

Proposal: High Performance Public Infrastructure (Q1 2023)

Proponent: ELkVhHcvaP9L43RK9SP6Wn3FBfusEN5EJe2gH7aA2ETiufP

Date: 8th May 2023

Requested KSM: 1,835.806 KSM (USD: \$51,971.31)

Short description: Ongoing costs for the running of high performance, scalable, and reliable public infrastructure for Kusama and Statemine.

Raw Data:  Kusama Data Q1 2023

Original Motivation

Over the last 3 months (January, February, March 2023) we've provided a scalable free public API service so that everyone can access public pools of managed Kusama and Statemine nodes. This provides the following three outcomes:

- Grow the ecosystem by reducing the barriers to entry to access a high performance nodes
- Help scale existing projects in the ecosystem by providing infrastructure services that can be depended on
- Assist with the testing of all networks by providing valuable data back to the community on how validator nodes are running and scaling as the network traffic increases (we've made Github issues based on behaviour we've observed)

Service Details

During Q1 of 2023, we've made a large number of stability improvements to our Ultimate API service to allow us to add a large number of new parachains over the last quarter as well as support for multiple chains outside of Polkadot.

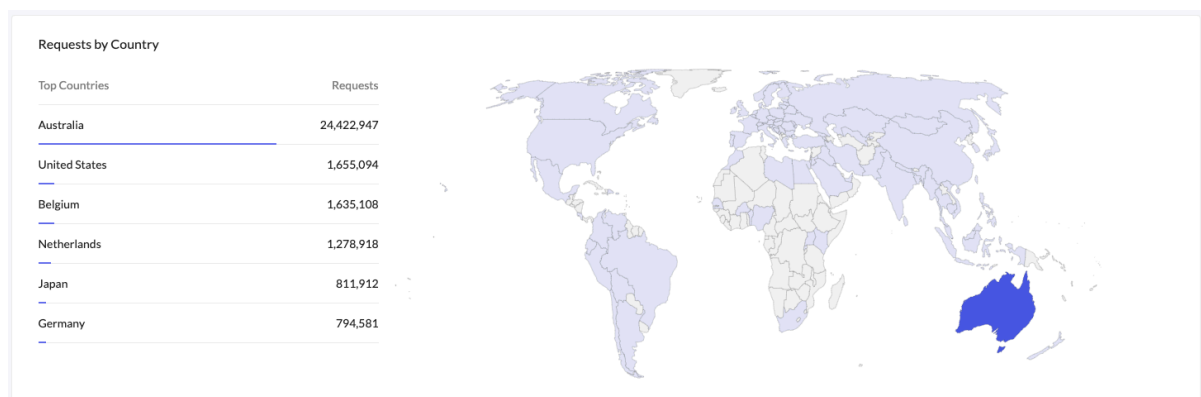
For customers that do sign up for paid API keys, we've been adding more and more features to provide a better experience. Geolocation insights provide statistics about where in the world communities are to help influence decisions around where to expand infrastructure and to view the effectiveness of regional BD initiatives. We can also now automatically upsize the storage on nodes to prevent the risk of any downtime.

Our customers are building cross-chain wallets, running some of the largest block explorers, and are indexing multiple networks - they've all benefited from these API access restrictions, improved monitoring, and the larger number of supported Polkadot chains.

Between 2023-01-01 and 2023-03-31 our Kusama API service has:

