

Project Closeout Report: Indigo Protocol Audit V2

Project Name: Indigo Protocol Audit V2

Project URL:

<https://projectcatalyst.io/funds/11/cardano-use-cases-product/indigo-protocol-v2-audit>

Project Number: #1100167

Project Manager: Cody Butz, CTO of Indigo Labs

Date Project Started: Monday, Feb 5th, 2024

Date Project Completed: Friday, March 29th, 2024

Challenge KPIs and How the Project Addressed Them:

Enhanced Security and Trust:

The audit confirmed that the V2 contracts retained the security properties of V1, safeguarding user assets and maintaining trust within the Cardano ecosystem.

Increased Throughput and Efficiency:

The audit validated optimizations for V2, which included improved throughput and reduced overhead for Indigo transactions.

Project KPIs and How the Project Addressed Them:

Completion of Full V2 Audit:

A comprehensive audit of Indigo Protocol V2 was conducted by MLabs, including line-by-line code analysis and testing.

Audit Report Publication:

The audit report, with an executive summary, was published and made available to the Cardano community. This report provides detailed insights into the audit's findings and recommendations.

Key Achievements:

- A complete test suite was developed, covering all smart contract functionalities, with successful execution. Documentation of test suite was provided and directly reflect the smart contract functionality.
- Conducted a full audit of the Indigo Protocol V2 smart contracts by MLabs, ensuring that V2 retained the robust security properties of V1. Audit report was provided, which covers all aspects of the V2 smart contracts. In addition, a executive summary was provided which covers the audit's findings and recommendations.
- A separate audit was done of the V1 upgrade to V2 smart contracts.
- V2 was successfully deployed to mainnet, resulting in all working functionalities and no critical issues. Validated improved throughput and reduced overhead, enhancing efficiency in Indigo transactions.
- Published a comprehensive audit report detailing the security, performance, and new iAsset integrations within the protocol.

Key Learnings:

Audit Continuity is Essential:

Using the same audit team (MLabs) that audited V1 provided consistency and a deeper understanding of the protocol, leading to more efficient and effective auditing processes.

Thorough Testing and Documentation:

Finalizing a comprehensive test suite and detailed documentation for the V2 contracts ensured that all functionalities were rigorously tested and well-understood.

Aiken Smart Contract Language:

The transition to Aiken in V2 significantly improved throughput and efficiency. Moreover, Aiken proved to be easier to audit compared to V1, streamlining the process and enabling faster identification and resolution of potential issues.

Next Steps:

V2 as a Major Milestone:

The successful launch of Indigo Protocol V2 marked a significant milestone for the project, setting the foundation for future enhancements. Following community feedback from the V2 rollout, Indigo Labs deployed Indigo Protocol V2.1 on October 7th, 2024.

Introduction of Key Features in V2.1:

One of the key findings from the rollout of V2 was the need for an algorithmic interest feature, which has been introduced in V2.1. Additionally, V2.1 allows users to settle their interest “on demand,” enabling them to capture the best ADA price for their interest payments, further enhancing user control and experience.

Focus on Documentation and Audit Framework:

After the rollout of V2, the team focused on improving the protocol’s documentation and building a better audit framework for V2.1. The improvements made during the V2 audit directly contributed to refining the audit process for V2.1, ensuring an even more robust and transparent system moving forward.

Final Thoughts/Comments:

The Indigo Protocol Audit V2 has successfully reinforced the security, performance, and scalability of the protocol while expanding the ecosystem. The collaboration with MLabs has been instrumental in maintaining trust and reliability within the Cardano DeFi ecosystem. We are confident that these efforts will contribute to the long-term sustainability and growth of Indigo Protocol and the broader Cardano community.

Relevant Project Sources/Links:

V2 Audit Report -

<https://drive.google.com/file/d/12XgsZ52Td8dHgoFmbbIHZ0nk1RguZbR9/view?usp=sharing>

V2 Deployment Temp Check -

<https://forum.indigoprotocol.io/t/temperature-check-for-dao-approval-proposal-to-deploy-indigo-protocol-v2/13850>

V2 Indigo Paper -

<https://forum.indigoprotocol.io/uploads/short-url/r8B1z1QY5uK1VAQvgYceiEeQtM7.pdf>

Transaction that submits upgrade to protocol -

<https://cexplorer.io/tx/8bb9c5228f2abd74c4d7792ce979c1212927f22668d5f75c667aa2d191b68ae5>

Video of Web App Interaction - https://youtu.be/MpHY_yuPryg