Validator "Freeking" Slashing Proposal - Draft

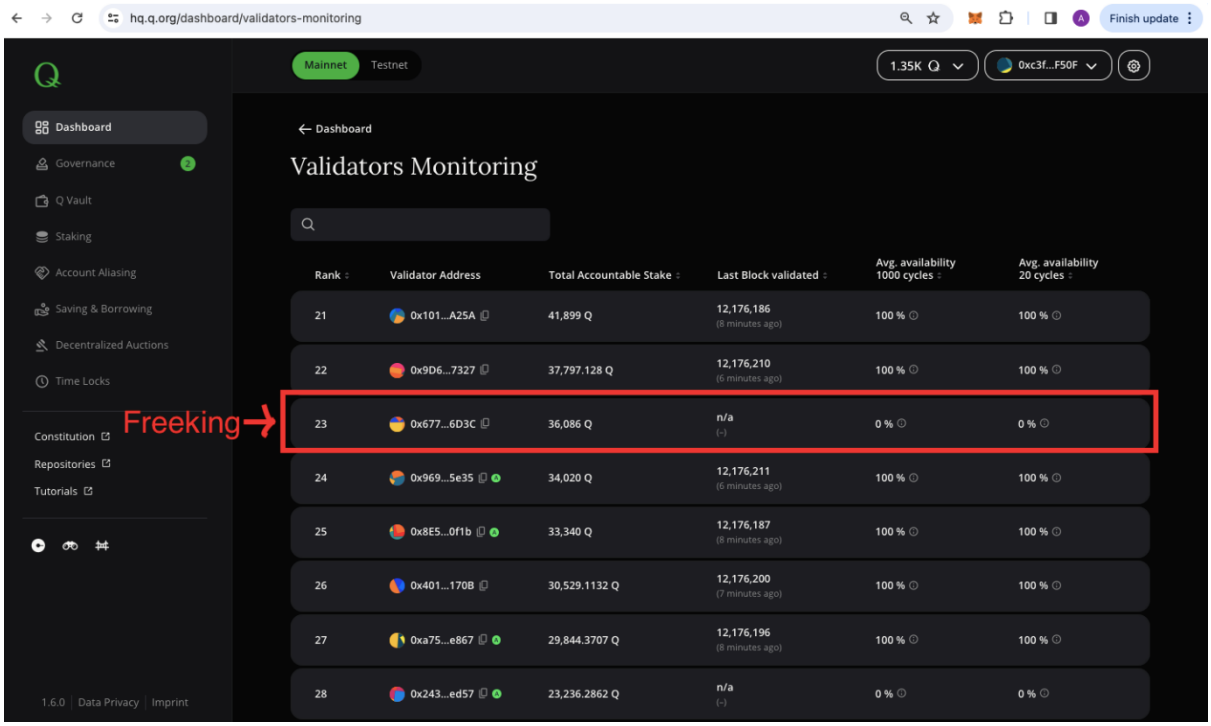
This is the documentation in support of the slashing proposal against the Validator Node with the following address: 0x677B24C03686b98ecFa5fd45e07b65c184c56D3C.

Overview of facts

- The Validator in question is Validator 0x677B24C03686b98ecFa5fd45e07b65c184c56D3C.
- Based on analysis of on-chain data, it was determined that this Validator has not validated any blocks since Tuesday January 23rd, 2024.
- The last block validated by the Validator is the following:

  ```
  Block id: 11583175 Block Hash: 0x1651d896d682a548c980d8d928e8a6c79e987539aa5d7fa7cd5aa6241c069353 timestamp (unix): 1706038599 Time: Tue Jan 23 2024 08:36:39 pm CET Relative: 21 days ago (as of Tue Feb 13 2024)
  ```

- See screenshot below for current status of the Validator as still down:



- Following analysis by the team at Q Development AG, it was determined that this Validator joined the Validator Node set through the ITN (Incentivized TestnNet) program. As such, their Discord username is known to the team at Q Development AG who have shared this same username with the Root Node panel. Their username is "freeking".
- The Validator has been contacted on Discord on January 24, 25, and 26 and has been asked for an explanation as to the downtime as well as action to remedy such downtime. No responses were received on any of these messages. See screenshots below:

Florian | Q DEV 01/24/2024 11:59 AM
@freeking please also check your validator node, it seems stuck at a recent bad block. Try to check your version , update it, restart and if you don't want to sync from scratch use the snapshot service by stakecraft.
👍 4

@seb160 | sbbnode.com Sync done ✅
Florian | Q DEV 01/25/2024 1:07 PM
awesome 🙌
Dear @freeking and @Ihor | Orally Network both of your nodes seem still to be down since the bad-block yesterday with the old version.

May you share your progress on fixing the issue? Ideally you :

Stop current validator -> check version is up to date, otherwise update -> delete old chain data (if you use docker-setup chaindata is a bit hidden) -> restart the node. If you do not want to restart syncing from scratch, checkout the snapshots provided by Stakecraft.

Florian | Q DEV 01/26/2024 10:24 AM
@freeking

Your validator node is still not syncing, you are missing to sign blocks since Wednesday 24th of January. You did not reach out in the community chat.

cc @Alice Zhang

Freeking Validator not securing the chain 2 Messages ›
Florian | Q DEV *Click to see attachment* 16h ago

Freeking Validator not securing the chain

Started by Florian | Q DEV

January 29, 2024

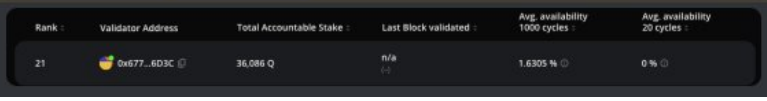
Florian | Q DEV 01/26/2024 10:24 AM
@freeking

Your validator node is still not syncing, you are missing to sign blocks since Wednesday 24th of January. You did not reach out in the community chat.

cc @Alice Zhang

Florian | Q DEV Yesterday at 4:34 PM
Dear @freeking , it has been almost a week since the bad block incident and your node has not been updated yet.