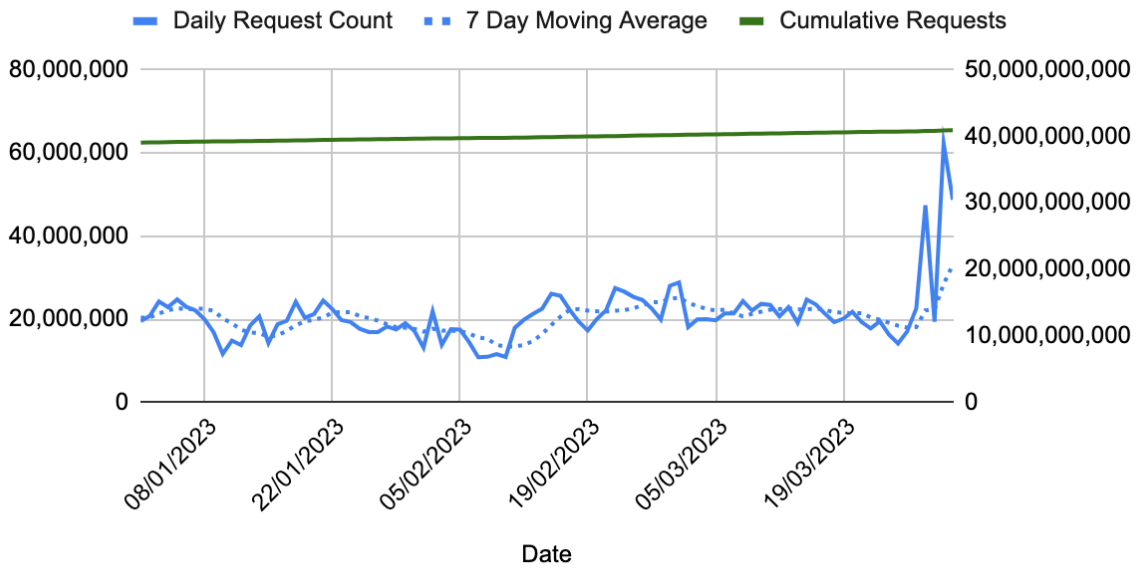
- Served a total of 2.084 billion responses
- Accumulated almost 43,000 GB of data egress
- The highest daily total was over 62 million responses in a single 24 hour period for Kusama alone
- Our rolling 7 day average at the end of this period was over 33 million responses each day
- Statemine had over 190 million API responses in the period
- All time totals for Kusama is 40,919,737,864 (nearly 41 billion) since November, 2020
- At the end of this period the 90 day uptime on Kusama and Statemine was 99.96% and 99.99% respectively

Kusama March Requests by Country



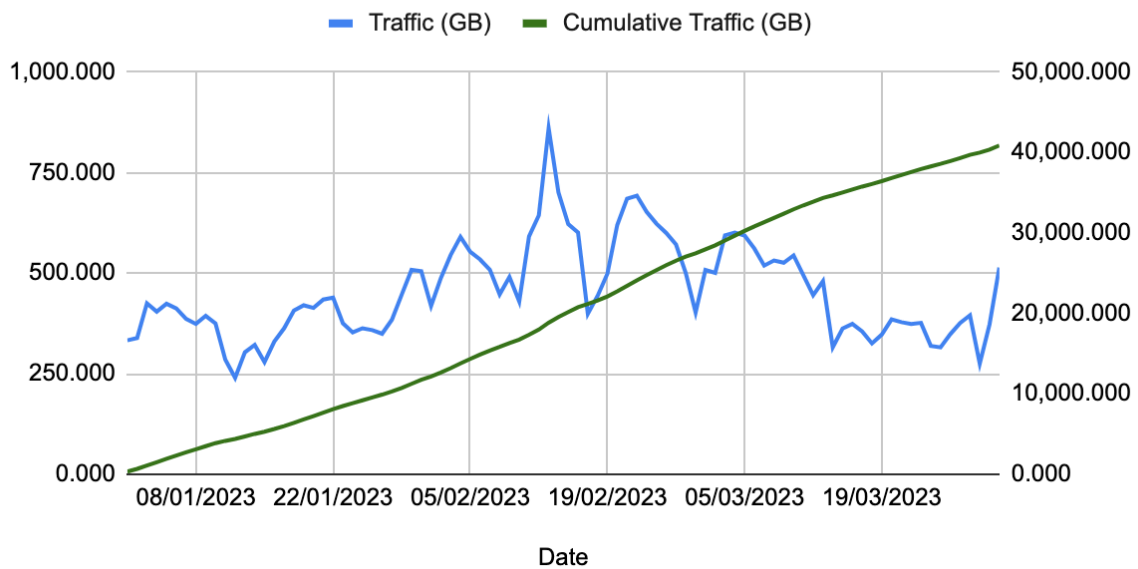
Kusama Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider

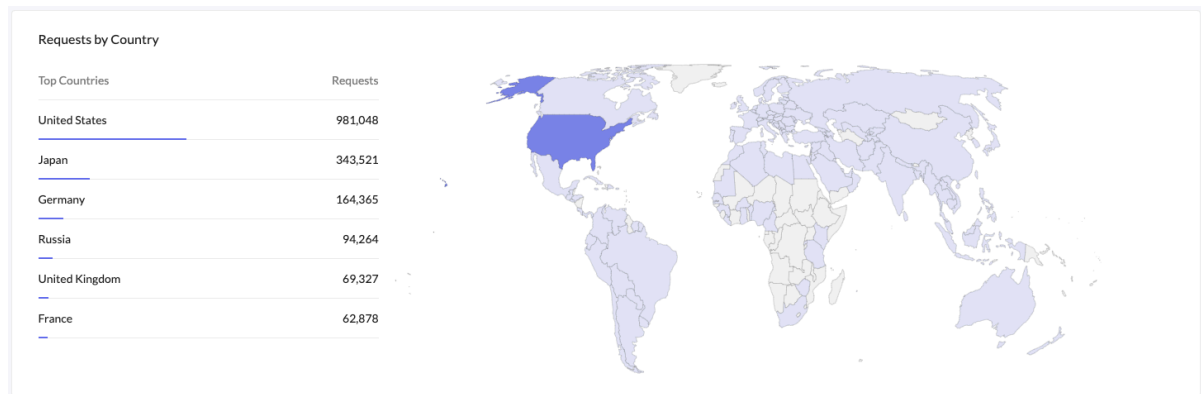


Kusama Q4 2022 Data Traffic

Powered by OnFinality - Polkadot's Infrastructure Provider

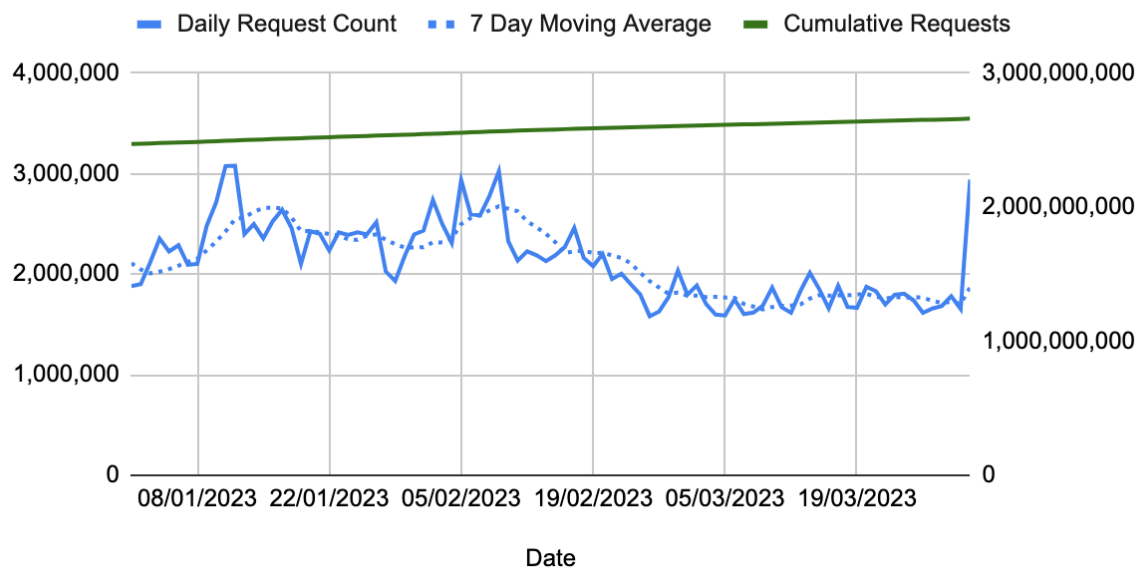


Statemine March Requests by Country



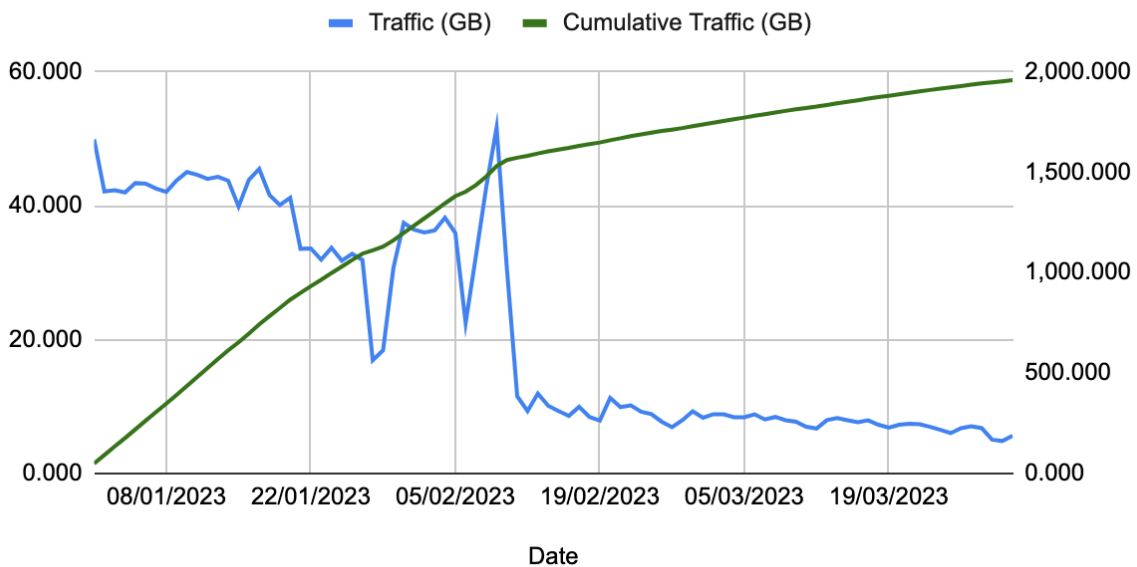
Statemine Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider



Statemine Q1 2023 Data Traffic

Powered by OnFinality - Polkadot's Infrastructure Provider



Enhancements

Additionally, we are proud to have delivered some key service enhancements that benefit the Polkadot ecosystem in the last quarter. This includes:

- [Auto Expand Storage](#) - When the node's storage reaches 85% utilisation, the storage size will be automatically increased by 10%. Saves developers and devOps time on having to constantly check on and manually upgrade their node storage size
- [Partnership with POKT network](#) to bring in more external developers into the Polkadot ecosystem
- [Geographical Insights](#) - API key owners can view statistics about where in the world your community are to help influence decisions around where to expand infrastructure and to view the effectiveness of regional BD initiatives
- [Clarify our IP address handling](#) - OnFinality does not, and will never, correlate or link specific wallet addresses to the IP address or request origin making the RPC request
- We're testing access to various unsafe methods like traceBlock and subscribeStorage that will help developers create applications that utilise XCM - contact us if you would like to be part of the beta
- Reduced our exposure to any single cloud provider - Progressively migrated resources away from AWS to other cloud providers for lower cost and exposure.
- Expanded our OnFinality for Startups Programme to support teams from the Substrate Builders Programme and Scytale Ventures
- Added support for a number of new networks, including Ajuna, Unique, Clover, SORA, Composable Finance, Collectives, xx network, as well as Polygon, BNB, Fantom, Gnosis and

Evmos from outside the ecosystem. OnFinality is a new one stop shop for all of your RPC needs from multiple ecosystems.

