Technical Report #4.1: Happy Path for ASI Token Launch, ASI L0, and Adding Chains

May 15, 2024

Abstract. This technical report builds on a previous technical report "Technical Report #3: Exploring Solutions for ASI Chain Optionality". That report explored many solutions and found: the approach that enables ASI to move with greatest speed & security in adding projects is to make Oasis L0 the seat of ASI token from the beginning; with little or no compromise in launch speed.

This technical report fleshes out exactly what this "happy path" looks like, especially the specific milestones to make it happen.

The key result: if we had an MOU with Oasis by May 26 and creating ASI Alliance Inc goes fast enough, then we could reasonably expect $ASI token to be live by June 11, barring any other factors such as ASI Foundation setup and governance agreements..

This report also describes how to add each additional L0/L1 while overcoming key technical challenges, and shows what ASI Alliance chain landscape could look like in the future, encompassing many L0s, L1s and L2s.

1. Introduction

On March 27, 2024, the ASI Alliance was announced, with the intent to combine the FET (Fetch.ai), AGIX (SingularityNet) and OCEAN (Ocean Protocol) tokens into a single token -- ASI.

ASI Alliance has these goals:

1. Launching ASI token → fast as possible
2. Ensure ASI token is secure → maximally secure ($Bs value at stake)
3. Launch ASI L0 ("ASI Alliance Layer" or "AAL") → fast as possible
4. Ensure AAL is secure → maximally secure ($Bs value at stake)
5. Add more projects = mostly add more L0/L1 chains → fast as possible
6. Ensure new projects' chains are secure → maximally secure ($Bs value at stake)

The "happy path" approach that enables ASI to move with greatest speed & security in adding projects is: **make Oasis L0 the seat of ASI token from the beginning.**

There is likely no compromise in launch speed, because Oasis/ASI technical work can be done in parallel with ASI Alliance administrative & governance work.

This technical report fleshes out exactly what this "happy path" looks like: what are the specific steps to make it happen. The key result: **if we had an MOU with Oasis by May 26 and creating ASI Alliance Inc goes fast enough, then we could reasonably expect $ASI token to be live by June 11.**

The rest of this document is organized as follows. Section 2 elaborates with milestones on how to get ASI token live and swappable. It has governance, administrative and technical aspects. Section 3 describes how to add each additional L0/L1 while overcoming key technical challenges. Section 4 paints a picture of a potential "ASI Alliance chain landscape". Section 5 concludes.

2. Milestones to get ASI Live & Swappable

2.1 Overview

The diagram below gives all the steps in one holistic picture. [Original GSlides source]