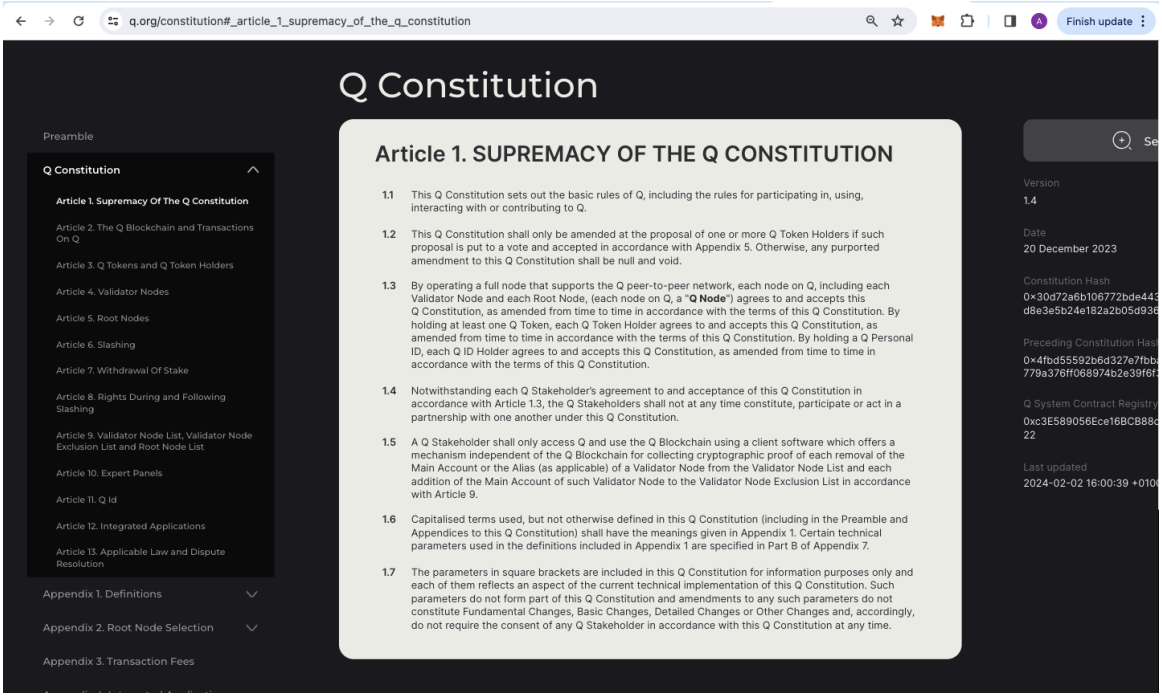
cc @Alice Zhang @Ben | Q DEV



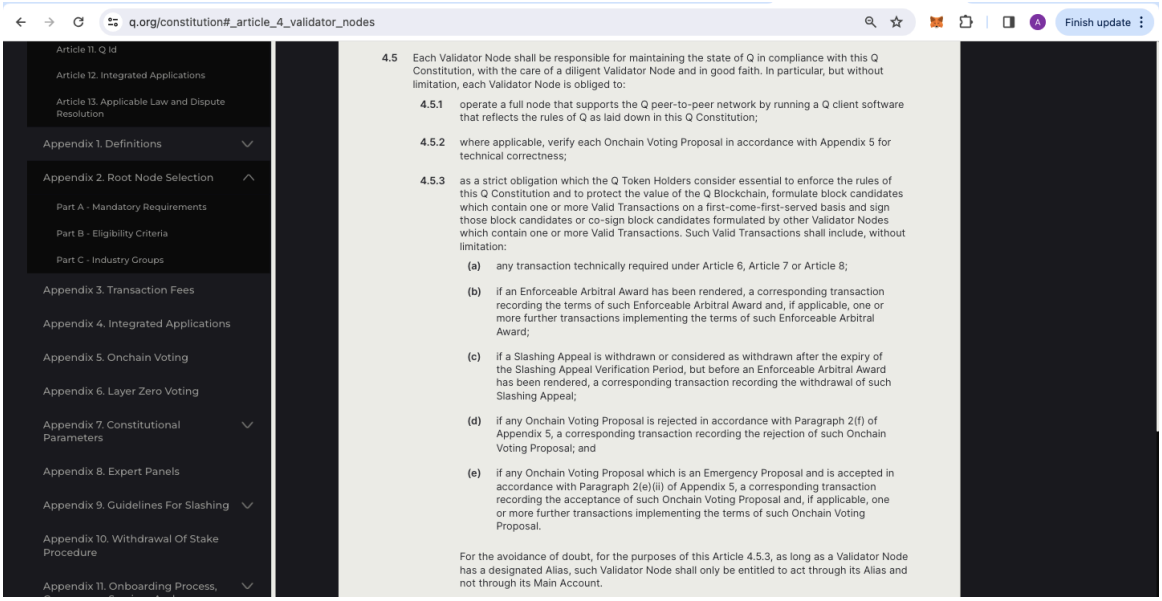
- This Validator has a total stake of 77,191 Q. Of this, 73,583 Q belong to this Validator's delegators.
- The total accountable stake, i.e. the stake that is relevant for determining the rewards of this validator, is 36,086 Q and the self-stake is only 3,608.6 Q.
- During the period of inactivity, the Validator has earned approximately 257.2 Q, of which 244.34 Q were paid to delegators since the validator shares 95% of its rewards with delegators.
- We (the Root Nodes) can only slash self-staked tokens.
- The total staked by the 27 active Validators is 40,173,788.29 Q. Hence Validator "23" has just under 0.1% of total Validator stake.
- At the time of writing, there are 79221540.76 Q Tokens in circulation, Validators' stake makes up 50.71 % of total Q Tokens in circulation.

