Proposal: High Performance Public Infrastructure (Q1 2023)

Proposer: [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.

Proponent: 12mRyiCp9zdh1wEVW5gLLiFBxDPKks72rRXmSupyEK3VAMLf

Date: 24th May 2023

Requested DOT: 12,141.2773 (USD $64,834.42)

Short description: Ongoing costs for the running of high performance, scalable, and reliable public infrastructure for Polkadot, Statemint, Collectives, Westend, and Encointer.

Raw Data: 📗 Polkadot Data Q1 2023

Original Motivation

Over the last 3 months (January, February, and March 2023) we've provided a scalable free public API service so that everyone can access public pools of managed Polkadot, Statemint, Westend, Collectives, and Encointer 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 reliable infrastructure services
- Assist with the testing of all networks by providing valuable data back to the community on how nodes are running, what calls are causing errors, and where traffic is originating from

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.
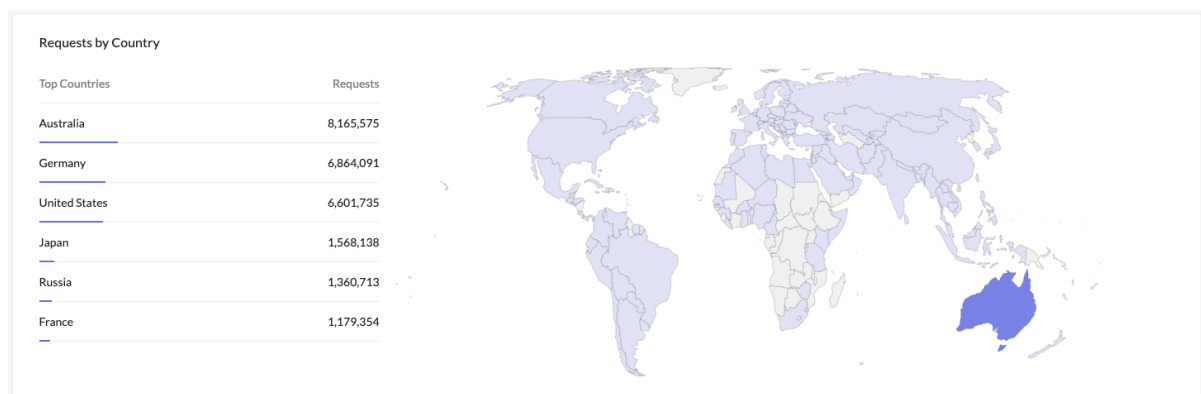
For customers that do sign up for paid API keys, we've been adding more and more features to provide a better experience. Geolocation insights provide statistics about where in the world communities are to help influence decisions around where to expand infrastructure and to view the effectiveness of 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.

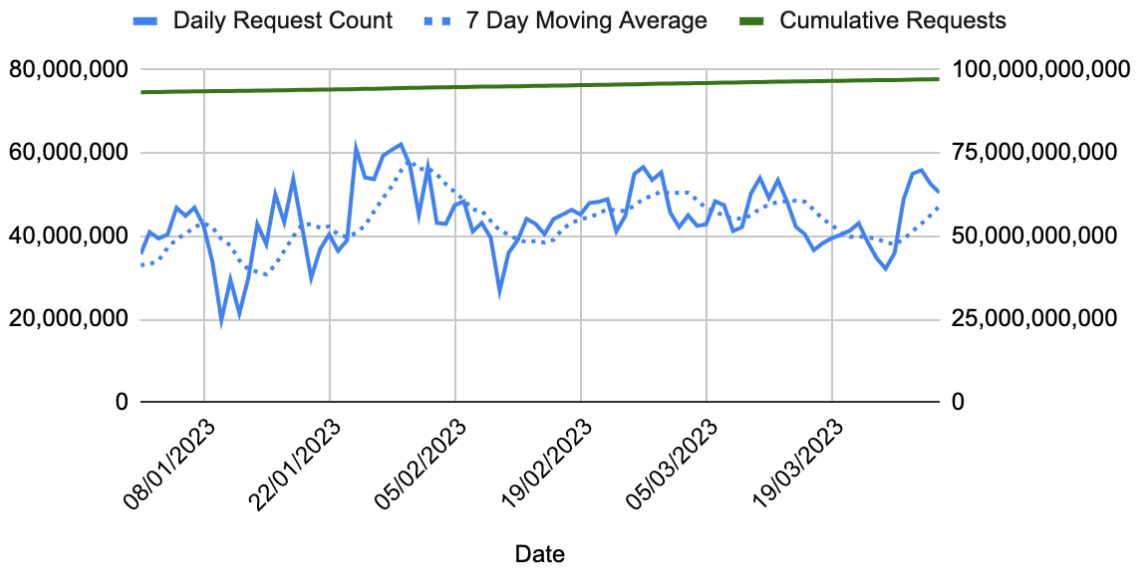Between 2023-01-01 and 2023-03-31 our Polkadot API service has:

- Served a total of **4.3 billion** responses
- Accumulated over 50,000 GB of data egress
- The highest daily total was **62 million** responses in a single 24 hour period for Polkadot only
- Our rolling 7 day average at the end of this period was over 49 million responses each day
- Westend had over 110 million API responses in the period
- Statemint had over 102 million API responses in the period
- All time totals for Polkadot is **97,192,546,788** (97 Billion) since November, 2020
- At the end of this period the 90 day uptime for Polkadot, Statemint, Westend, Encointer and Collectives was 99.98%, 99.99%, 99.96%, 99.74%, 99.95% respectively

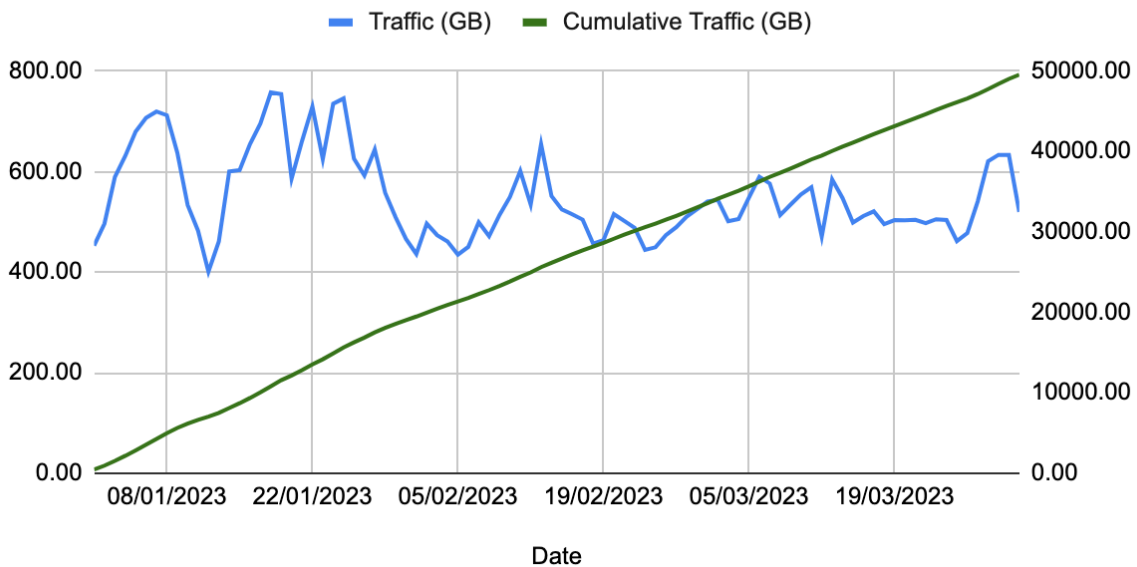## Polkadot March Requests by Country

Requests by Country	
Top Countries	Requests
Australia	8,165,575
Germany	6,864,091
United States	6,601,735
Japan	1,568,138
Russia	1,360,713
France	1,179,354