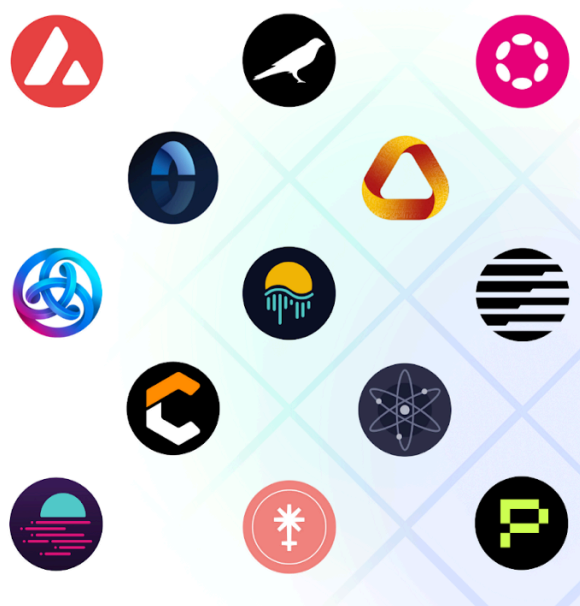
- A variety of improvements to our health metric collection tools and automated recovery scripts to ensure our 99.9% SLA is exceeded.
- Scale improvements to our team, processes, and systems to allow us to provide this same service to any substrate team

You can always see live data on our API service on our public [status page](#) and [network analytics page](#).



Scalable API & Nodes Service

Blockchain Infrastructure Made Smarter



Costings

This proposal includes combined running costs for our infrastructure for Kusama and Statemine. The total combined running cost is USD \$51,971.31 - [raw data is here](#).

Network	Type	Price (USD)	Billable Units	Q3 2023 Cost (Total)
Kusama	Compute	\$0.085 / Compute Unit / hr	245,358.4	\$20,855.46
Kusama	Storage	\$0.0004 / GB / hr	40,770,152.3	\$16,308.06
Kusama	Backup	\$0.0004 / GB / hr	10,542,557.0	\$4,217.02
Kusama	Data	\$0.15 / GB	38,054.8	\$5,708.23
			Subtotal	\$47,088.77
Statemine	Compute	\$0.085 / Compute Unit / hr	40,555.3	\$3,447.20
Statemine	Storage	\$0.0004 / GB / hr	2,853,181.0	\$1,141.27
Statemine	Backup	\$0.0004 / GB / hr	756,140.0	\$302.46

Statemine	Data	\$0.15 / GB	1,823.4	\$273.51
			Subtotal	\$5,164.44
			Less API Revenue Share Discount	\$281.90
			Grand Total (USD)	\$51,971.31

KSM amount will be calculated using EMA7 rate [here](#) on day of approval

About OnFinality

[OnFinality](#) is a SaaS platform providing infrastructure services for the Polkadot/Substrate community. Our mission is to support all blockchain developers in the world by providing core infrastructure so they can focus on building the next dApp.

We continue to reaffirm our dedication to providing free support of 500,000 responses to our API service each day for users around the world. You can access our public API service by connecting to it using [Polkadot.js](#) or via the endpoints listed below. You can also [create your own free API key in our application](#) and track metrics and statistics.

- <https://kusama.api.onfinality.io/public>
- <wss://kusama.api.onfinality.io/public-ws>
- <https://statemine.api.onfinality.io/public>
- <wss://statemine.onfinality.io/public-ws>

Thanks to the funding of our original treasury proposals back in 2020, OnFinality has run over 50 API service endpoints for many different teams around the growing Polkadot ecosystem. We've been able to take the tools and infrastructure that we've built and help other teams scale while providing superior experiences to their communities. We are dedicated to helping the Polkadot ecosystem through this next phase of parachain growth.

Our mission remains the same, to support all blockchain and dApp developers by providing core infrastructure and developer tools that save them hours.

Payment Conditions

The total ongoing running costs for high performance, scalable, and reliable public infrastructure for Kusama and Statemine.

- Amount in USD: \$51,971.31
- KSM Rate: 28.308 (EMA7 rate [here](#) taken on 2023-05-08)
- Amount in KSM: 1,835.806 KSM
- Beneficiary address: ELkVhHcvaP9L43RK9SP6Wn3FBfusEN5EJe2gH7aA2ETiufP

- Beneficiary contact: Brittany Seales - OnFinality (brittany.seales@onfinality.io)