**FACTOM**

**COMMUNITY**

**MEETING MINUTES**

**Factom Guides**

**Meeting #19-**40

**201**9**-**09-30

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| **Date and time of meeting** | 2019-09-30, 20:00 UTC |
| **Date minutes drafted** | 2019-09-30 |
| **Date minutes approved** |  |
| **Organization/Team** | Factom Guides |
| **Attendees** | Centis BV (Niels), DBGrow (Nic), Factom Inc (Brian Deery), Trgg3r LLC (Nolan), The 42nd Factoid (Tor) |
| **Members not in attendance** |  |
| **Other attendees** |  |
| **Meeting Leader** | Centis BV (Niels) |
| **Meeting Secretary** | DBGrow (Nic R) |

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| **Subject 0** | * Roll Call - All Present * Approval of previous meeting minutes - Motion by Centis BV, seconded by TRGG3R LLC. - All say “Aye” except The 42nd Factoid, since it was not present last meeting. - Minutes approved. |
| **Discussion** |  |
| **Conclusion** |  |
| **Follow up** |  |

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| **Subject 1** | Announcements/Reminders/Process timeline |
| **Discussion** | * Current ongoing processes: * Doc 001 -Suggested changes being added - We have all the edits made; some formatting issues at first but are fixed now. Request made for Grant awardees based on Grant success (we haven’t addressed this yet, but we can wrap this up in the coming week or so), and we plan to incorporate Doc 005 into Doc 001, as well. Tor has began reworking some of Doc 001, such as removing some parts that aren’t consistent with how we operate currently. Tor has spent a few hours on this so far, and plans to add another few hours in re-working Doc 001. Some sections in Doc 001 were never or are not implemented in the present. * Doc 109 (committee framework) - LRWG should take a look here. Niels reached out to the Chair of the LRWG in hopes of getting someone with Legal knowledge to examine it. DBGrow (Nic R) added language to “Adding a Chairman” and “Removing a Chairman”.   - Nolan: If we incorporate Doc 109 changes into Doc 001, we should start making some introductory changes on paper (maybe not immediately into Doc 001, but plan to get the details organized and in place so we can make all the changes at once). We should brainstorm and have a lengthy discussion surrounding the nature of how we incorporate the new changes.  - Niels: Wants Doc 109 out of the way; it is taking too long. There are a few small changes hopefully remaining. Also, we will take into account the information from the LRWG. We can describe Doc 109 changes without having the changes directly described in Doc 001 for now; committees will be formalized in governance, and that is a big change, so we will need to discuss how and where we will describe this in Doc 001. We can begin the process of scribing the new details down on paper for now. Doc 109 describes working groups as informal. Working groups have no place in governance to make decisions, by itself, whereas a committee can do that. Working groups are easier because it has no formal place within governance. Protocol committees needs some discussion because it is formal within our governance.   * [Process discussion / document ratification timeline:](https://docs.google.com/spreadsheets/d/15QMJrxErMetSgpzwQUKQ_OjmccqfTNvuImdOLjruvlc/edit?usp=sharing) |
| **Conclusion** |  |
| **Follow up** |  |