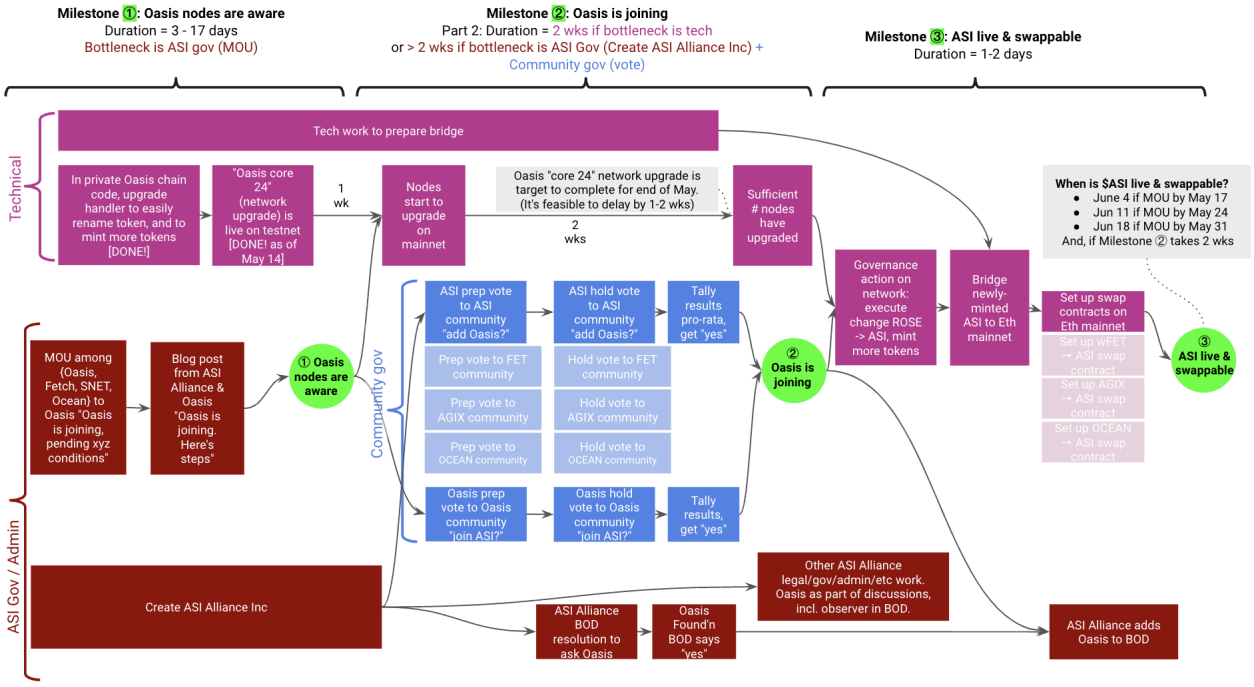
Each box in the diagram is an outcome. The outcomes are grouped into three tracks: Technical (top - pink), Community governance (middle - blue), and ASI Governance / admin (bottom - brown). Arrows indicate dependencies from one outcome to the next. Sometimes an outcome on one track depends on an outcome from another track.

There are three special outcomes called "milestones", marked as green circles. Milestones are the key achievements, and highlight where the bottlenecks are.

Time flows left to right; therefore the milestones are left to right too.

The milestones are:
① Oasis nodes are aware of Oasis' intent to join ASI Alliance
② Oasis is officially joining ASI Alliance
③ ASI token is live and swappable from FET, AGIX, OCEAN tokens. (ROSE is renamed to ASI.)

The next subsections add detail to each milestone, and each outcome.

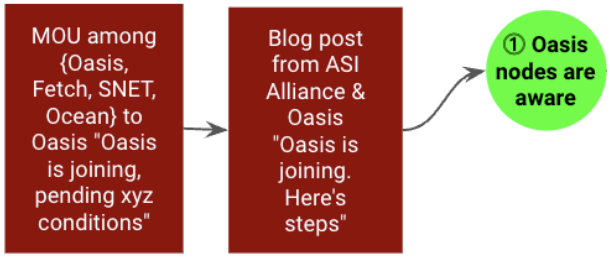


2.2 Milestone ①: Oasis Nodes are Aware

The main outcome of this milestone is for Oasis validator nodes to be aware of the intent of the network upgrade. The eto enable the network's native token to be renamed away from ROSE.

The bottlenecking steps are on ASI Governance (brown): an MOU, and a blog post.

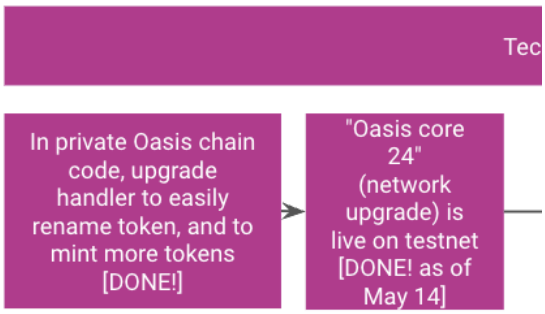
- The MOU is among Oasis, Fetch, SingularityNET, and Ocean where "Oasis is joining, subject to certain conditions being met." Those conditions include: ASI community approves; Oasis community approves; Oasis has equal representation compared to the other projects on the ASI board of directors; and Oasis L0 (Oasis Consensus Layer) will be used as the seat of the ASI token.
- The blog post simply makes public the intent of the MOU. This is a critical step because it will raise awareness to the Oasis nodes of the intent of the network upgrade.