Polkadot Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider

— Daily Request Count   **· · ·** 7 Day Moving Average   **—** Cumulative Requests

Polkadot Q1 2023 Data Traffic

Powered by OnFinality - Polkadot's Infrastructure Provider

— Traffic (GB)   **—** Cumulative Traffic (GB)

Statemint March Requests by Country

Requests by Country

Top Countries	Requests
United States	295,630
Japan	259,147
Germany	34,481
United Kingdom	19,475
France	15,002
Russia	14,414
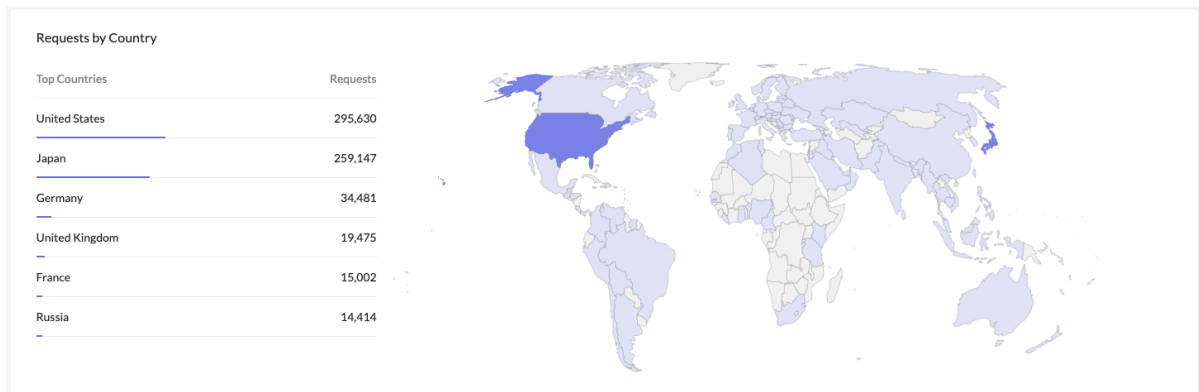
Statemint Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider

Legend: — Daily Request Count · · 7 Day Moving Average — Cumulative Requests

Date
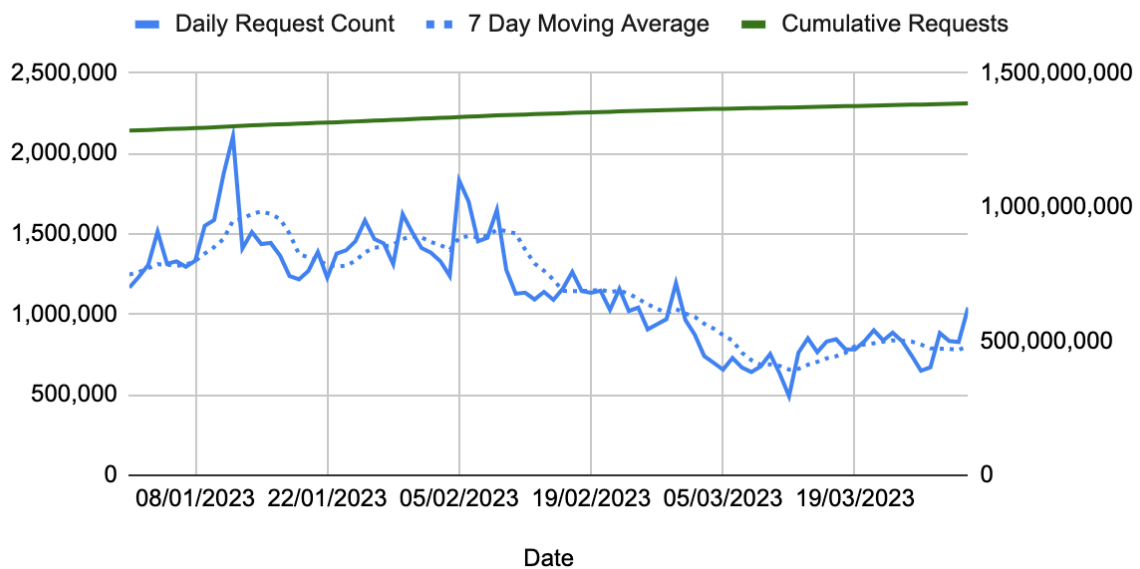
Statemint Q1 2023 Data Traffic

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Westend March Requests by Country