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| Subject 2 | Network Update (Brian) |
| Discussion | Niels: We had a pause this week, so Brian probably has a lot to talk about.  Brian: This was a very long night (not as long as last one), but right around 3:40 PM, Texas time, we had a network pause begin. We were looking through the process list, and it looked like there was a duplicate EOM (2 different copies of the second end of minute message). It is unclear at this point how this happened) - could've been either a mis-configuration on the part of an ANO or a bug in the software, that is creating those messages. Either way, the software and the network acted correctly, and went into fail safe mode and the blockchain stopped forward progress. Later on we attempted to restart the network, and that did not quite work. There’s a chance that messages that were under 1 hour old were causing problems with the network after it rebooted. That was not clear at the time. We rebooted the network and at Block 212078 and managed to elect 8 of the Nodes; there were about 6 restart attempts over the entire evening; one of the restart attempts, one of the Servers had rebooted their own node on their own outside of the reboot system, and what that did is it sent out two directory block signatures, which are the first message in the process list, and this reboot that was asynchronous from the rest of the network also caused a pause of the network by itself. The Factom network makes the assumption that there are not two copies of a Federated Server at the same time, so booting twice within a short period of time can create the effect of two copies of a Federated Server, at least from the peers and the other Fed Servers’ perspective. One of the other problems that we had was the back haul nodes (which are the nodes we make sure all of the Fed Servers are able to see all the other messages in a reliable fashion) -- those were not able to keep up with the blockchain, so they were one block behind, and the blockchain paused the second time. They were not able to pass messages between the Federated Servers. The Fed servers did not have enough connectivity to talk to each other, and get all the missing messages that they needed, and so a change was pushed to those back haul nodes to allow much reduced validity verification of the messages that were being passed around. A specific thing is it allowed messages for blocks that from the perspective of those nodes were in the future. So, we tried one time to do that and we basically gave a custom version of factomd, which gave a 3-block period around the stall to more aggressively propagate these messages; well the followers were unable to catch up with the Fed servers, and be able to pass messages on their own around the network, by the time the special 3-block period expired. And so what we did is we changed the back haul nodes to not have that special 3-block period to be extra chatty. A reboot was attempted (and was the 2nd to last time).  We found that some of the older messages were interfering. So for the last time, we waited an extra hour and 40 minutes after discovering what happened to reboot the last time to allow some of the older messages to expire, and with all of those changes (with all the fed servers together, and with all of the enhanced network traffic that was propagating the messages between the fed servers) between the boots. Another addition was where there was a 20-minute filter where 20 minutes before booting, a Fed server would allow you to (a node would allow messages from 20 mins b4 it booted, which was a change in the last pause), but that had a bug in it and it did not implement dbsigs. One of the patches to the back haul nodes was to do this for the dbsigs to allow this to pass around. One of the changes between current running nodes, auth servers, and xuan, is that the 1st message gets created and sent out (which is the dbsigs, which is the fed servers saying that all of the messages in the database of a block is valid. Those get sent out, and the fed servers boot up at diff times. Due to our setup, all factomd nodes cannot boot instantly. Some boot quicker than others. So in the current code that is running, the dbsigs are sent out instantly; and the problem is that some of the other fed servers are not booted by the time the earlier ones boot up. In Xuan, the initial message has been pushed back to 10 minutes after boot, and that will also help with future restarts when Xuan goes live. Oh there was also a problem where one of the ANOs had their start delay set to 5 seconds instead of the normal 10 minute time period, 5 seconds is right for a follower to get up and running fast, but would cause problems with a federated server. Lots and lots of patching and fixes and elbow grease and diagnoses that happened for this past Saturday night. I want to thank Steven and Clay and Paul for helping out and giving up their Saturday evenings for keeping the network up and running.   Any question in Gov. Chat channel?  Tor: Are we looking into ways to mitigate the issue with the same server booting within a short timeframe stopping the network from booting? Can the network fault this identity instead, so we are not as dependent on having the exact “correct” authority set for restarting?  Brian: Yes, this is kind of a difficult problem, so right now that requires basically the ability to back up the process list, to simplify the problem. The current incarnation of the code that is very difficult. Last week we had a kickoff meeting for the re-write to basically go over some of the design for the re-write, and start with the implementation, and so trying to get a few pre-sharding elements into A4 and from there basically work into a codebase which can be radically changed, and the intent is to turn it into a Follower which is for the most part backwards compatible with the current Protocol. And then once that gets released and running, then we can add the Leader functions to that, and from there, switch over the Leaders of the network to the codebase, and from there start making some of these Protocol improvements, which would be dramatically easier on a much more clean codebase. So yes, there are countless improvements that we want to make. For now we have the assumption that the fed servers are operating properly. After the rewrite we can to reduce the scope of what operating properly means. After the code is refactored, we can have the ability to rewind which has the ability to undo things that we think federated Servers have already done, so for example if we see 2 messages from a fed server that are conflicting, then we can (during pause of the network) have rest of fed servers back up and remove those messages from the process list then move forward after an election or something. Does that answer your question?  