Other work in Milestone 1 includes:

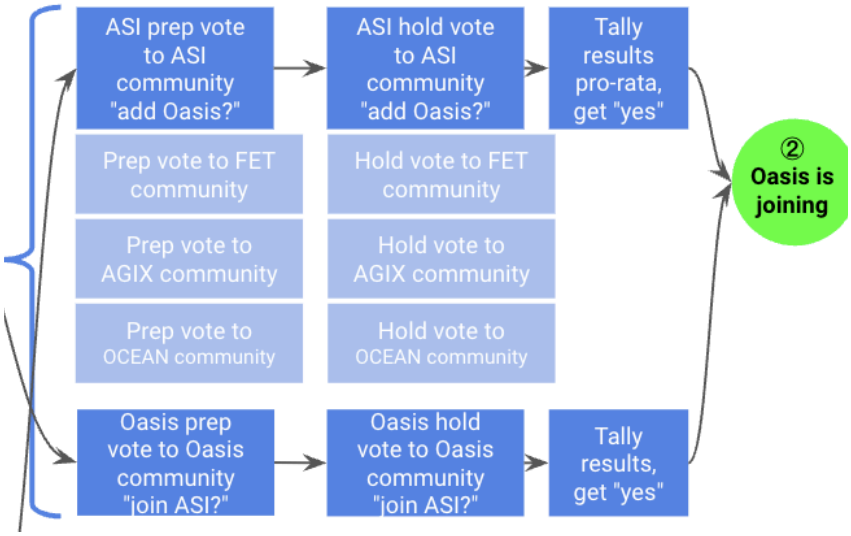
Also in ASI Governance (brown), Fetch, SingularityNET, and Ocean will work as quickly as possible to incorporate a foundation for ASI Alliance, most likely in Singapore. Timeliness matters, because if it is too slow then it will become a bottleneck for milestone 2.

Finally, there is technical work (pink). Work will start to prepare a token bridge, which will be used in Milestone 3. And, there is work to upgrade the Oasis chain code to easily rename the ROSE token and to mint more tokens; this is complete. And, there is work to put the updated code live on testnet. This is complete too, as of May 14.

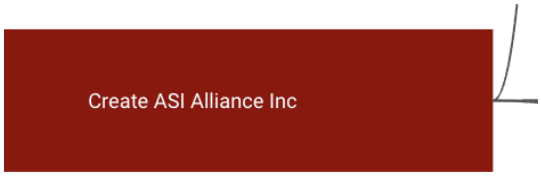


2.3 Milestone ②: Oasis is officially joining

The outcome of this is that Oasis is joining: the ASI community has said "yes" and the Oasis community has said "yes". This happens via a vote from each community. To implement in ASI community, we take votes in each respective community (FET, AGIX, OCEAN) and then weight those results pro-rata for a final tally.

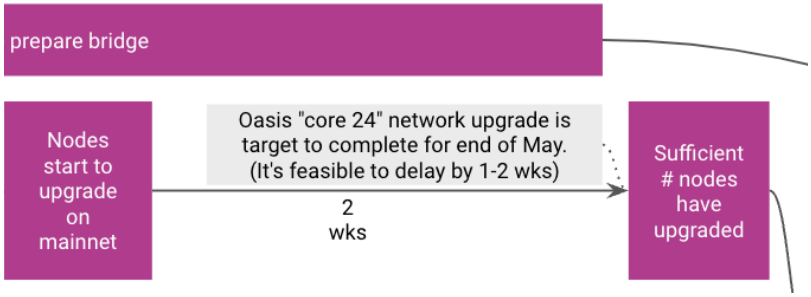


To take the vote to a community, we must finish incorporating ASI Alliance Inc. This has risk of becoming the bottleneck to completing milestone ②.



