

# **Qortal Proposal - The Self-Sponsorship Algorithm and Temporary Sponsorship Modifications**

## **Background and information -**

Hello Qortal community, once again we have a decision to make that we are looking for your input on.

Since the inception of Qortal's brand new consensus algorithm, we have been aware of the ONE game that can be played with minting. That game is what we refer to as 'self-sponsorship'. We always knew that we would have to devise a few solutions for the combating of self-sponsorship within Qortal.

When Qortal was first released, a promise was made to the QORA community (which was the project that we took over the development of in 2016, we were not part of the original team, and we have now completely re-written the codebase, keeping only a few transaction types from the original QORA platform.) This promise said that the Qortal project would allow the QORA forgers (people who kept the QORA chain moving by forging) would be able to obtain a pre-leveled minting account on Qortal, based on the amount of blocks they had forged during a timeframe after QORA was considered 'dead'.

These QORA people were the only people on Qortal who started at a level aside from 0 (including the founders, who started at 0 like everyone else.) You can look at the 'blocksMintedAdjustment' to see how many blocks they started with.

We made this decision for a couple reasons. Namely it would provide a larger number of level 5 users who could sponsor, so that it wasn't JUST the founders who could sponsor new minters in at Qortal Genesis. We wanted to ensure that everything, even from the beginning with this new model, was as fair and decentralized as possible, while we continued developing and improving everything.

Many of the QORA people did exactly as the Qortal Ethos suggests, and sponsored other people, helping the network grow... However, there were some of them who decided to do something that is completely against the Qortal Ethos, and sponsor accounts they controlled, acting out of greed and lack of respect for the project.

Since at the beginning we did not have the methods to combat self-sponsorship completed (we were hoping we wouldn't have to do that so early on, and instead could focus on new features and other improvements, and then add the anti-self-sponsorship measures a bit later on...) this self-sponsorship behavior unfortunately was allowed to go unchecked.

## **Combating Self-Sponsorship -**

Now, however, we have 2 initial methods being created for the combating of self-sponsorship, and the second method, what we're calling the 'self-sponsorship algorithm' is nearing completion of its first phase. With the self-sponsorship algorithm a new 'blocksMintedPenalty'

will be added to Qortal, and the self-sponsorship algorithm will take data from the chain and use that to determine whether someone is sponsoring accounts that they themselves control.

If someone is caught self-sponsoring by the algorithm, it will give them a 'blocksMintedPenalty' based on the severity and number of accounts they have that are proven self-sponsored. This algorithm will not treat any account any differently than any other, no matter what. If an account is caught self-sponsoring, the algorithm will give the blocksMintedPenalty, and in severe cases, cause the self-sponsoring account (and all accounts they self-sponsored) to no longer have the blocksMinted in order to have a high enough level to continue sponsoring.

In severe cases (we haven't officially defined 'severe' yet, but we are considering at the moment, severe to be defined as having self-sponsored over 10 accounts, we will make this decision as the algo is closer to being released, and there will be more community input at that time.) the self-sponsoring account, and every account that it has been proven to have self-sponsored, will be given a blocksMintedPenalty equal to the number of blocksMinted they have, officially taking their level back to 0. (Before anyone asks, no, the algorithm will NOT be touching coins at all, that is not possible, and completely against the ideals of the project. Only the addition of a new field in the database 'blocksMintedPenalty' and the reduction of the account's blocksMinted, by that penalty, will be introduced. Therefore only modifying the overall level of the penalized account.)

In less severe cases (again the number will be decided closer to the self-sponsorship algo release with input from the community) the blocksMintedPenalty will be a lower % of the overall blocksMinted on the self-sponsoring account.

The blocksMintedPenalty will be essentially the opposite of the blocksMintedAdjustment that already exists. Wherein the blocksMintedAdjustment INCREASES the blocksMinted, the blocksMintedPenalty will DECREASE the blocksMinted for any account that it is applied to.