Tor: yes, thank you.  Brian: That was not part of the discussions that we were having internally; there were some design documents that can be released as part of those. So the intent is to be backwards compatible as well, so the intent is to have it not be a protocol (we had asked a few of the people in the core dev standup last Thursday, but there was not alot of enthusiasm there.  Niels: We can certainly help if that is a problem.  Brian: Fantastic; looking forward to it.  Gov Chat:  Niels: Thanks, Brian. We talked of refactor work and stuff, but not so much about Xuan release, I guess?  Brian: Xuan release has been a big success so far, on the testnet last week, the load test went well, thank u to testnet crew for going through and upgrading and getting that up and running, and Andy as well, for coordinating that upgrade. So at this point, it looks like it has passed all of the testing on testnet; the testnet did not pause under 15 or 17 entries per second, which is an exciting number -- that was faster than the multi-follower load generator would put transactions into the network, so the federated servers were able to upgrade faster than the load being put into the network, which bodes well for mainnet for the future capacity for the network to handle loads and bursts. The current plan is there were a couple of quick, small changes that were made during the pause. A couple bug fixes that should not affect load testing or consensus at all, so the intent is to add those into Xuan to a quick test on that. From there, test it on the Factom Inc nodes or with some more adventurous ANOs, and fed servers to make sure the network isn’t going to fault out. From there, if that goes well, to roll it out to rest of fed servers, and get us in a much better position from a load position.  Brian: So, the FIPs can be for coordinating things above the protocol, or with the protocol itself. Currently we are using the jira FD system to track the different code changes and releases. So there are tracking things that are happening. The FIPs system is a lot of overhead for the amount of man power that we have and for what wer are going to try to do. Can you clarify for network upgrades?   Niels: I want to say FIPS. Niels created FIPS to discuss new approaches, standards, implementations, and hearing you mention that this was a upgrade of code, itself, but it doesn't really change the behavior of the network, itself. Discussion is to be had about the FIPS system, but on other hand, what I like about FIPS is it requires us to discuss with a broader developer audience, and that’s a good thing, I think. May be some overhead, but is likely something we should discuss for something that may need a FIP. **[CL] Sam VanderwaalToday at 10:41 PM** "network upgrades" is too ambiguous. I was just trying to get to the heart of the purpose of FIP system and when it should be used and not. Basically what Niels is talking about  Can the Core Committee lead this discussion/ensure it happens?  Sam: Network upgrades between loads is too ambiguous. …   Niels: Good thing we agree. For the outcome of this question should be for us to have a broader discussion when to fix the system and when not to because getting everyone involved on every change also doesn’t work, of course. This is a discussion we need to have first on Factomize.  Hinamatsuri: Could testnet could have handled more? If so, would it make sense to have another load test to get a clearer picture about max capacity?   Niels: Yes, but right now we dont actually know what kind of load the testnet can handle. The expansion of the nodes for the test, and having discussion about the profiling data is important. Thanks for the question, and for the follow up, Alex.  Niels: luap can best respond; upgraded the chocka-block load testing application basically, it uses one node basically, but I can be totally off, so forgive me if wrong. During last load test is basically the node was having problems keeping up, and thats what Brian mentioned too, so ---  Alex: luap spread the load test across several different nodes, and we tried that at the last node test, but unfortunately, we need to go back and have another look at that and make sure it spreads, and stable nodes that can handle that. Let’s make sure we have the correct tools to properly analyze the outcome of the node test to learn something from it. In previous test, we didn't have proper tools to understand what we’re looking at; once these 2 things have been addressed, then we can improve on what we’re doing, and analyze things after that.  Niels: Thanks, Alex. We will investigate outcome of the load test, and that the test is administered across the nodes properly. Any insight as to whether we want to do this addressed sep or all together?  Alex: Separately, but we have info from last load test to better understand to spread across different nodes. We will be in a decent position next time. We need to use more nodes. I’m not sure exactly how we can address the profiling issue yet, because we need to more deeply understand what happened on the network for us to understand more of what’s happening during these tests. Network load should be able to push things a bit further, I hope.  Niels: Sam said: can core committee lead the discussion and make sure it happens? Yes, says Niels, I will be responsible to ensure it happens. |
| Conclusion |  |
| Follow up |  |

