

tBTC & RB Client Code

Diary Study

October 2022

Design Researcher & Product Designer: **Sasha Tanase**

Technical Writer & Observer : **VictOr**

DevSupport: **Kuba Nowakowski, Michalina Cienciala, Piotr Dyraga**



Agenda

- How we do research
- Diary Study Approach
- Deep Learnings
- Findings & Insights
- Appendix
 - Interview Script
 - Diary Entries

Design Research

Design Research helps teams build the right thing, the right way.

Explorative Design

helps building the *right thing*.

Iterative Design

helps building the *thing right*.

Design Research

Design Research helps teams build the right thing, the right way.

Explorative Research

Deep interviews or observations to understand user needs and behaviours

Iterative Research

User testing to determine whether what we've built meets user needs, is understood, and is easy to use

Research Benefits

- Enables better decision-making during production
- Ensures we build something usable and useful
- Reduces onboarding friction for roll-out
- Reduces risk and cost

Study Questions

- Is the code approachable? Find out if the users find the product approachable and not daunting.
- Is it understandable? Do we provide clear documentation to the user on how to set up a node for Threshold Network/tBTC. Do we provide them with a hold hand experience throughout the entire user journey?
- Do we provide the node setup easy to follow guide, provide a clear understanding of the requirements and risks, provide solid help in the form of documentation for setting up and running a node and troubleshoot any errors?

Study Goals

- Probe the Customer Journey Map that we built based on our assumptions and identify the most frictional points in our users' journey.
- Track how users complete a long process that is likely to take several days - configuring a node for tBTC and Random Beacon app
- Collect data and create based on it a Troubleshooting section in our Node Documentation
- Identify the team's blind spots on tBTC and Random Beacon Node setup
- Find changes in behaviours and perceptions: how learnable is our system? how learnable is the node configuration process? What are the workarounds the users will take?

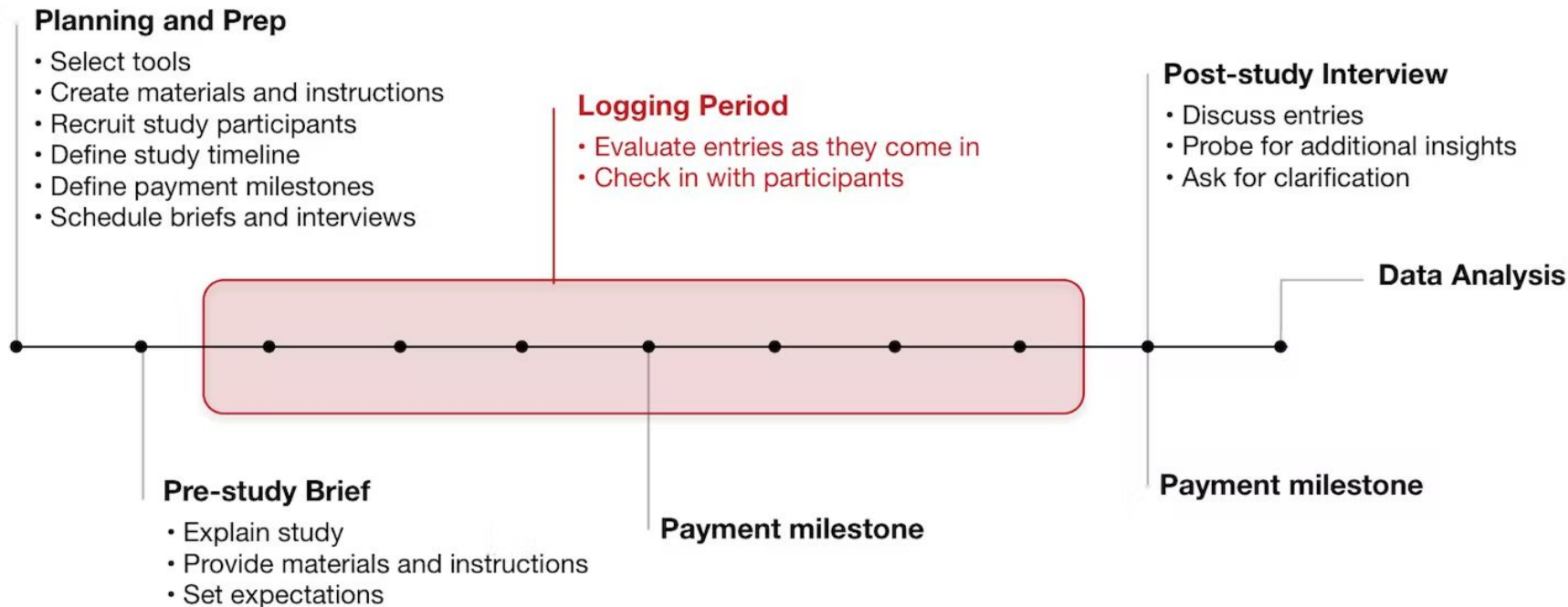
Research Methods and Users

WHAT WE DID

- We ran the study with **5 participants**
- Qualified users were individuals who **had previous experience with node setups, server experience, and Linux and droplet experience.**
- The study focused on - all of the interactions and actions a user needs to take to set up a tBTC and Random Beacon node. **We tried to understand how our users complete this activity, the cognitive processes, how learnable the system is, how long it takes until they are successful and how well our documentation performs.**
- For the Diary Entries we decided to use **GitHub Gist**
- Diary Study Duration - **6 days** (1 day debriefing, 4 days Diary Study for the task, 1 day interviews)
- 4 days the node configuration (since it is something new we considered the participants would need a longer time
- Post Setup Survey - SUS + extra questions
- Post Study Interviews - 60 minutes video calls