The self-sponsorship algorithm will NOT be controlled by anyone, it will be written in code, and will be fully automated. Once the rules are set, it will be running on its own, and will have NO BIAS whatsoever. Any account that is found to be self-sponsoring by the algorithm, will have the blocksMintedPenalty applied, there is no way to avoid the algorithm. The algorithm uses multiple different data points to determine whether an account is self-sponsoring, and we will post those data points along with the first results of the test-run of the self-sponsorship algorithm before the algorithm is officially implemented.

The first iteration of the self-sponsorship algorithm will take care of EVERY previous self-sponsor, and leave Qortal in a self-sponsor free environment to continue forward as designed.

The self-sponsor algorithm will work hand-in-hand with the memory PoW algorithm to combat self-sponsorship. The memory PoW will enforce a 2 key per node rule in consensus. Forcing each user to submit a 'nonce' of the memory PoW every time they submit their minting

signatures. What this will accomplish is preventing people from running multiple Qortal nodes on a single computer.

The memory PoW is getting completed and implemented over the next 5 releases of the Qortal Core, the rollout needs to be very slow so that we can address any issues, and ensure that the algo doesn't cause issues for people running on 'slower' hardware. We will ensure that the memory PoW is implemented as carefully as possible, with as little effect on legitimate minters as possible.

After the memory PoW has been fully implemented, Qortal minting nodes on Virtual Machines will no longer be possible. A physical computer will be necessary in order to run a node that is intending to be used as a minting node. (Non-Minting nodes will still be able to run on VMs just fine, and a single minting VM on a hypervisor with multiple other machines, should also be fine. Only the running of MULTIPLE minting VMs on a single piece of hardware will not work. We will have a fairly long period of testing and evaluation before this is fully implemented, to be sure it doesn't cause any issues for raspberry pi users, etc. So please, do not worry about being affected if you are a legitimate minter.)

### **Self-Sponsorship Concerns -**

Some may ask 'is this really that big of a deal?' and the answer is unfortunately, yes... Initially we had hoped that the amount of self-sponsors would be low enough that it wouldn't have to be such an immediate concern, however, that isn't how things ended up playing out. Unfortunately there are a decent number of self-sponsors on the network who are continually creating self-sponsored accounts. Therefore, we have to make this a priority before the problem expands further.

At the moment, the testing of the self-sponsorship algo, has determined that nearly 50% of the online minters on Qortal, are from self-sponsoring. We simply cannot allow this to continue, especially so early on.

Once we remove these self-sponsors, not only will the platform be the way it was supposed to be and start with a fresh slate of only legitimate minters, it will also give the legit minters the rewards they should have been receiving the entire time, which should help the network grow a lot more steadily and more true to the way it was designed.

The self-sponsors have no respect for the platform, and are not treating it the way it deserves to be treated, for the countless hours and countless amounts of effort and value that has been invested into its creation and continued growth. Self-sponsorship is the ONLY game that can be played on Qortal, and once we have addressed it adequately, the future will play out as it was designed to, without the current negative impact caused by those who are only out for themselves, and who lack long-term vision for what the future of Qortal can become.

Removal of the existing self-sponsors will provide Qortal with a 'new start' and allow it to flourish legitimately, and accomplish its set goals more easily.

One of the MAIN concerns about self-sponsorship at the current moment, is the fact that Qortal's minting system needs some improvements to be scalable to a much larger level. We are currently working on modifications to the networking layer that will dramatically reduce data usage, and also dramatically increase the scalability and number of minters that Qortal can support. We need to slow the overall increase in minter count until these major networking improvements are completed.

In the future we will be making further modifications to support a much higher number of minters, but at the very moment before we get the networking changes fully implemented, scalability of the minting signature submissions and subsequent verification therein, is a concern. Due to the massive increase caused by self-sponsorship, and the fact that many of the self-sponsored accounts are not run on ideal environments (multiple on the same computer, etc.) it has caused unforeseen issues with minting. The scalability concerns are being addressed at the same time as the self-sponsorship concerns, but until they are implemented we need to make an immediate change to avoid issues.

### **Temporary Sponsorship Slot Modification -**

Due to the concerns addressed above, and the fact that at the moment, an estimated near 50% of the active minters are being run by self-sponsors... during the time prior to the release of the self-sponsorship algorithm, and completion of the testing and implementation of the memory PoW, a modification to the current sponsorship rules is being suggested.