Relevant provisions in the Q Constitution

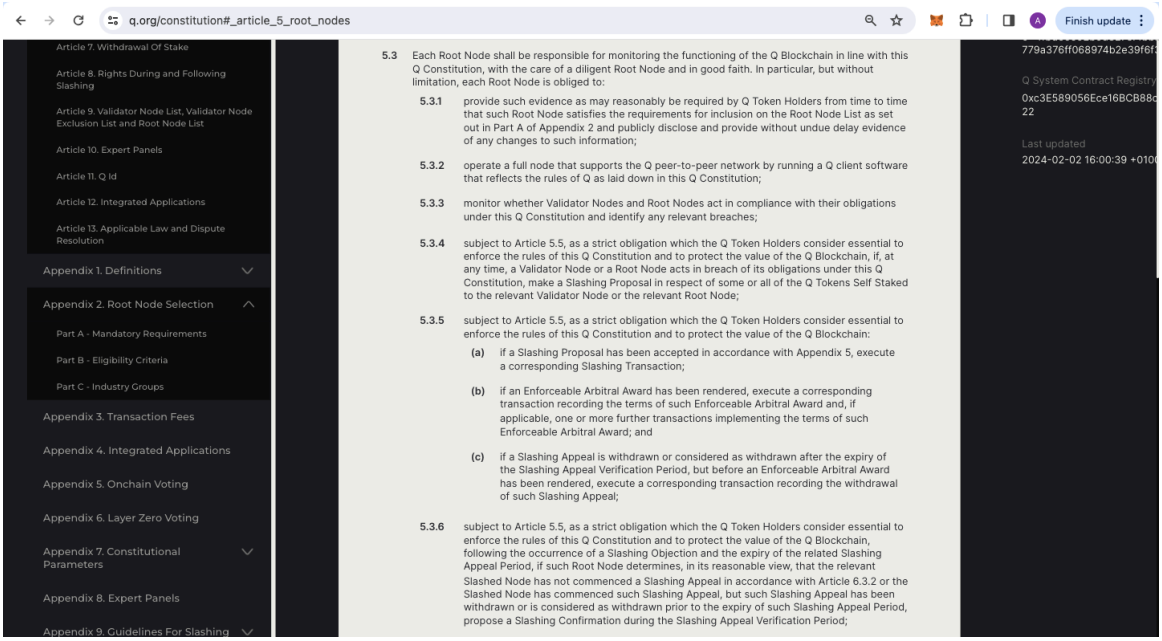
- Clause 1.3 of the Q Constitution provides that operators of full nodes on the Q Protocol, including Validator Nodes, agree and accept the provisions of the Q Constitution.



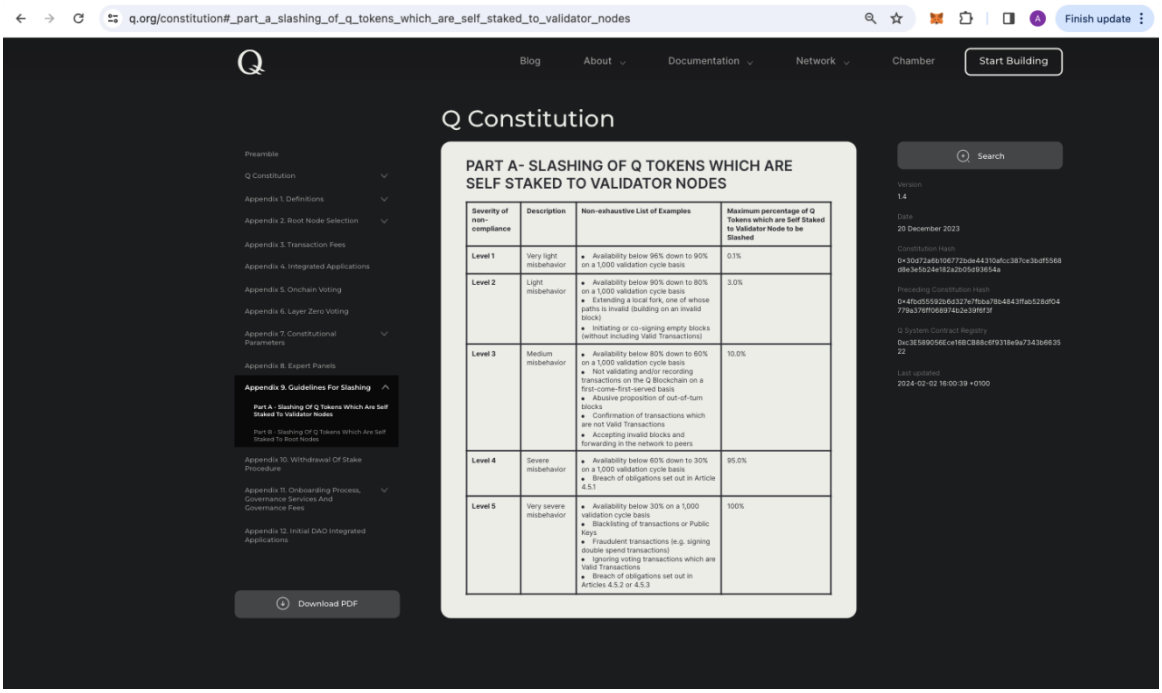
- Clause 4.5.1 of the Q Constitution provides that a Validator Node is obligated to operate a full node.