Research Methods and Users

WHAT WE DID



Research Methods and Users

METHODOLOGY

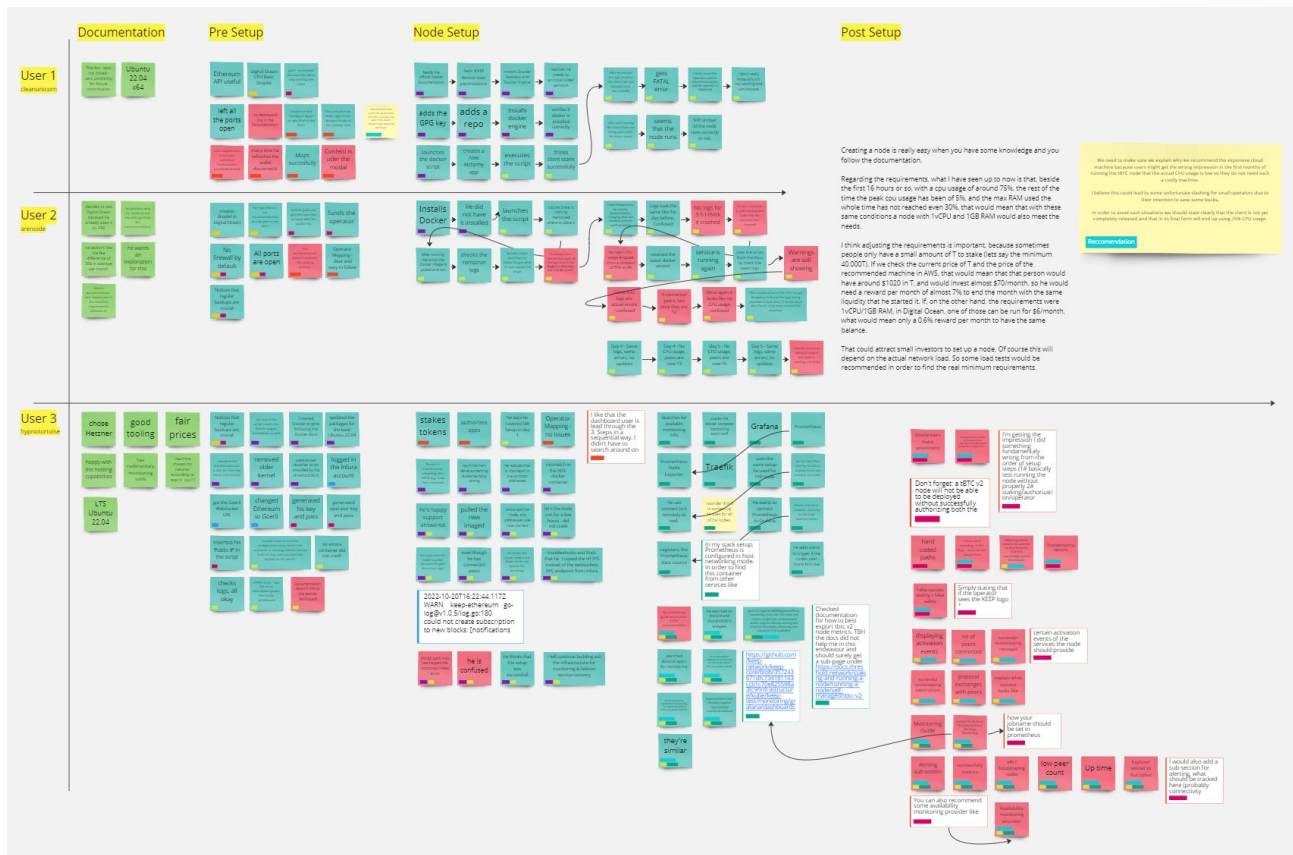
- We've provided the users with a set of instructions on how to record their experience, a set of helpful links consisting of the Documentation, the machine requirements, Goerli ETH and Goerli T, contract addresses and a link to the latest client registry.
- The Experience capture structure was based on a previous Journey Map. The structure looked like this:
 - Documentation
 - Pre-setup Preparation
 - Node Setup
 - Post Node Setup

Research Methods and Users

METHODOLOGY

- All the participants had the task to set up their nodes on the Goerli Testnet.
- They were provided with two different methods for their diary captures both of them explained thoroughly in a document and in the Onboarding call:
 - The Write-Along Technique
 - The Snippet Technique
- Participants were provided with examples of a Diary Entry and Snippet code Templates that can be found [here](#)

100



Diary Entries

The collage consists of five screenshots from GitHub repositories related to the 'Threshold Network Diary Study'.