At the moment, the amount of concurrent sponsorships that any level 5 (or founder) can create, is five (5). Five sponsorships can be created by any level 5 or founder at once, allowing 5 new minters to get to level 1. This is how it has been since Genesis.

However, given the current scenario, and the rate of self-sponsored accounts being created, there is a need for a temporary modification to the existing sponsorship 'slots'.

The suggestion is to reduce the number of sponsorship slots from 5 to 2 TEMPORARILY until the self-sponsorship algo is completed and introduced, and the memory PoW is implemented fully, and the networking re-work is completed. This modification will dramatically slow the self-sponsored account creation.

We realize that this may also slow the legitimate new minters entering the system, but it is our belief that legitimate minters will be able to acquire sponsorship from a multitude of legitimate sponsors, whereas self-sponsors will have a much harder time. Therefore it is the suggestion to reduce the sponsorship slots from five (5) to two (2).

The decision that needs to be made by the community is the following:

Do we want to decrease the sponsorship slots for ALL sponsors, or only for the level 5+ sponsors?

According to the self-sponsorship algo tests (which haven't yet been fully completed, but give a good idea of the current scenario) all of the self-sponsors we have noticed until now, are NOT founders. This doesn't mean that when the algo is fully completed it won't find a few founders that have as well (and yes, they too will not be given any preferential treatment if they are found to be self-sponsoring, no one is 'immune' to a blocksMintedPenalty and loss of sponsorship rights if they are found self-sponsoring.) but at the moment, it seems that all of the current self-sponsors are non-founder accounts.

Given this information, we can make a decision on whether we propose a limit on ALL sponsorship-enabled accounts (including founders), or just the level 5+ accounts. This will be the decision we will take a community vote on, to decide whether we limit EVERYONE, or just non-founders.

We do not currently have a choice with all of the facts of the current situation, a temporary sponsorship slot reduction HAS to take place. What we CAN decide on, is if we limit everyone, or just the level 5+ (in which the majority if not all of the self-sponsors reside.)

Thank you for taking the time to review all of this information on this proposal, and casting your vote accordingly. We will have an open discussion about this and come to a conclusion together as a community.

It is not yet fully known exactly how long the limitation will need to be in effect, however, we can promise that as soon as the self-sponsor and memory PoW algorithms are in place, and the network re-work is completed, the reduction in slots will be removed. We can then make a decision on if we go back to the original 5, or make further modifications to the sponsorship system at that point.

As always, as we continue moving forward with Qortal development, more complex solutions can be devised and built as there is developer time for it. Currently we do not have the developer time to put focus on a complex sponsorship slot modifier, so please do not make suggestions about that for now. Thank you.

#### **Bullets -**

- **Self-sponsorship Algo is nearing completion**
- **Minting memory PoW algo is getting implemented over 5+ releases**
- **Self-sponsors are currently around 50% of the active minters and needs to be addressed immediately to avoid further damage to Qortal.**

- **Massive networking layer re-work will dramatically increase performance and scalability of Qortal and the minting system.**
- **Temporary limitation of sponsorship 'slots' is necessary, and a vote is to decide whether we put that limit on everyone, or just level 5+ accounts (leaving founders with 5 slots.)**
- **This temporary limitation is necessary due to the current state of minting scalability and rate of self-sponsored account creation. Therefore it will not be a vote to do it or not, it will be a vote to do it for everyone or just founders.**
- **The length of time the limitation will be in effect, will not be known until we know when all of the changes will be completed, we will do our best to make it as short as possible, and another vote will take place afterward to decide whether the slots go back to 5, or to another number.**
- **More complex solutions with modifiers based on other data, etc... can be possible the future, however at the moment we do not have the developer time to focus on aspects like that. So the temporary limitation is the only solution we can implement in a quick enough timeframe. More complex solutions can be devised and built at a later date when we have the developer time for it.**

#### **Qortal Vote -**

Do we reduce ALL sponsorship slots to 2, or just the level 5+ accounts?

**POSITIVE (yes)** - reduce **level 5+ only (not founders)**

**NEGATIVE (no)** - reduce **ALL sponsorship slots (including founders)**