This treasury proposal is between Polkadot Council and Real Web LLC (dba RadiumBlock), an LLC registered in the United States with EIN 87-2225143. This is RadiumBlock's first maintenance proposal.

About RadiumBlock

RadiumBlock is owned by Real Web LLC. RealWeb has over 20 years of rich business infrastructure management experience. Our data centers may be found in over 5 different locations across the world. We also manage the AWS infrastructure of some of the largest corporations in the world. We have a team of more than 25 highly skilled engineers dedicated to infrastructure management.

Service Description

1. Snapshots are compressed copies of the latest state of a blockchain, allowing a new node to synchronise with the network in an instant instead of downloading all the blocks.
2. A functioning infrastructure for providing blockchain database snapshots that are both usable and beneficial to node operators and validators.
3. There will be one new snapshot per day.
4. Polkadot snapshots are pruned to contain just enough data to validate the chain. The compressed RocksDb of the Polkadot snapshot is currently 52GB. They are pruned to contain the last one thousand blocks, making them much more efficient to download and validate.
5. RadiumBlock snapshots are always up-to-date with relevant metadata and download links.
6. RadiumBlock's security systems are state of the art, with an emergency response team on standby 24/7.
7. RadiumBlock's incident and problem management system with continuous monitoring and quick response time ensures optimum node performance.
8. RadiumBlock's redundant implementation setup allows for continuity, seamless upgrades and basic disaster recovery & contingency management.

9. Node operators can quickly download and install nodes from RadiumBlock snapshots which reduces recovery times after failures.

Context

The RadiumBlock snapshot service is designed to provide a reliable method for bootstrapping Polkadot validators. We provide daily snapshots that are available for free and open to the community. The snapshots are provided from a proven production quality environment, so node operators can quickly download and install nodes from our snapshots which reduces recovery times after failures.

Data loss is a major concern for users. Whether it's crypto tokens, or information on the blockchain, corruption is still an issue and may not be rectified immediately. A system to combat any such failures would certainly prove to be in demand by users. To avoid having to retrieve data from the genesis block, we at Radium Block, have set up a system to regularly take snapshots of the node's file system. In case there are any corruptions, restoring data from the latest snapshot takes care of that.

Snapshot storage is one of the many services offered by RadiumBlock that aims to provide users of the polkadot ecosystem. RadiumBlock's ecosystem is crafted to be secure and free to the public. RadiumBlock snapshot storage provides fast, pruned tree branches so you can quickly recover from any vulnerability or attack without risk of compromising yourself.

Usage

From the RadiumBlock screenshot, we can see total data flow (downloads) for February 2022 is about 5500GB (both Kusama and Polkadot, together).

At the time of writing, a pruned Polkadot node with 1000 blocks required 69GB of storage. It is approximately 52GB after compression.

At the same time, a pruned Kusama node with 1000 blocks required 119GB of storage. It is approximately 99GB after compression.

Operational Expenses

We have one engineer who works 10 hours per month to support our snapshot services. The labour cost for a month will be $800 at an hourly rate of $80.

RadiumBlock snapshot is hosted on Hetzner and our data centre is located in Finland. Under the current set up, the costs incurred are for -

1. Cost of running the server (including data transfer)
2. Labor charge (Set-up, maintenance and support)

Furthermore, we pass on the server costs with a 25% markup.

Both Kusama and Polkadot snapshots are hosted on the same server.

The snapshot of an entire network is a very useful tool for bringing up blockchain validator nodes quickly. Our strategically located data center provides diversity both in network connectivity and geographic location, which helps decentralize the blockchain ecosystem. Our system is configured to detect any downtime in any location. The node will be revived in another location with minimum disruption.

The importance of a reliable network can't be underestimated when it comes to running blockchain. With faster download speeds and better reliability, nodes are more likely to recover quickly in case something goes wrong with storage media - making the entire decentralized system stronger overall!

Budget

Item	Cost
Labor Monthly	800 $
Server Infrastructure Monthly	71 $
Set Up (one time)	65 $

Overall Budget for Q1 2022 (February 2022 to March 2022)

Item	Cost
Labor, Total	1600 $
Server Infrastructure, Total for Feb-Mar	142 $
Server Infrastructure Total + 25% Markup	177.5 $
Set Up (one time)	65 $
Quarterly Total (USD)	1842.5 $

| Exchange Rate DOT to USD	17.99 (Median of days from 2/24 to 3/24)
Quarterly Total (DOT)	102.418
Slippage + Conversion Fee (5%)	5.1209
Proposal (DOT)	107.5389