- Screenshot 1:** Shows the 'areiside/diary.md' repository page. The 'diary.md' file is open, showing the 'Diary' section with a 'Day 0' entry. The entry describes the setup of a testnet node on a Raspberry Pi 4, including the hardware specifications and the software used.
- Screenshot 2:** Shows the 'hypnotorose/ETC-v2-Testnet-66653643108' repository page. The 'diary' directory is highlighted, showing the 'diary.md' file.
- Screenshot 3:** Shows the 'diary' directory in the 'areiside/diary.md' repository. The 'diary.md' file is open, showing the 'Diary' section with a 'Day 0' entry. The entry describes the setup of a testnet node on a Raspberry Pi 4, including the hardware specifications and the software used.
- Screenshot 4:** Shows the 'threshold-network-diary-setup' repository page. The 'diary' directory is highlighted, showing the 'diary.md' file.
- Screenshot 5:** Shows the 'threshold-network-diary-setup' repository page. The 'diary' directory is highlighted, showing the 'diary.md' file.

User 1 Diary Entry - Gist

User 2 Diary Entry - Gist

User 3 Diary Entry - Gist

User 4 Diary Entry - Gist

User 5 Diary Entry - Gist

Assumed User Journey Map

User Journey Mapping for a DevOps working for a Staking Provider Company

Target User: DevOps from a Staking Provider Company

Team A
Team B
Team C
Team D



Journey Steps Which step of the experience are you describing?	Discovery Why do they even start the journey?	Registration Why would they trust us? What do they do next?	Onboarding How can they feel successful?	Preparation prior to node setup How can they feel successful?	Setting up the node Why would they invite others?	Successful setup Why would they invite others?
Actions What does the customer do? What information do they look for? What is their context?	Check out the service on the website Learn about the service on the website Check out the service on the website	Read the docs Read the docs Read the docs	Read the docs Read the docs Read the docs	Read the docs Read the docs Read the docs	Read the docs Read the docs Read the docs	Read the docs Read the docs Read the docs
Needs and Pains What does the customer want to achieve or avoid? Tip: Reduce ambiguity, e.g. by using the first person narrative.	I want to learn more about the service I want to learn more about the service I want to learn more about the service	I want to learn more about the service I want to learn more about the service I want to learn more about the service	I want to learn more about the service I want to learn more about the service I want to learn more about the service	I want to learn more about the service I want to learn more about the service I want to learn more about the service	I want to learn more about the service I want to learn more about the service I want to learn more about the service	I want to learn more about the service I want to learn more about the service I want to learn more about the service
Touchpoint What part of the service do they interact with?	Website GitHub Documentation Investment Dashboard	Investment Dashboard Client Code Investment Dashboard	GitHub Documentation Investment Dashboard Investment Dashboard	Investment Dashboard Investment Dashboard Investment Dashboard	Investment Dashboard Investment Dashboard Investment Dashboard	Investment Dashboard Investment Dashboard Investment Dashboard
Customer Feeling What is the customer feeling?	😊 😊	😊	😊	😊	😊	😊
Background						
Opportunities What could we improve or introduce?	Introduce GA on our Threshold Website and for the Github/Gitbook	Increase/decrease a leading metric by	Increase/decrease a leading metric by		Increase/decrease a leading metric by	
Process ownership Who is in the lead on this?						

Findings & Insights



Findings & Insights

SELF OPERATING STAKER USER PROFILE

The Diary Participants we talked to range from very sophisticated users to upper-intermediate users in terms of their self-assessed server setup knowledge.

All of them had previous experience with setting up nodes for different protocols and all of them had gone through the PRE setup process. The entire cohort runs PRE nodes on Mainnet right now.

Findings & Insights

“From all the nodes that I’ve set up tBTC is in the top 3 most difficult nodes. My top 3 is:

- 1. Ethereum 2.0*
- 2. PRE*
- 3. tBTC &/ Random Beacon”*

Participant 4

Findings & Insights

MONITORING TOOLING, STATS AND METRICS NEEDED - SEVERE

Even though they went through the entire setup process with the tBTC and Random Beacon node on Testnet 4 /5 participants stated that they would not go and run a node on Mainnet right now because the Documentation so far is lacking any Monitoring tooling and metrics they could use, and they do not currently know what a successful node setup looks like.

There is too big risk of losing funds and too low possibilities to know what's happening, attend and mitigate the potential errors, which means for the moment the Documentation and the Setup experience do not offer enough trust and confidence for these people to take action.

Findings & Insights

DOCUMENTATION - MONITORING

👉 Recommendation - Monitoring

As stated by the participants:

- PP files
- Peer count - trigger alerts for a low peer count
- Bootstrap nodes connectivity successful messaging
- ETH funds - trigger and alert if they fall below 1 ETH
- ETH connectivity
- Node Health endpoints
- HTTP
- Grafana Dashboard Plug-in Play
- A check in the dashboard that says the node is running

Findings & Insights

SUCCESSFUL SETUP

All of them experienced feelings of frustration, confusion and sometimes the system made them feel stupid, because they couldn't tell for sure if the node was successfully working.

They stated that somehow they expected the node to be correctly setup but they did not know what to look for to check if it is actually working properly.

Some of them experienced a false sensation of success and security at first when the node started running and they saw the Keep ASCII banner displayed.

Findings & Insights

FALSE SUCCESS

Turns out that the display of the banner made most of the participants think that the node works and afterwards there was a huge cognitive dissonance when they started seeing warnings and errors.

Some of them after seeing the banner thought that everything's all right and they did not even check the node afterwards until they were asked to check it.

