol: Investor Report

Intent Receipts & Solver Bonds — The Accountability Layer for Intent-Based Execution

Report Date: January 2026 **Classification:** Confidential — Investor Materials **Version:** 1.0

Executive Summary

The Opportunity

IRSB Protocol fills a critical infrastructure gap in the $6B+ intent-based trading market.

The blockchain industry has rapidly adopted "intent-based" execution—where users express desired outcomes and professional solvers compete to fulfill them. This model powers 70+ protocols including CoWSwap ($10B/month), 1inch Fusion (59% market share), and UniswapX.

The Problem: No standardized accountability layer exists for solvers. When a solver fails, cheats, or extracts value, users have no recourse.

The Solution: IRSB provides cryptographic receipts, economic bonds, and deterministic slashing—making solver accountability composable and protocol-agnostic.

Key Investment Thesis

Factor	Evidence
Market Timing	70+ projects on ERC-7683, OIF launched Feb 2025 with 30+ teams
Clear Gap	ERC-7683 explicitly delegates accountability to fillers—no standard exists
Infrastructure Ready	EigenLayer slashing live (Apr 2025), $15B TVL available
AI Agent Catalyst	7,000+ Vincent wallets, 2M+ Warden users, Gartner predicts 40% enterprise AI agents by end 2026
Regulatory Tailwind	EU AI Act demands "cryptographic proof of agent behavior"
First Mover	No competitor building solver accountability as standalone layer

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Development Status

MVP contracts are fully implemented and tested.

Component	Status	Tests	Lines of Code
SolverRegistry	**Complete**	36 passing	~400
IntentReceiptHub	**Complete**	38 passing	~350
DisputeModule	**Complete**	21 passing	~300
Total	**MVP Ready**	**95 tests**	**~1,050**

What's Built

- **Solver Registration & Bonding** — Deposit, withdrawal, cooldown periods, jail/ban system
- **Intent Receipt System** — Cryptographic receipts, challenge windows, finalization
- **Dispute Resolution** — Evidence submission, escalation, arbitration, timeout handling
- **Reputation Decay** — Time-weighted scoring with configurable half-life
- **Slashing Engine** — Deterministic slashing with proper distribution (80/15/5)

Technical Validation

```
forge test --summary
 ----------------------+--------+--------+---------
| Test Suite           | Passed | Failed | Skipped |
+=================================================+
| DisputeModuleTest    | 21     | 0      | 0       |
| IntentReceiptHubTest | 38     | 0      | 0       |
| SolverRegistryTest   | 36     | 0      | 0       |
 ----------------------+--------+--------+---------
```

Repository & Demo

- **GitHub:** [Repository link to be added upon public release]
- **Testnet:** [Sepolia deployment addresses to be added]
- **Demo App:** [Interactive demo to be added]

Market Analysis

Total Addressable Market

Intent-Based Trading (Primary Market)

Protocol	Monthly Volume	Market Share	Solver Count
1inch Fusion	$28.6B routed	59.1%	50+ resolvers
CoWSwap	$10B	14.3%	30+ solvers
UniswapX	$5B+	~10%	20+ fillers
Across Protocol	$2B+	Cross-chain leader	15+ relayers
Socket/MOFA	$20B+ cumulative	100+ protocols	Transmitters

Total Monthly Intent Volume: $50B+ IRSB Target: 1% market penetration = $500M monthly secured volume

AI Agent Execution (Emerging Market)

Framework	Status	Users/Wallets	Growth
Lit Vincent	Live (Sept 2025)	7,000+ wallets	Early access → Public
Warden Protocol	Mainnet Q3 2025	2M+ beta users	WARD token Q4 2025
Coinbase AgentKit	Live	Developer ecosystem	Q1 2025 major update

Framework	Status	Users/Wallets	Growth
Privy Delegated	Live	AgentKit provider	Enterprise adoption

Gartner Projection: 40% of enterprise applications will embed AI agents by end of 2026 **Implication:** Every AI agent executing DeFi trades needs solver accountability

Cross-Chain Bridge Security (Adjacent Market)

- **40% of all Web3 exploits** involve cross-chain bridges
- **5-15% bridge failure rate** during network congestion
- **No standardized compensation mechanism** exists
- **$2.5B+ lost** to bridge exploits (2021-2025)

Competitive Landscape

Direct Competitors: None

IRSB is the only protocol building solver accountability as a standalone, composable layer.