In parallel to the community vote, each time that runs an Oasis validator node will upgrade with the new version of Oasis chain software ("Oasis core 24"). This typically takes two weeks. If incorporating ASI Alliance Inc is fast then this 2 weeks is the bottleneck.

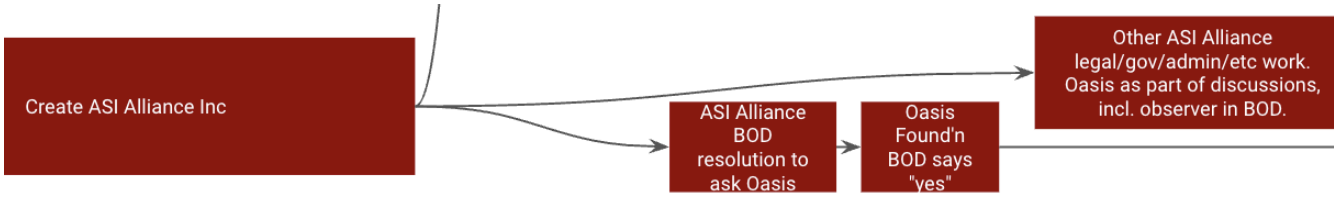
Technical work to prepare the bridge will continue.



Once ASI Alliance Inc is created then:

- it can *officially* invite Oasis as its own entity

- it must embark on other corporate work that has been overhanging: legals, governance, etc

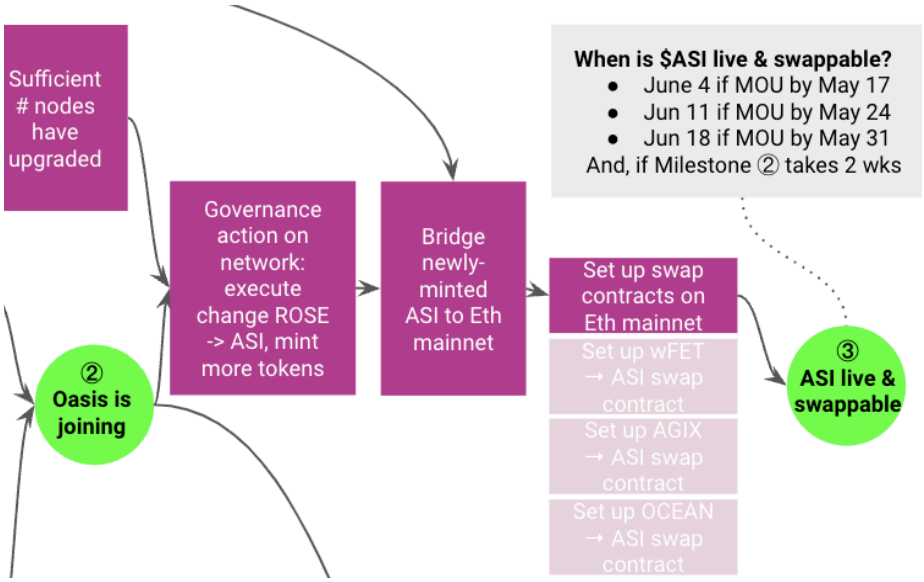


2.4 Milestone ③: ASI token is live and swappable

With the "yes" votes and the tech ready (a sufficient # nodes have upgraded), we can execute. This includes:

1. A governance action on network: execute change ROSE -> ASI, mint more tokens. This is one of the big tricks that allows this timeline to be shorter: we don't need to wait for community governance to enable the tech to make the change; we just need community governance for the final execution of the change.
2. Bridge newly- minted ASI to Eth mainnet
3. Set up swap contracts on Eth mainnet, for FET, OCEAN and AGIX

Now, $ASI is live and swappable!



By this time, ASI Alliance will have progressed enough in its governance work to officially add Oasis to its board of directors (BOD).