👉 **Recommendation** - A complete set of metrics, stats and other messages from the client side should be listed in the Documentation in order to achieve a hold hand type of experience so the users could read and check easier if the node is working properly or not.

Findings & Insights

FALSE SUCCESS

Disconnect between the state of success in the Documentation and reality:

The ASCII Keep banner is mentioned as a signifier of success in the Documentation which is misleading to the users and might create further issues.

👉 **Recommendation** - A message from the client that could state if the node was set up successfully would be great. A section in the documentation that would display the stats and parameters to check on in order to make sure the node is active and running.

Findings & Insights

“The Documentation was really good and straight forward.

Far better than the official one for PRE. When I actually set up my PRE node I used an unofficial guide that was so well written and so easy to follow that I did not even bother to read the official one any more..”

Participant 5

Findings & Insights

DOCUMENTATION

The Documentation performed quite well throughout the entire process. Most of the users stated that the Documentation was really well done and they did not feel the need to go and check for outside additional materials and guides.

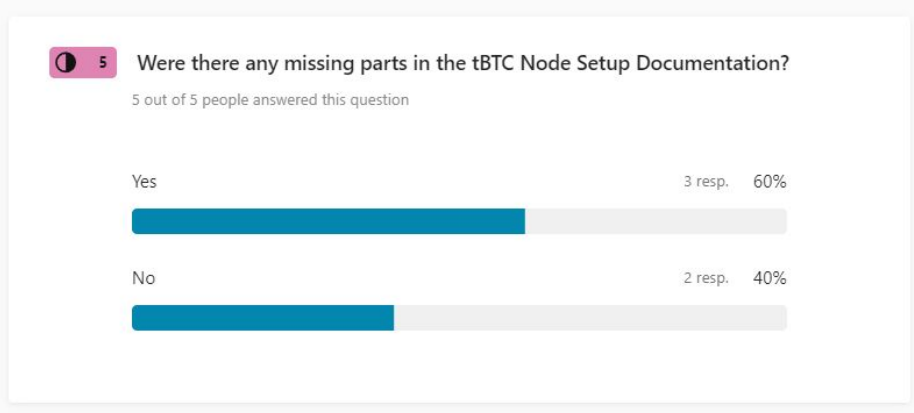
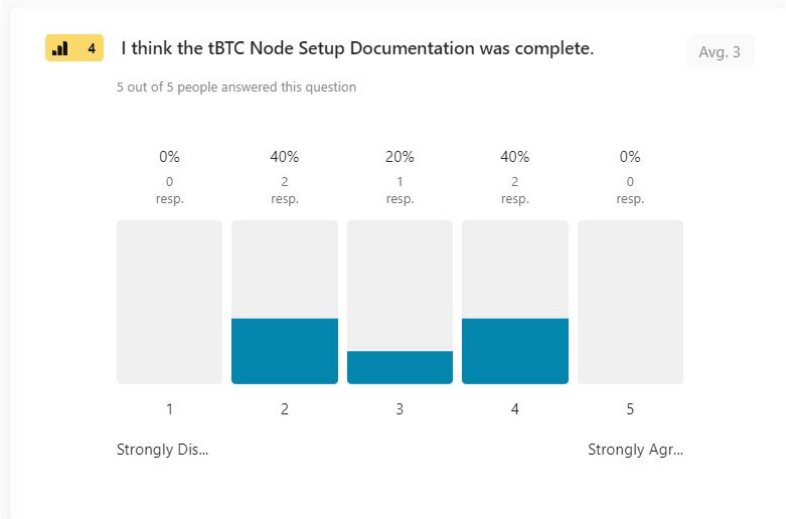
When asked if the documentation was complete the users said that they felt it was incomplete because it did not have any Monitoring and Troubleshooting sections.

Users mentioned they would like to have recommendations also for:

- Hetzner
- Digital Ocean

Findings & Insights

DOCUMENTATION



Documentation lacking the Monitoring parts as seen in the post setup survey.

Findings & Insights

DOCUMENTATION - MONITORING

👉 Recommendation - Monitoring

As stated by the participants:

- PP files
- Peer count - trigger alerts for a low peer count
- Bootstrap nodes connectivity successful messaging
- ETH funds - trigger and alert if they fall below 1 ETH
- ETH connectivity
- Node Health endpoints
- HTTP
- Grafana Dashboard Plug-in Play
- A check in the dashboard that says the node is running

Findings & Insights

DOCUMENTATION - MONITORING

👉 Recommendation - Monitoring

As stated by the participants:

- Contract addresses listed to check if they are correct
- A message that says they're connected to the Threshold Network
- Success parameters

Findings & Insights

“I was pleasantly surprised by this! I have never seen something similar in other Documentation and it was really helpful” (talking about a script to run the Docker image)

Participant 2

Findings & Insights

DOCUMENTATION - DOCKER SCRIPT

The majority of participants found the Docker script extremely useful and did not encounter any issues with it.

Some things worth mentioning:

- One user had some issues when opening the script in his own editor, he read some of the comments as part of the script.
- there is no notion or notation to run it on ARM64

Findings & Insights

DOCUMENTATION - STAKING

The Documentation treats the readers as if they have already staked and this seems to be an assumption that is not necessarily working, since most of the users felt as if they were missing the first steps or were lacking some previous experience.