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| **Subject** 3 | **Follow up: tasks from last meeting / upcoming tasks** |
| **Discussion** | Nic:  (Text from previous meeting begins)  Doc 109 - Added context relevant to removing a Chairman and electing a new Chairman. Working with Guides + LRWG to finish final details. Will incorporate Doc 109 into Doc 001.  (Text from previous meeting ends  **To**r:  (Text from previous meeting begins)   * Committee framework * Doc 001 - will provide input with regard to changes needed relative to Doc 005. * Follow up on grants from previous round.   (Text from previous meeting ends)  Worked on this week:   * Added ratified ANO Election and removal document to factomize governance section and updated relevant documentation on google drive * Provided input to Doc 001 - still more to do * Amended Doc 202 (Minimum server specifications) as it was tailored to fit our previous ANO election procedure, and was currently outdated * Asked follow up questions to unfinished grants from last grant round   Next week:   * Work with other guides on finalizing Doc 001 v.1.6 * Final review of Doc 109 * Draft a statement for the on-chain voting group about current situation for adding FCT staking to governance.   Nolan**:**  (Text from previous meeting begins)  (Text from previous meeting ends)  Worked on this week:   * Gather any suggestions on Doc 001 and incorporate * Continue & facilitate discussion on Doc 001 -- Encouraging further discussion on Doc 001.   Next week:   * Doc 001 proposal to Standing Parties for ratification -- will make determination as to whether to push forward or hold off for a bit. * Doc 202 review * Doc 109 * Testnet Governance - working with MikeB on testnet governance   Brian**:**  **(Text from previous meeting begins)**   * Doc 001   **(Text from previous meeting ends)**  Worked on this week:   * Doc 001 - review changes - perpetual fight on Brian’s side to prevent circular loops inside the governance doc; basically having the governance doc (it doesnt make sense to have gov doc point at other governance docs; basically how 001 is more of a constitution rather than a pointer to other things). I can see many of these pointers occurring and creating potential issues. * We had our 11 hour party on Saturday night. * Release process of Xuan. Also, we will get Xuan promoted. * Pause on Mainnet, 11 hour duration   Next week:   * Doc 001 - simplify changes * Release process of Xuan   Niels:  (Text from previous meeting begins)   * Bug bounty responses and community update * Doc 109 & impact on 001 - hope for feedback from LRWG Chair (or just a member, even). * Taking a shot at an informal process for trademarks/naming   (Text from previous meeting ends)  Worked on this week:   * Grant usage and guidelines. Several new license types and copyright information. Placing information copyright onto … which is something called dedicated works. This is a discussion we can have with community when we rebrand, and this is something Niels will push forward. If we rebrand, how are we going to make decisions around copyright -- protocol needs to be protected. Almost anyone can do anything with it they like once rebranded, but thats something that will need a much broader discussion. All the copyright solutions and licenses are predicated first on discussions; Niels to post on Factomize to describe what he’s learned this week, and to discuss what we need as a Protocol moving forward. It’s not easy to protect, and we need to decide if we want to protect anything, at all. It doesn’t make a whole lot of sense to make any moves without a discussion first.   Next week:   * Core committee work and discussions regarding some topics that arose during this meeting. * Will push forward the bug bounty situation. * Posting on Factomize about rebranding, copyright, and licensing. |
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| **Follow up (until next meeting)** |  |
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| **Subject** 4 | Open Floor |
| **Discussion** |  |
| **Conclusion** |  |
| **Follow up** |  |

Centis BV motions to adjourn. TRGG3R LLC seconds. All say “Aye”. Meeting adjourned at 21:01 UTC.