Adjacent Solutions

Protocol	Bonds	Slashing	Reputation	Receipts	Gap
CoWSwap	Protocol-specific	DAO-governed	Informal	None	Protocol-locked, no oracle
1inch	Staked 1INCH	Ranking penalty	Unicorn Power	None	Soft penalties, not slashing
EigenLayer	Restaked ETH	Live Apr 2025	None	None	General infra, no intent focus
Ava Protocol	Via EigenLayer	Via AVS	None	None	Private txs, no accountability standard

Why Competitors Won't Build This

1. **CoWSwap/1inch:** Vertical integration—accountability is competitive advantage, won't open-source
2. **EigenLayer:** Horizontal platform—builds infrastructure, not applications
3. **OIF (Ethereum Foundation):** Standards body—acknowledges gap but won't build products
4. **Across:** Cross-chain focus—accountability isn't their core competency

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Why IRSB Fills a Critical Gap

The Problem No One is Solving

ERC-7683 (Cross-Chain Intents Standard) explicitly **delegates accountability to fillers**:

> "The settlement contract does not enforce any guarantees about the correctness of the filler's execution… Fillers are expected to maintain their own accountability mechanisms." — ERC-7683 Specification

No standard exists for: - Verifiable solver commitments (receipts) - Economic guarantees for execution (bonds) - Automated dispute resolution (slashing) - Cross-protocol reputation (IntentScore)

Why This Gap Persists

Actor	Why They Won't Build It
CoWSwap/1inch	Vertical integration — accountability is their competitive moat
EigenLayer	Horizontal infrastructure — builds platforms, not applications
OIF	Standards body — defines specs, doesn't ship products
Across	Cross-chain focus — accountability isn't core competency
Startups	Fear competing with intent protocols directly

IRSB's Unique Position

We're the only team building solver accountability as a standalone, protocol-agnostic layer.

Differentiator	Why It Matters
Composable	Works with ANY ERC-7683 protocol
Neutral	Not aligned with any intent protocol
Economic	Real stakes (bonds), real consequences (slashing)
Deterministic	No arbitration for provable violations
Open	Standards-based, not proprietary

First Mover Advantage

- **12-18 month head start** on building integrations
- **Network effects** — solver reputation becomes more valuable with adoption
- **Data moat** — IntentScore oracle creates switching costs
- **Ecosystem lock-in** — once protocols integrate, switching is costly

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Product Overview

Core Protocol Components

1. Intent Receipts

Cryptographic proof of solver commitment to specific outcomes.

```
struct IntentReceipt {
    bytes32 intentHash;        // Hash of original intent
    bytes32 constraintsHash;   // User's constraints (minOut, deadline, etc.)
    bytes32 routeHash;         // Execution path
```

```
    bytes32 outcomeHash;       // Actual settlement details
    bytes32 evidenceHash;      // IPFS/Arweave proof bundle
    address solver;            // Solver identity
    bytes signature;           // EIP-712 typed signature
    uint256 timestamp;         // Commitment time
}
```

Value Proposition: - Non-repudiable commitment from solver - On-chain audit trail for compliance - Composable with any ERC-7683 protocol

2. Solver Bonds

Economic collateral backing solver commitments.

Parameter	Value	Rationale
Minimum Bond	0.1 ETH	Low barrier for new solvers
Recommended Bond	1-10 ETH	Proportional to volume
Lock Period	7 days	Prevents hit-and-run attacks
Slash Distribution	80/15/5	User/Challenger/Treasury

Bond Lifecycle:

```
Inactive → Active (deposit) → Jailed (violation) → Banned (3+ jails)
```

3. Deterministic Slashing

Automatic, trustless enforcement of accountability rules.

Violation	Slash Amount	Evidence Required
Timeout/Non-delivery	100% of bond	Block timestamp > deadline
MinOut Violation	Pro-rata (e.g., 10% shortfall = 10% slash)	Settlement tx output
Wrong Token/Chain	100% of bond	On-chain state
Wrong Recipient	100% of bond	Settlement tx recipient
Receipt Forgery	Rejection + jail	Invalid signature

Key Innovation: No arbitration needed for deterministic violations—slashing is automatic and trustless.