👉 **Recommendation** - Mention in both PRE + tBTC node Documentation that the users need to stake prior to the node setup. Add a link of the Staking Docs in the Node docs as well.

- Add the Staking Process in the Documentation as well.
- The Documentation now mentions the users to go to “Configure Apps” something that is not present in the Overview page - add Configure Apps in the Overview page as well.

Overview



GET STARTED

Authorize Threshold apps and stake your T to earn rewards.

Start Staking

WALLET

Liquid Tokens

 0.00 KEEP

1 KEEP = 4.87 T

 0.00 NU

1 NU = 3.46 T

Possible T amount

 0.00 T

Upgrade Tokens

[Read more](#) about Exchange Rate

STAKING

Staked Balance

 4,000,000.00 T

Go To Staking

Applications

TBTC App

Authorize Application

Random Beacon App

Authorize Application

PRE App

0%

Configure Apps

[Read more](#) about Staking Contract

TOTAL VALUE LOCKED

\$30,890,413

Overview



GET STARTED

Authorize Threshold apps and stake your T to earn rewards.

Start Staking

WALLET

Liquid Tokens

 0.00 KEEP

1 KEEP = 4.87 T

 0.00 NU

1 NU = 3.46 T

Possible T amount

 0.00 T

Upgrade Tokens

[Read more](#) about Exchange Rate

STAKING

Staked Balance

 4,000,000.00 T

Go To Staking

Applications

 TBTC App

40%

 Random Beacon App

40%

 PRE App

100%

Configure Apps

[Read more](#) about Staking Contract

TOTAL VALUE LOCKED

\$30,890,413

Findings & Insights

“The experience is pretty nice, the flow makes sense, the modals were okay explaining what’s needed.

I was impressed that a transaction failed and the dashboard caught it and retriggered my transaction.”

Participant 1

“It’s a huge improvement compared to the NuCypher dashboard”

Participant 5

Findings & Insights

“I had some issues with the three addresses, I did not know why they were all displayed if they were pre-filled anyway. I still do not understand very well what’s the relationship with them. I wish I’d have some tooltips in the Stake Details about them.”

Participant 2

“Authorization was quite easy, the guiding process and wizard was really good and helpful”

Participant 2

Findings & Insights

DASHBOARD - AUTHORIZATION

The Documentation treats the readers as if they have already staked and this seems to be an assumption that is not necessarily working, since most of the users felt as if they were missing the first steps or were lacking some previous experience.

👉 **Recommendation** - Mention in both PRE + tBTC node Documentation that the users need to stake prior to the node setup.

- Add the Staking Process in the Documentation as well.
- The Documentation now mentions the users to go to “Configure Apps” something that is not present in the Overview page - add Configure Apps in the Overview page as well.

Findings & Insights

DASHBOARD - AUTHORIZATION

Authorization - some of the users closed the pre-filled, pre-checked authorization modals and they found themselves in the Configure Apps. The buttons hierarchy in Configure Apps page is wrong - the “Authorize All Selected Apps” is secondary and not primary. Which turns out to do us a disservice. Also the apps here are not already pre-filled and pre-checked.

👉 **Recommendation** - Change the button hierarchy in the Configure Apps Page
- pre-check and pre-fill all the applications.

Further Design Exploration for a better solution is recommended.

Authorize Applications

ACTIVE ● STAKE 1 - NATIVE

i In order to earn rewards, please authorize Threshold apps to use your stake. Note that you can authorize 100% of your stake for all of the apps. You can change this amount at any time.

☒ TBTC APP - 50% ⓘ

Increase

Decrease

Amount

Balance: 1,000,000 T

1,000,000

Authorize All

Minimum 40,000 T for TBTC

Authorize TBTC

☒ RANDOM BEACON APP - 100% ⓘ

Increase

Decrease

Amount

Balance: 1,000,000 T

1,000,000

Authorize All

Minimum 40,000 T for Random Beacon

Authorize Random Beacon

PRE APP ⓘ AUTHORIZATION NOT REQUIRED

Authorize Selected Apps

Existing Staker Flow

When a user has a Threshold stake and no authorization done yet, when they click on “Configure Apps” they should Authorize Applications page with both apps pre-checked and both apps pre-filled with maximum.

Findings & Insights

DASHBOARD - STAKING

The three different addresses seem to still give a lot of trouble to our users. There is a lot of cognitive effort on the users' side to understand the correlation and relationship between the three addresses.

It seems that just having them as helper texts in the input forms is not enough.

It was observed that most of the participants went with the easy way in which they set all the addresses the same.

Only when asked to imagine some scenarios in which they'd set up different addresses only 2 of them expressed very clearly that

Findings & Insights

DASHBOARD - STAKING

they'd like to have the Beneficiary Address the same one to collect all the rewards for several nodes in the same wallet. Another one mentioned that he's have a different address for each of them for privacy and security purposes.

The rest of them just played with the idea but they did not seem convinced they'd take a different route other than having all the addresses the same.

This thing leads me to make the following

Findings & Insights

DASHBOARD - STAKING

👉 **Recommendation** - make a Default and Expert mode for different types of users. Save the stress for the less experimented ones who do not want to bother with complexity but also accommodate the more security focused users.

Add in the modals the explanation to these addresses as well.

Add the explanations to these addresses and the relationship between them, with examples and use cases, in the Documentation as well.