- Clause 5.3.4 of the Q Constitution states that Root Nodes are obliged to submit a slashing proposal for a Validator in breach of its obligations under the Q Constitution.



- Part A of Appendix 9 to this Q Constitution states that whenever a Validator reaches availability below 30% on a 1000 validation cycle basis, it may be slashed for any percentage above 0% and up to 100% of its self-stake.



Considerations and reasoning behind the proposed slashing percentage

The space for discretion by the Root Nodes in determining the appropriate slashing percentage for this Validator Node is quite large, any number above 0 and up to 100%. Proposing some form of slashing here is important in demonstrating that Root Node oversight and governance on Q works and that the provisions of the Q Constitution are enforced and to deter future misbehaviour from network participants such as Validators. As such, Q Token Holders should be able to proceed with comfort and certainty that the rules by which they abide by are systematically and equally enforced among all participants of the Q ecosystem.

On the other hand, while the Validator in question has failed to fulfil its obligation to such an extent that it may, constitutionally, be slashed of the entirety of its self stake, there was no harm done to the Q Protocol and there was no evidence of malicious intent through actions aimed at corrupting and harming the integrity of the Q Protocol.

As such, it may be argued that, despite the relatively low number of Q tokens in question, a 100% slashing of the Validator's self stake is overly harsh and may deter future Validators from joining the Q ecosystem for fear of overly harsh penalties over negligent, as opposed to malicious, actions. It must further be noted that within the Web3 space, slashing beyond a nominal symbolic amount is not a widely adopted practice, and in any case, slashing into a Validator's existing stake significantly beyond what was rewarded may be seen as excessive in situations where no harm was done to the system.

With that being said, slashing only the amount of Q tokens which the Validator has earned themselves through rewards is such a low amount that it seems also excessively lenient and has little effect upon the status quo of the Validator set.

Keeping in mind that the purpose of Root Node oversight and the slashing mechanism are to ensure the security of the Q Protocol, one may argue that a pragmatic interpretation of that aim in the present situation is, at a minimum, to ensure that the Validators present in the active set of Validators (the top 27) are running full nodes and able to actually validate transactions on-chain. Further, it would be beneficial to the Q Protocol's reputation to ensure that no Validator displayed as "active" within the set is visibly inactive. With that aim in mind, a slashing of 40% of the Validator's self-stake would be

sufficient to achieve the goal of removing the Validator from the active set by reducing the Validator's self-stake to a size that also limits the size of its permitted delegated stake, thus leading to its drop in the Validator ranking below the top 27 and being removed from the active set.

This ballpark area seems to also be the consensus based on the temperature check survey circulated among the Root Nodes last week where six out of seven total survey responders favoured either a 35% slashing percentage or a range between 40% and 50%.

As such, a 40% slashing is proposed.