This proposal has been written for submission to the Polkadot Treasury. RadiumBlock will submit a proposal to the Kusama Treasury for the following quarter. We do not intend to split the proposal in two because the cost is not prohibitively high.
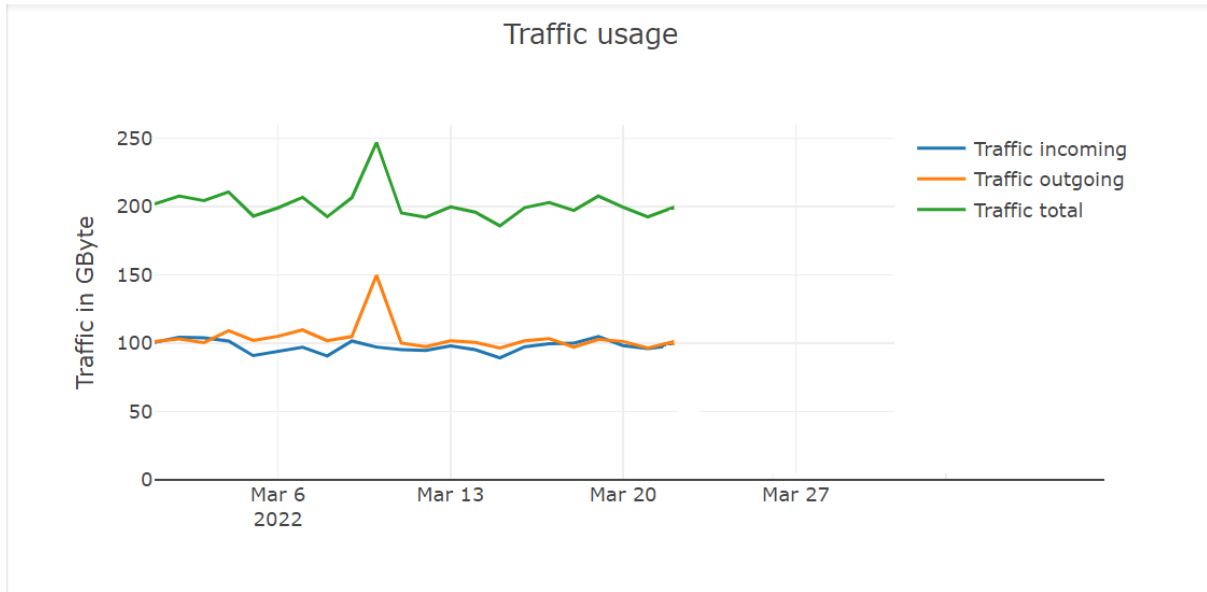
RadiumBlock Recap

RadiumBlock launched the snapshot services in February 2022. Since then, we have had a significant rise in data flow.

Data flow for the month of February
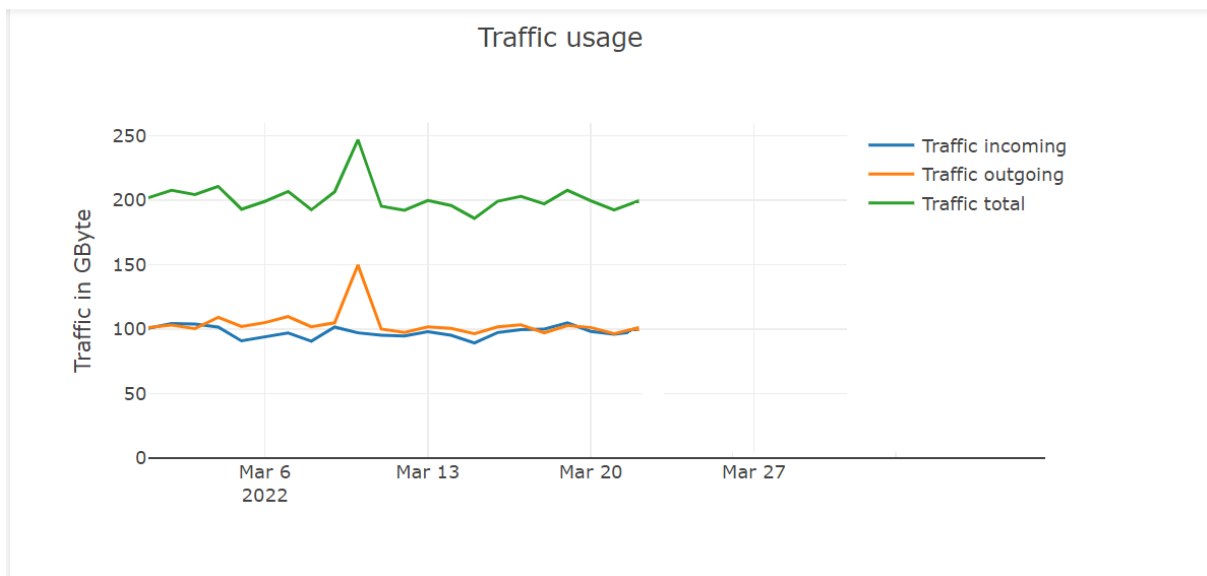
Data flow for the month of March as on 23/03/2022.

Traffic usage

Monthly Outgoing Bandwidth

	Monthly Outgoing Bandwidth
February	2,287.474
March	5,458.603
Total	7746.077

The proposal is for the Polkadot snapshot service from RadiumBlock. An identical proposal for Kusama is being developed which will be submitted to the Kusama treasury.