Stake Tokens (Step 1)

You are about to make a deposit
into the T Staking Contract

Staking Deposit requires 2 transactions.

Staked Amount 1,000,000 T
Estimated Gas Cost ~50 gWEI

Take note! These addresses cannot be changed later.

Default

Expert

Provider/Authorizer/Beneficiary Address ⓘ

Enter text

The Provider Address, Authorizer Address and Beneficiary Address are all set by default as your wallet address. If you want to customize them try Expert mode.

Read the [Threshold Staking Contract](#).

Cancel

Continue

NEXT EMISSION
2d : 0h : 0m : 0s

Provider Address

This address will be used to set up your nodes. There can only be one unique Provider address per stake, and this address cannot be reused. You can set it up yourself, or you can receive it from your Staking Provider [Learn more](#)

Beneficiary Address

This is the address where your rewards will be sent when claimed. [Learn more](#)

Authorizer Address

This address authorizes which applications can use the funds from your staking pool.

We recommend that the authorizer address matches your connected wallet. [Learn more](#)

Stake Tokens (Step 1)

You are about to make a deposit
into the T Staking Contract

Staking Deposit requires 2 transactions.

Staked Amount 1,000,000 T
Estimated Gas Cost ~50 gWEI

Take note! These addresses cannot be changed later.

Standard

Expert

Provider Address ⓘ

Beneficiary Address ⓘ

Authorizer Address ⓘ

0xAb45507d1db315e8618eA26D78F1C85210077792

0xAb45507d1db315e8618eA26D78F1C85210077792

Read the [Threshold Staking Contract](#).

Cancel

Continue

NEXT EMISSION
2d : 0h : 0m : 0s

Claim All

This address will be used to set up your nodes. There can only be one unique Provider address per stake, and this address cannot be reused. You can set it up yourself, or you can receive it from your Staking Provider [Learn more](#)

This is the address where your rewards will be sent when claimed. [Learn more](#)

This address authorizes which applications can use the funds from your staking pool.

We recommend that the authorizer address matches your connected wallet. [Learn more](#)



Stake Details

Authorize Applications

Stake Details

Total Staked Balance

1,000,000.00 ₮

Total Rewards

2,000.34 ₮

This address will be used to set up your nodes. There can only be one unique Provider address per stake, and this address cannot be reused. You can set it up yourself, or you can receive it from your Staking Provider [Learn more](#)

STAKE 1 - NATIVE

Provider Address ⓘ

0xAb4...7792

Authorizer Address ⓘ

This is the address where your rewards will be sent when claimed. [Learn more](#)

Beneficiary Address ⓘ

0xAb4...7792

This address authorizes which applications can use the funds from your staking pool.

✓ Launched

We recommend that the authorizer address matches your connected wallet. [Learn more](#)

✓ Launched

Random Beacon Node Status

✓ Launched

Findings & Insights

DASHBOARD - OPERATOR MAPPING

Apart from the part in which the Operator Mapping Card doesn't show up right after the users finish the Staking + Authorization Process, and the users had to refresh the page in order to see it, all the participants said that the Mapping Process was straightforward and easy.

👉 **Recommendation** - Change the CTA from the Authorization Success from “View Apps” to “Map Operator”

Step 2 Completed



Your PRE authorization was successful!

Provider Address

0xAb4...7792

Random Beacon Authorization Amount

500,000 T (50%)

You can authorize more apps, or
continue to Step 3 to set up nodes.

You can adjust the authorization amount at any
time from the [Staking page](#).

Staking Timeline

STEP 1

STAKE TOKENS

STEP 2

AUTHORIZE APPS

STEP 3

SET UP NODE

- ➔ Set up and run a node for any of the applications
authorized.

[View](#) transaction on Etherscan

[Node Setup Doc](#) ↗

[Map Operator](#)

Operator Address Mapping



We've noticed your wallet address
is the same as your Provider
Address

Map your Operator Address to your Provider
Address to improve the support of your
hardware wallet. Mapping will require one
transaction per application.

Choose an application to map the Operator Address:

TBTC + RANDOM BEACON APPS (REQUIRES 2TXS)

Provider Address

0xAb4...7792

Operator Address

Enter text

The address generated during client setup and used by the
client software.



Take note! tBTC + Random Beacon Apps Rewards Bundle will require two
transactions, one transaction per application.

Dismiss

[Map Address](#)

Findings & Insights

“After following the logs a few more minutes it is still unclear if the node is running correctly or not.

Even though it's not stopping I assume it's still not running correctly. I'm not sure if this is a bug or if I'm doing something wrong.

I don't know how to test if the node runs correctly or not and have no idea what to do next.”