3. How to Add Each Additional Project

3.1 Overview

This section describes how to add pure ERC20s, L1 chains, and L0 chains respectively.

To add pure ERC20s is fairly straightforward. Technical Report #1 "On the Feasibility of Adding ERC20 Tokens and Chain-Native Tokens to ASI Alliance" goes into detail.

It's more complex to add L0s and L1 chains. This is because we must deal with this problem:

- **non-1:1 ratio problem:** typically $ASI token price won't be the same as the additional project's token price, ie they have a non-1:1 ratio. So we can't simply rename the token (an implied 1:1 ratio). If we apply a non-1:1 ratio as part of the renaming, it would break past chain state of chain X and render all smart contracts useless. Yes, that's a big problem. Technical Report #1 reviews this at length.

One solution to this problem, that works for both L0s and L1s is: apply the **>1 token trick** wherever the native token is used, namely for gas and for POS consensus:

- **>1 gas token trick**: refactor chain X's validators to allow >1 token for paying tx fees going forward; then make it where the second fee token allowed is ASI.
- **>1 POS consensus token trick:** refactor chain X's validators to allow >1 token for POS-style staking for consensus; then make it where the second fee token allowed is ASI.

Few chains support >1 token by default; Celo is a rare exception.

One concern is: could >1 token harm value capture to ASI? The answer is that there will be increasing incentive to have ASI token, not the old token that's on a path to being wound down over time. For example, all staking programs would be on ASI, not the old token.

Alas, **doing the ">1 token trick" is a large, time-consuming engineering challenge**: experts that we have interviewed estimate the work at 9 months minimum, and possibly >12 months.

There's a slightly less-heavy solution that works for L1s (but not L0s): the Consensus switch trick.

- **Consensus switch trick**: Change chain X to get its consensus/security from the AAL (or a different L0 of ASI Alliance; see below). Then simply deprecate the chain X's previous consensus/security. This is what Gnosis did when they acquired xdaiChain.
- Then do ">1 gas token trick" at one's leisure. This can be done after consensus switch is done, since it's not critical to security.

Experts that we have interviewed estimate the work at 6 months for a "Consensus switch". This is because the engineering changes are simpler. The system that results is cleaner too: there's just 1 token for consensus.

The engineering estimates are for the first time the task is done. We expect time/effort taken to go down over time as ASI Alliance leanrs.

The next two sections make it explicit how L1s and L0s are added.

3.2 How to Add L0 Chains

For each new L0 we add, here's how we'd do it.

First, we'd mint new ASI on (Oasis-based) AAL. Then we'd set up a fix-rate one-way swap from X's original native token token to ASI. Token-holders can swap at their leisure.

To address the "non-1:1 ratios" problem, we do:

- Consensus token: do "consensus switch"
- Gas token: do ">1 gas token trick"

3.3 How to Add L1 Chains

For each new L1 we add, here's how we'd do it.

First, we'd mint new ASI on (Oasis-based) AAL. Then we'd set up a fix-rate one-way swap from X's original native token token to ASI. Token-holders can swap at their leisure.

To address the "non-1:1 ratios" problem, we do:

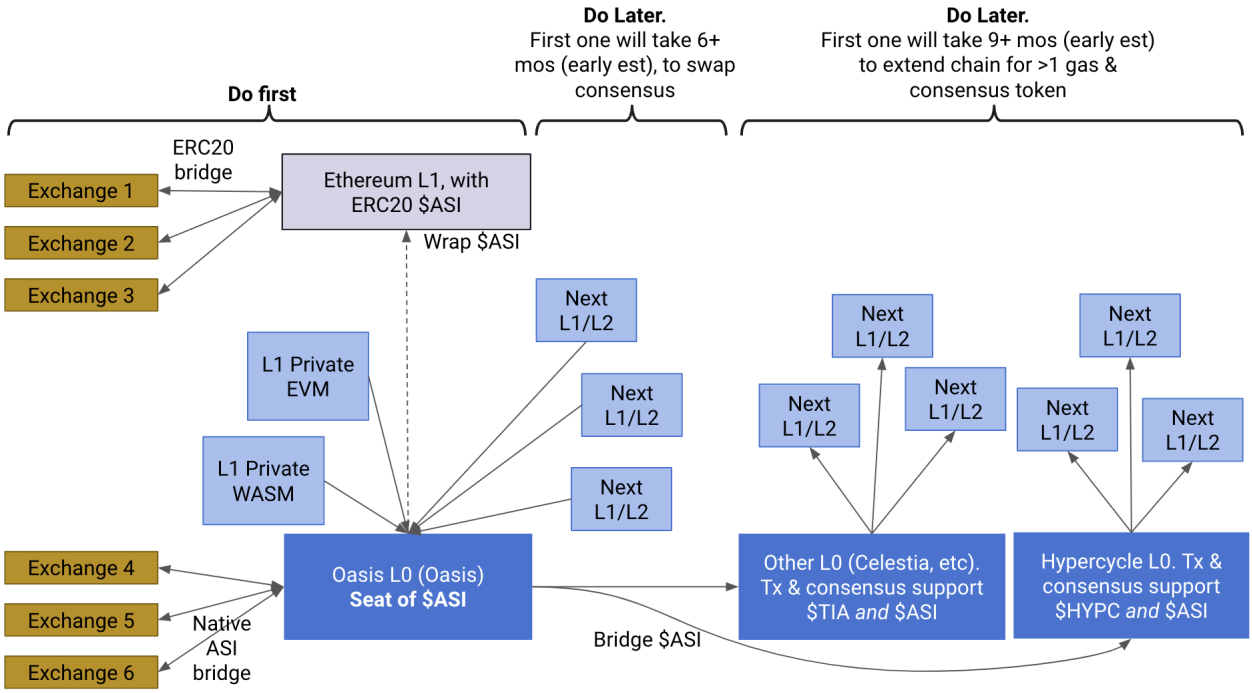
- Consensus token: do "consensus switch"
- Gas token: do ">1 gas token trick"

4. ASI Chain Landscape

The image below paints a picture of a potential ASI Alliance chain landscape.

The left third focuses on what we would have soon, by hitting the milestones of section 2. This includes:

- The AAL (Oasis L0) as the seat of $ASI, ie where $ASI is minted, and initially bridged from
- L1s that already live on top of the AAL (Oasis L0), such as an L1 Private EVM (Oasis Sapphire)
- A bridge / wrapper of $ASI from the AAL (Oasis L0) to Ethereum mainnet, such that there's an ERC20 version of ASI there.
- How exchanges can use the token, via (a) ERC20-style bridges to the ERC20 $ASI shown as Exchange 1,2,3 in the image, or via (b) native ASI bridges to the AAL shown as Exchange 4,5,6.



The middle third of the image shows what we could have within 6 months: more L1s or L2s that derive consensus from the AAL (Oasis L0). These are added via the "consensus switch" trick, hence the 6 month timeframe.

The right third shows what we could have starting 9 months from now: more L0s with their own consensus, having $ASI bridged over. These L0s are added via the ">1 token trick", hence the 9 month timeframe. Then to add new L1s/L2s on top of these additional L0s will take an additional 6 months, or perhaps shorter as ASI Alliance learns how to do it faster.

If there are chains that already support >1 gas token or consensus token then we could add them sooner. This would be on a case-by-case basis.

5. Conclusion

This technical report built on a previous technical report that found: the approach that enables ASI to move with greatest speed & security in adding projects is to make Oasis L0 the seat of ASI token from the beginning; with little or no compromise in launch speed.

This technical report fleshed out exactly what this "happy path" looks like, especially the specific milestones to make it happen.

The key result: if we had an MOU with Oasis by May 26 and creating ASI Alliance Inc goes fast enough, then we could reasonably expect $ASI token to be live by June 11.

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