4. IntentScore (Solver Reputation Oracle)

On-chain credit score for solvers, queryable by other protocols.

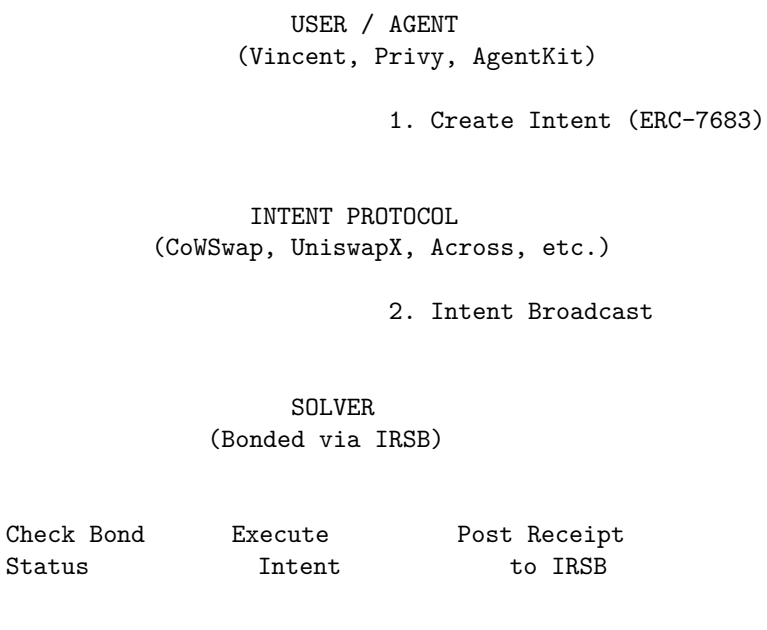
```
IntentScore = (SuccessRate × 0.4) + (SpeedScore × 0.2) +
              (VolumeScore × 0.2) + (DisputeScore × 0.2)

Where:
- SuccessRate = finalized / (finalized + slashed)
- SpeedScore = normalized(avgTimeToFinalization)
- VolumeScore = normalized(log(totalVolume))
- DisputeScore = 1 - (disputesLost / totalDisputes)
```

Use Cases: - Protocols require minimum IntentScore for solver eligibility - Insurance protocols price coverage based on solver reputation - Users filter solvers by reputation in UI

Technical Architecture

System Design



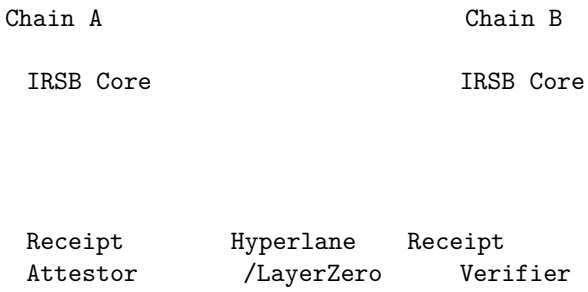
EigenLayer AVS Integration (Phase 2)

Transform IRSB into an Actively Validated Service:

1. **Solver bonds → Operator stakes** (use restaked ETH)
2. **Receipt validation → Operator attestation** (threshold signatures)
3. **Slashing → EigenLayer slashing** (inherit $15B security)
4. **Reputation → Cross-AVS composability**

Benefits: - Solvers use existing restaked positions (no new capital lockup) - IRSB inherits EigenLayer's security model - Multi-chain verification via EigenLayer expansion (Solana 2026)

Cross-Chain Architecture (Phase 3)



Use Case: Solver executes cross-chain swap, posts receipt on Chain A, user verifies on Chain B.

Business Model

Revenue Streams

1. Protocol Fees (Primary)

Fee Type	Rate	Example
Receipt Registration	0.01% of intent value	$100K swap = $10 fee
Bond Management	0.1% annual on bonded capital	$1M bonded = $1K/year
Slashing Proceeds	5% of slashed amount	$10K slash = $500 treasury

Revenue Projection (Year 1): - Target: $500M monthly secured volume - Receipt fees: $500M × 0.01% × 12 = $600K/year - Bond fees: $10M bonded × 0.1% = $10K/year - Slashing (1% rate): $60M × 5% = $3M/year - **Total: ~$3.6M Year 1**