Findings & Insights

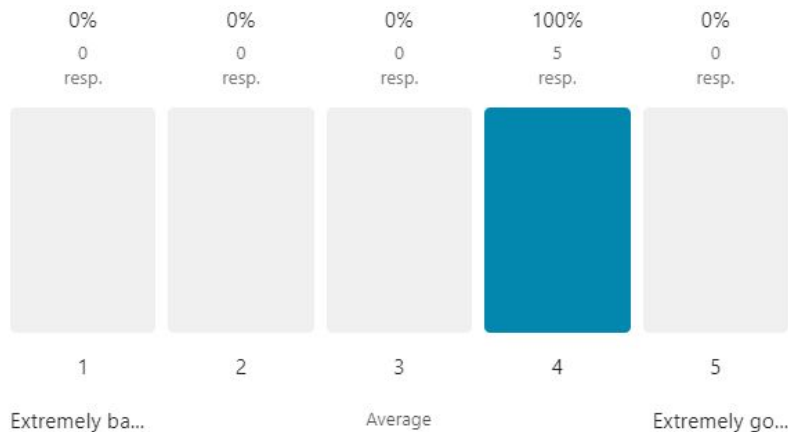
CLIENT EXPERIENCE



Please rate how was the overall experience throughout the whole node setup process.

Avg. 4

5 out of 5 people answered this question



Findings & Insights

CLIENT EXPERIENCE

All the participants had a really hard time with the fact that there is no clear way to know if the node was setup correctly and is running.

The client fails to state clearly if the node was connected to the Threshold Network. In addition to the lack of feedback nor the Documentation is providing support for the users to understand what a successful setup looks like, and what an active healthy node looks like.

👉 **Recommendation** - same recommendation as on page 21

- change the Banner visual cue to appear only when everything is connected and the node works.
- adding a checkmark in the UI

Findings & Insights

“The warning messages were really cryptic, technical and hard to understand.

Maybe the team understands what’s happening but I for one had no clue where the problem was. Was it on my end or their end?”

Participant 2

Findings & Insights

CLIENT MESSAGING - LABELLING OF THE LOGS

The client messaging performed very poorly and was not at all helping the users.

Mislabelling warnings as info made some participants to not even take into account if the warning was severe or not (the bootstrap warnings) because they considered that it can be ignored since it's not an error.

Bootstrap error message - the message itself failed to convey the message if the error is on the user side and they could address it or if it's something from the network and it is not on their end.

Findings & Insights

CLIENT MESSAGING - LABELLING OF THE LOGS

👉 **Recommendation** - Labelling correctly the info, warning and error messages is paramount.

More descriptive and verbose client messages to help the users understand what is happening and where is the problem situated: their side or outside.

Add severity grades to the error messages.

Findings & Insights

MACHINE REQUIREMENTS

Most of the participants stated that they would require some more information about why self-hosting is not recommended. It turns out that self-hosting is a go-to in this particular cohort we tested with. More data is required to check this insight. This should be tested in a survey with self-operators.

👉 **Recommendation** - An error prevention is necessary here. The Documentation should have a more verbose explanation on why self-hosting is not the optimal route. There should be added exact examples and cases sustaining the idea, so unnecessary slashing would be avoided.

Findings & Insights

“Regarding the requirements, what I have seen up to now is that, beside the first 16 hours or so, with a cpu usage of around 75%, the rest of the time the peak cpu usage has been of 5%, and the max RAM used the whole time has not reached even 30%, that would mean that with these same conditions a node with 1vCPU and 1GB RAM would also meet the needs.

I think adjusting the requirements is important, because sometimes people only have a small amount of T to stake (lets say the minimum 40.000T). If we check the current price of T and the price of the recommended machine in AWS, that would mean that that person would have around \$1020 in T, and would invest almost \$70/month, so he would need a reward per month of almost 7% to end the month with the same liquidity that he started it. If, on the other hand, the requirements were 1vCPU/1GB RAM, in Digital Ocean, one of those can be run for \$6/month, what would mean only a 0,6% reward per month to have the same balance. That could attract small investors to set up a node. Of course this will depend on the actual network load. So some load tests would be recommended in order to find the real minimum requirements.”

Participant 2

Findings & Insights

MACHINE REQUIREMENTS

There was a common behavior between the participants to meet the machine requirements recommended and then after the setup, to develop this idea that the requirements are too high for the actual usage. This means that most of them would downgrade the machine. It also means that we failed to explain why the high machine requirements are actually necessary and we might put our users to risk of unnecessary slashing.

👉 **Recommendation 1/2** - An error prevention is necessary here. Since the operators would downgrade the machines after the setup because they falsely believe that they are not necessary we could choose two different routes in order to prevent the unnecessary slashing.

Findings & Insights

MACHINE REQUIREMENTS

👉 **Recommendation 2/2** - The Documentation should explain very well why the machine requirements are high (e.g. the node will be required to create Private Keys, create wallets once a week etc.) and make sure the users understand that the workload for their nodes will increase more and more in the future. Explain to the operators that the client is launched modularly piece by piece and at first even though it looks like the node is not doing much, in its final form it will require a lot of CPU.

Send messages in the client to inform the users that a new client update was released and it needs to be upgraded. Add the machine requirements again.

Findings & Insights

MOST TIME CONSUMING PART / SETUP DURATION / MOST DIFFICULT PART OF THE PROCESS

We've asked our participants to self-assess their experience with the node setup and to tell us which were the most difficult parts of the process, how long did it take them to set up the node, and what was the most time consuming part of the process.

As expected, there is no clear pattern in their answers because all these answers may be affected by different variables and the different level of their experience. Even though we could not pinpoint a pattern, the data produced is still extremely valuable in terms of perception of difficulty, learnability, and system evaluation.

