DWELLIR

Proposal: Update 5: RPC-node Dwellir

Proponent: Dwellir
Date: 10/01/2022
Requested allocation: X KSM *(based on EMA 7)*
KSM Account: `DuLr6CeLXezrfumF6EkqLeAx9paMcADYU6zHpSZVB8gvjht`
Short Description: Operate RPC services for the community Q1 2023

Background

About Dwellir

Dwellir is an infrastructure provider for the decentralized web. We provide validator services for the networks [Kusama](#), [Polkadot](#).

We participate in the Thousand Validator Programme for Polkadot & Kusama.

Dwellir was selected as one of the genesis [Collators for the KILT](#) Parachain on Kusama.

In August 2021 we received our first grant from the Kusama Treasury to build and further develop an RPC service for Kusama. We have since then implemented the service. During Q4 2021 we discovered significant performance issues with the RPC code itself. This resulted in us expanding the scope of our proposal to investigate the RPC code itself.
As a step in the performance investigation, we have built an [Artillery Substrate Engine](#) to stress test the nodes. We have written a [report](#) about our findings when we developed the first [performance toolkit](#).

This proposal is a maintenance proposal to further fund the RPC services.

Team

The Dwellir crew has over a decade of experience from the crypto domain and aims to expedite the development of web 3.0. We are experienced computer scientists, entrepreneurs and crypto enthusiasts that share the ideas and philosophies around a free and decentralized web. We also have gained experience and good relations with the Polkadot/Kusama communities.

Gustav Nipe - CEO (https://www.linkedin.com/in/gustav-nipe-a61ab0102/)
Entrepreneur and political activist. Worked several years for the Swedish Pirate Party on privacy issues. Previous CTO at ImpactVision Inc (Acquired by Apeel Science 2020) a startup spawned from the Google Singularity University.

Erik Lönroth - DevOps lead (https://eriklonroth.com/cv/)
Technology Lead for High Performance Computing at Scania, past CIO ImpactVision Inc. Board member of Open Source Sweden.

Joakim Nyman - Solutions Architect (https://www.linkedin.com/in/joakim-nyman/)
DevOps engineer at Imint AB, past lead developer at ImpactVision Inc.

Ben Chatwin - Operations (https://www.linkedin.com/in/ben-chatwin/) Has worked for several high-tech startups in drones, machine learning and more recently for deFi projects across multiple blockchain ecosystems.

Report

Our Kusama RPC node served on average **2,118,654** requests per day and in total **194,916,136** during the last quarter.

Our Statemine RPC node served on average **409,578** requests per day and in total **37,681,136** during the last quarter.

Our Westmint RPC node served on average **178,285** requests per day and in total **16,402,264** during the last quarter**.**

Since our last proposal we have launched a cluster in Tunisia, North Africa. The RPC nodes in Tunisia are in production and are being used by the community.

Problem Statements

Problem #1 - Providing RPC services

The Kusama network is today dependent on available RPC services for easy access to the network. When providing RPC endpoints the network must stay decentralized, robust and have different geo locations represented. Providing these RPC endpoints is not trivial and requires significant resources.

We will run for the coming quarter Kusama, Statemine and Westmint RPC services.

Proposed Solution to #1

MILESTONE 1
A) Continue to run the current RPC service on dedicated hardware. We will use different local ISPs for the sites in order to help the Kusama network to stay decentralized.
    a) We are also running public RPC services for Statemine and Westmint.

Alternatives and Other Proposals

- OnFinality's [report for Q1 2022](#).

We seek a grant to finance Milestone 1.

Dwellir's past treasury proposals:

- [Q3 2021](#)
- [Q4 2021](#)
- [Q1 2022](#)
- [Q2 2022](#)
- [Q3 2022](#)
- [Q4 2022](#)

Fund Management

Fund Allocation Plan

KSM tokens will be taken based on the 7 day average price on the day of submission.

Applicant*:	Beneficiary:
JLJ6GwV1gjjmUx7fbHEBU76fZM2tVs5Xi4s3quuSneAVAT9	DuLr6CeLXezrfumF6EkqLeAx9paMcADYU6zHpSZVB8gvjht
JLJ6GwV1gjjmUx7fbHEBU76fZM 2tVs5Xi4s3quuSneAVAT9 ✅ GUSTAV	DuLr6CeLXezrfumF6EkqLeAx9p aMcADYU6zHpSZVB8gvjht ✅ 🛡 DWELLIR KSM 🛡

The Applicant Account is the signatory of the Beneficiary Multisig Account.

Costs Breakdown

MILESTONE 1
Develop, deploy and maintain the RPC-nodes on Kusama and Statemine

Running operational costs:
- RPC service, running on dedicated bare metal machines for Kusama: $10400/quarter
- RPC service, running on dedicated bare metal machines for Statemine: $2680/quarter
- RPC service, running on dedicated bare metal machines for Westmint:
- $1430/quarter
- Kusama boot node service, running on dedicated bare metal machines: $400/quarter
- Running development to keep up with Kusama, Statemine and Westmint (bug fixes, adjusting to new releases, security improvements, etc.): 12h / m*3 months * $165=5940/quarter
- Administration: $360
- Subscriptions for multiple DNS providers and registrars: $150/quarter

Total: $21360 (per quarter cost)

Total Polkadot Treasury contribution Q1 2023 = USD $21360

Total Polkadot Treasury contribution Q1 2023 = X KSM
KSM value will be calculated on the day of the proposal approval (Based on EMA7).

Communication channels

We plan to provide monthly updates with the Kusama community and in various shared Matrix communication channels on the usage of the RPC services. We welcome any advice on how we can best communicate this to the Kusama community. We plan to:

1. Deliver a report after completion of M1 for this quarter: including costs, developments and how the service has improved - including any usage metrics that support the service.