2. IntentScore Oracle (Secondary)

Service	Pricing Model
Basic queries	Free (public good)
Premium API	$1K-10K/month
Custom integrations	Enterprise pricing

3. Compliance Services (Future)

Service	Target Market
Audit trail exports	Institutions, funds
EU AI Act compliance packages	Agent developers
Insurance underwriting data	DeFi insurance protocols

Token Economics (Proposed)

Utility Token: $IRSB

Use Case	Mechanism
Governance	Protocol parameter voting
Staking	Validators for non-deterministic disputes
Fee discounts	Pay fees in $IRSB for 20% discount
Solver bonding	Option to bond in $IRSB (1.5x multiplier)

Distribution (Illustrative): - Team: 20% (4-year vest) - Investors: 20% - Ecosystem/Grants: 30% - Treasury: 20% - Community: 10%

Go-to-Market Strategy

Phase 1: MVP & First Integrations (Q1-Q2 2026)

Objective: Ship core protocol, prove product-market fit

Milestone	Target	Success Metric
Mainnet launch	Q1 2026	Core contracts deployed
CoWSwap integration	Q1 2026	5 solvers onboarded
Across integration	Q2 2026	Cross-chain receipts working
$10M secured volume	Q2 2026	Monthly volume target

Key Activities: - Direct outreach to top 10 CoWSwap solvers - Developer documentation and SDK - Bug bounty program ($100K allocation)

Phase 2: EigenLayer & Reputation (Q3 2026)

Objective: Scale security model, launch reputation oracle

Milestone	Target	Success Metric
EigenLayer AVS	Q3 2026	ServiceManager deployed
IntentScore oracle	Q3 2026	20+ protocols querying
$100M secured volume	Q3 2026	10x growth
Vincent Ability	Q3 2026	Lit Protocol integration

Key Activities: - EigenLayer operator recruitment - Protocol partnerships (Aave, Compound, etc.) - IntentScore API launch

Phase 3: Multi-Chain & Enterprise (Q4 2026)

Objective: Cross-chain expansion, enterprise adoption

Milestone	Target	Success Metric
Hyperlane integration	Q4 2026	5+ chains supported
Enterprise compliance	Q4 2026	3 institutional clients
$500M secured volume	Q4 2026	5x growth
Insurance partnerships	Q4 2026	2 DeFi insurance integrations

Projected Pathway

Q1 2026: Foundation

Milestone	Target Date	Success Criteria
Mainnet deployment	Feb 2026	Ethereum mainnet, verified contracts
First protocol integration	Feb 2026	CoWSwap pilot (5 solvers)
SDK & documentation	Mar 2026	npm package, comprehensive docs
Security audit #1	Mar 2026	Clean audit from Tier 1 firm
Bug bounty launch	Mar 2026	$100K allocation on Immunefi

Key Metric: 5 active solvers, $1M secured volume

Q2 2026: Traction

Milestone	Target Date	Success Criteria
Across Protocol integration	Apr 2026	Cross-chain receipts working
1inch Fusion pilot	May 2026	10 resolvers onboarded
$10M monthly volume	Jun 2026	Sustained for 30 days
Security audit #2	Jun 2026	Post-integration audit

Key Metric: 25 active solvers, $10M/month secured volume

Q3 2026: Scale

Milestone	Target Date	Success Criteria
EigenLayer AVS deployment	Jul 2026	ServiceManager live
IntentScore oracle launch	Aug 2026	20+ protocols querying
Lit Vincent Ability	Aug 2026	AI agent integration live
$100M monthly volume	Sep 2026	10x growth achieved

Key Metric: 50 active solvers, IntentScore oracle revenue

Q4 2026: Expansion

Milestone	Target Date	Success Criteria
Multi-chain (Hyperlane/LayerZero)	Oct 2026	5+ chains supported
Enterprise compliance package	Nov 2026	3 institutional clients
Insurance partnerships	Nov 2026	2 DeFi insurance integrations
$500M monthly volume	Dec 2026	5x growth achieved

Key Metric: $500M/month, $10M bonded capital, positive unit economics

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Strategic Partnerships

Lit Protocol Integration

Status: Active development

IRSB is building a Vincent Ability for Lit Protocol's AI agent framework:

Component	Status	Purpose
Vincent Plugin	In development	Solver accountability for AI agents
Demo Application	Complete	Interactive demonstration
SDK Integration	Planned	Native IRSB support in Vincent