Findings & Insights

MOST TIME CONSUMING PART / SETUP DURATION / MOST DIFFICULT PART OF THE PROCESS

Most time consuming part of the setup process:

As stated by our participants in the Post-Study Interviews the most time consuming part of the process were:

- setting up a rootless Docker (1 user)
 - Editing the script (1 user)
 - The information in the keystore file. (1 user)
 - Setting up the right keys (2 user)
 - Setting up the server (4 users)

Findings & Insights

MOST TIME CONSUMING PART / SETUP DURATION / MOST DIFFICULT PART OF THE PROCESS

Most time difficult part of the setup process:

As stated by our participants in the Post-Study Interviews the most difficult consuming part of the process were:

- setting up a rootless Docker (1 user)
 - The wallet and the 3 addresses part
 - Setting up the right keys (2 user)
 - Setting up the server (3 users)

Findings & Insights

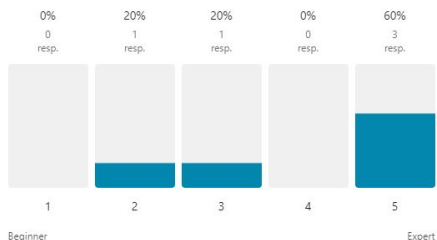
MOST TIME CONSUMING PART / SETUP DURATION / MOST DIFFICULT PART OF THE PROCESS

Setup Process Duration: Average of 2.6 hours

The study spanned over 4 days and the durations listed here are the periods of how long it took our participants to actually setup and configure the nodes with the server setup, dashboard setup, client setup, minus the reading of the docs. The participants' experience (self-assessed) is an average of 4 a scale of 1 to 5.

2 How would you rate your personal experience with configuring nodes? Avg. 4

5 out of 5 people answered this question



Information Radiator - Actionable Items

Documentation

Monitoring Section

Troubleshooting Section

Give alerts inside the client when a new update is released

Add machine reccs for Hetzner and Digital Ocean as well

Successful Connectivity Metrics

Grafana Dashboard Plug-in Play

Re-estate in the client the machine reccs

Provide a clear Contract Address list

Provide Node Health Endpoints

Minimum Node Wallet Funds

Provide success metrics

Provide a notation for ARM64

HTTP

Explain what a successful and active node looks like

Show success visual cues only if the node is properly installed (e.g. the KEEP banner)

Add Staking Docs as a link to the Node docs

Explain why the self host is not recommended

Provide explanation for the high resource machines

Successful Installation - a message in the client

Create Staking Docs if not existing. Insist on the relationship between the 3 addresses

Node Experience

Explain in Docs the relationship between the 3 addresses

Add Configure Apps on the Overview Page as well

Create a Default and Expert mode for the 3 addresses setup

Add tooltips with what the 3 addresses mean in the Stake Details as well

Add the explanations of the 3 addresses in the modals as well

Display Operator Mapping card right at the end of the Authorization flow - now it needs a refresh

Add a checkmark in the UI that the node is active

label correctly the messages in the logs

Make the error/warning/info messages more verbose

Add clarity in the messages if the error is on the client side or not

Add severity grades to the errors

Trust

Give a clear timeline for the protocol

Provide information about the slashing

Give Monitoring Support for the users

Support the Community to create Monitoring Dashboards and Alerting systems

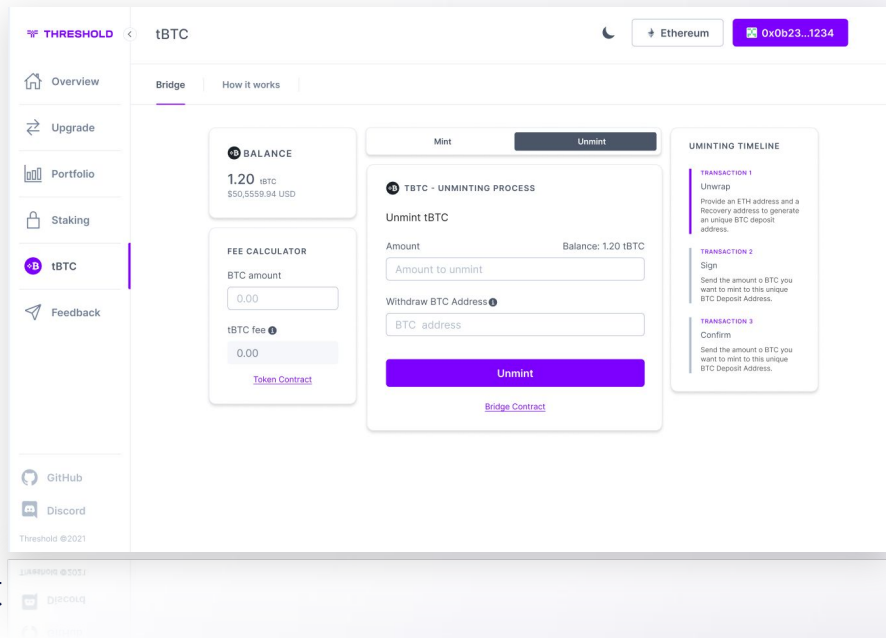
Make some of the node setup pre-packaged

Next Steps

NEXT STEPS

Following this Diary Study we'll make amends to the Documentation, the Node Messaging and the UI.

- Include some of the findings in the Documentation by adding a Monitoring section.
- Make changes in the UI
- Decide how might we better support the small stakers.



**Love your
users!**

