

Cosmos Hub 3 Upgrade Proposal E

[Figment Networks](#)

November 14, 2019

Context

This proposal follows [Cosmos Hub 3 Upgrade Proposal D](#) (“Prop 16”), which passed in vote, but [failed in execution](#). This proposal is intended to succeed where Prop 16 failed.

[Cosmos SDK](#) is software that all validators must run in order to participate in the [Cosmos Hub blockchain](#). The Tendermint team, [All in Bits](#), has upgraded the Cosmos Hub testnet to Gaia-13006, the changes for which may be found in [this blog post](#) and more comprehensively in this [changelog](#).

Led by [Aleksandr Bezobchuk](#), All in Bits has deemed that release [Gaia 2.0.3](#) is prepared to be deployed on mainnet as cosmoshub-3. Some of the noteworthy changes include the items signalled in previous successful governance proposals, as per [Cosmos Hub 3 Upgrade Proposal A](#). The Cosmos SDK will also enable creating and voting on governance proposals that modify on-chain parameters without halting or forking the network, as well as spending from the community pool.

This proposal is intended to signal acceptance/rejection of the precise software release that will contain the changes to be included in the Cosmos Hub 3 upgrade. A high level overview of these changes was successfully approved by the voters signalling via [Cosmos Hub 3 Upgrade Proposal A](#).

We are proposing to use this code <https://github.com/cosmos/gaia/releases/tag/v2.0.3> to upgrade the Cosmos Hub.

We are proposing to export the ledger’s state at **Block Height 2,902,000**, which we expect to occur on **December 11, 2019 at or around 14:27 UTC** assuming an average of 6.94 seconds per block. **Please note** that there will [likely be a variance from this target time](#), due to deviations in block time.

We are proposing that the Cosmos Hub 3 genesis time be set to **60 minutes after Block Height 2,902,000**.

Please note the relaunch criteria in the case that the migration procedure fails or in the case that cosmoshub-3 fails to start. Co-ordination in case of failure will happen in this channel: https://riot.im/app/#/room/#cosmos_validators_technical_updates:matrix.org

Decision

We are signalling that:

1. The [Gaia 2.0.3](#) implementation is aligned with the list of high-level changes approved in [Cosmos Hub 3 Upgrade Proposal A](#).
2. We are prepared to upgrade the Cosmos Hub to cosmoshub-3 based upon
 - a. Commit hash: [2f6783e298f25ff4e12cb84549777053ab88749a](#);
 - b. The state export from cosmoshub-2 at Block Height 2902000;
 - c. Genesis time: 60 minutes after the timestamp at Block Height 2902000.
3. We are prepared to relaunch cosmoshub-2:
 - a. In the event of:
 - i. A non-trivial error in the migration procedure and/or
 - ii. A need for ad-hoc genesis file changes
 - iii. The failure of cosmoshub-3 to produce two (2) blocks by 180 minutes after the timestamp of Block Height 2902000;
 - b. Using:
 - i. The starting block height: 2902000
 - ii. Software version: Cosmos SDK v0.34.6+
<https://github.com/cosmos/cosmos-sdk/releases/tag/v0.34.10>
 - iii. The full data snapshot at export Block Height 2902000;
 - c. And will consider the relaunch complete after cosmoshub-2 has reached consensus on Block 2902001.
4. The upgrade will be considered complete after cosmoshub-3 has reached consensus on Block Height 2 within 120 minutes of genesis time.
5. This proposal is void if the voting period has not concluded by Block Height 2852202.

Justification

These upgrades reflect the preferences signalled by the voters approved via [Cosmos Hub 3 Upgrade Proposal A](#). These upgrades advance the Cosmos Hub's functionality and intended value.

In no particular order, the stakeholder parties likely to be impacted by advancing this decision:

1. Software developers
2. Validators
3. Stakers
4. Users

This decision will likely impact the stakeholders in these ways:

1. Software developers will have the burden of releasing new software that is compatible with the breaking changes.
2. Stakers may be slashed if their validator accidentally commits equivocation by double-signing during the migration procedure.

3. Validators will have the burden of verifying and running the new Cosmos SDK software code prior to the genesis time.
4. Validators may be confused by prior, abandoned proposals that this proposal is intended to supersede.
5. Users will not be able to send transactions while the chain is halted, which may be longer than anticipated if there are technical difficulties with the upgrade.

It should always be each validator's responsibility to decide what software they will run, and nothing in this proposal should be construed to undermine that responsibility.

Notes and/or Future Considerations

There is a heightened risk of being slashed for equivocation (ie. double-signing) with this upgrade. In order to mitigate this risk, it is critical for each validator to verify that their genesis file is correct before proceeding, and it's likely that you can do this by comparing with other validators in the Cosmos Riot chatroom:

<https://riot.im/app/#/room/#cosmos-validators:matrix.org>

A guide for migration may be found [here](#), and **please note the failure criteria and recovery scenario** in the case that the migration procedure fails or in the case that cosmoshub-3 fails to start:

<https://github.com/cosmos/gaia/blob/master/docs/migration/cosmoshub-2.md>

[Aleksandr Bezobchuk](#) will be accepting pull requests to update this guide. Please read it carefully and help to ensure it is accurate and effective.

In future, we will aim to have no downtime between upgrades, so validators should be aware about the risks of downtime versus the risks of double-signing. A validator can be offline for hours without slashing risk, but a validator that rushes to migrate may risk double-signing. Currently, a validator that double-signs will have their entire stake slashed by 5% and they will be permanently jailed ie. removed from the active set forever.

Special thank you to Hyung (B-Harvest) for [co-ordinating a testnet](#) dedicated to testing export/migrate functionality. Thanks to the validators (Roman from Polychain; Joe from Chorus One) that submitted feedback that helped improve this proposal.

As stakeholders, we will want upgrades to improve the Cosmos SDK software via the governance process. Thus, we should establish a formal process by which various parties may contribute upgrades to the Cosmos Hub. [Our initial proposal can be found here](#).

A Note on Proposal Format

Based on our [governance proposal guidelines](#), Figment Networks uses this template for governance proposals:

Context - an informal description of the past, present, and potential future of the issue(s) being addressed by our governance proposal

Decision(s) - the formal and informal terms of the article being voted upon

Justification - an informal description acknowledging a) the stakeholders likely to be impacted by the decision(s); b) how the decision(s) will likely impact the stakeholders; and c) the weight of the impact on the stakeholders, such that it supports the proposal's decision

Notes and/or Future Considerations - anything observed in the process of developing the governance proposal that may be important to consider for future governance proposals (ie. potential revisions to the governance proposal template and/or process).