Why This Matters: - 7,000+ Vincent wallets = immediate distribution - AI agents need provable execution guarantees - EU AI Act compliance requirement for agent behavior - First-mover advantage in AI agent accountability

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Team Requirements

Core Team (Seed Stage)

Role	Responsibility	Status
Protocol Lead	Architecture, Solidity	Hiring
Security Engineer	Audits, formal verification	Hiring
Backend Engineer	Indexing, API, SDK	Hiring
BD/Partnerships	Solver relations, integrations	Hiring

Advisors (Target)

Expertise	Target Profile
EigenLayer	Core team or early AVS builder
Intent protocols	CoWSwap/Across technical lead
DeFi security	Audit firm partner
Regulatory	Crypto compliance counsel

Risk Factors

Technical Risks

Risk	Likelihood	Mitigation
Smart contract vulnerability	Medium	Multiple audits, formal verification, bug bounty

Risk	Likelihood	Mitigation
EigenLayer integration complexity	Medium	Incremental rollout, testnet validation
Cross-chain message failures	Low	Redundant messaging (Hyperlane + LayerZero)

Market Risks

Risk	Likelihood	Mitigation
Competitor emergence	Low	First-mover advantage, patent pending
Intent market contraction	Low	Diversify to AI agent and bridge markets
Regulatory uncertainty	Medium	Proactive compliance, legal counsel

Adoption Risks

Risk	Likelihood	Mitigation
Solver resistance	Medium	Economic incentives (lower fees with good reputation)
Protocol integration friction	Medium	Plug-and-play SDK, dedicated support
User education	Low	B2B2C model—users don't interact directly

Financial Projections

Seed Round Ask

Item	Amount
Raise:	$2M
Valuation:	$10M pre-money
Use of Funds:	
- Engineering (18 months)	$1.2M
- Security audits	$300K
- Legal/Compliance	$200K
- Operations/Misc	$300K

Projected Metrics

Metric	Q2 2026	Q4 2026	Q4 2027
Secured Volume (monthly)	$10M	$500M	$2B

Metric	Q2 2026	Q4 2026	Q4 2027
Bonded Capital	$500K	$10M	$50M
Active Solvers	10	50	200
Protocol Integrations	2	10	30
Revenue (annual run rate)	$100K	$3.6M	$15M

Appendix

A. Competitive Analysis Sources

- ERC-7683 Standard: https://eips.ethereum.org/EIPS/eip-7683
- Open Intents Framework: https://medium.com/hyperlane
- EigenLayer Slashing: https://www.coindesk.com/tech/2025/04/17/eigenlayer-adds-key-slashing-feature
- CoWSwap Rules: https://docs.cow.fi/cow-protocol/reference/core/auctions/competition-rules
- 1inch Market Data: https://messari.io/report/state-of-1inch-q2-2025

B. AI Agent Market Sources

- Lit Vincent: https://spark.litprotocol.com/meet-vincent
- Warden Protocol: https://docs.wardenprotocol.org/
- Coinbase AgentKit: https://docs.cdp.coinbase.com/agent-kit
- Gartner AI Agent Forecast: Gartner 2025 Technology Trends

C. Technical References

- EigenLayer AVS Guide: https://avaprotocol.org/blog/a-guide-to-eigenlayer-avs
- Slashing Mechanics: https://forum.eigenlayer.xyz/t/the-mechanics-of-allocating-and-slashing-unique-stake
- AI Agent Accountability Research: https://arxiv.org/html/2601.04583v1

D. ERC-7683 Accountability Gap Evidence

- ERC-7683 Specification (Section 4.2): https://eips.ethereum.org/EIPS/eip-7683
  - *"The settlement contract does not enforce any guarantees about the correctness of the filler's execution"*
- Open Intents Framework Discussion: https://forum.ethereum.org/t/erc-7683-cross-chain-intents/
- Solver Accountability Gap Analysis: Internal research based on protocol documentation review

E. IRSB Development Repository

- **GitHub:** [To be published upon mainnet launch]
- **Testnet Contracts:** [Sepolia addresses to be added]
- **Test Coverage:** 95 tests across 3 core contracts (Jan 2026)
- **Technical Specification:** See `/000-docs/003-AT-SPEC-irsb-eip-spec.md`

Contact: [To be added]

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