Requests by Country
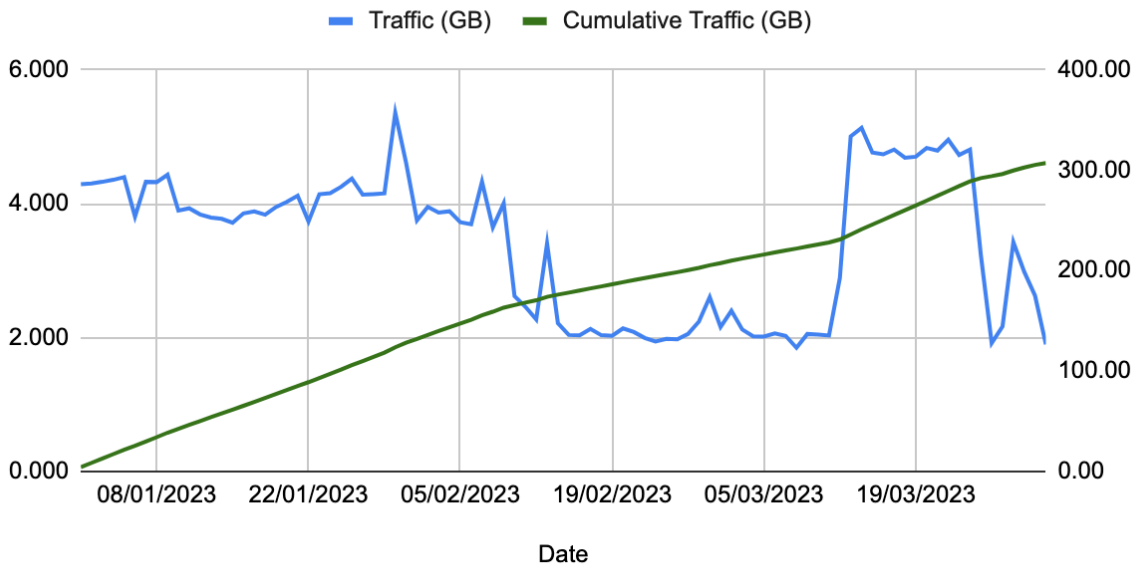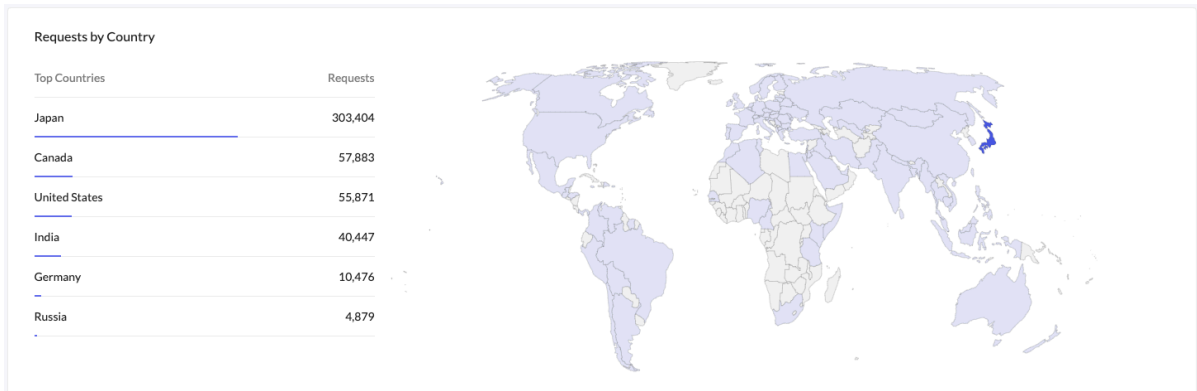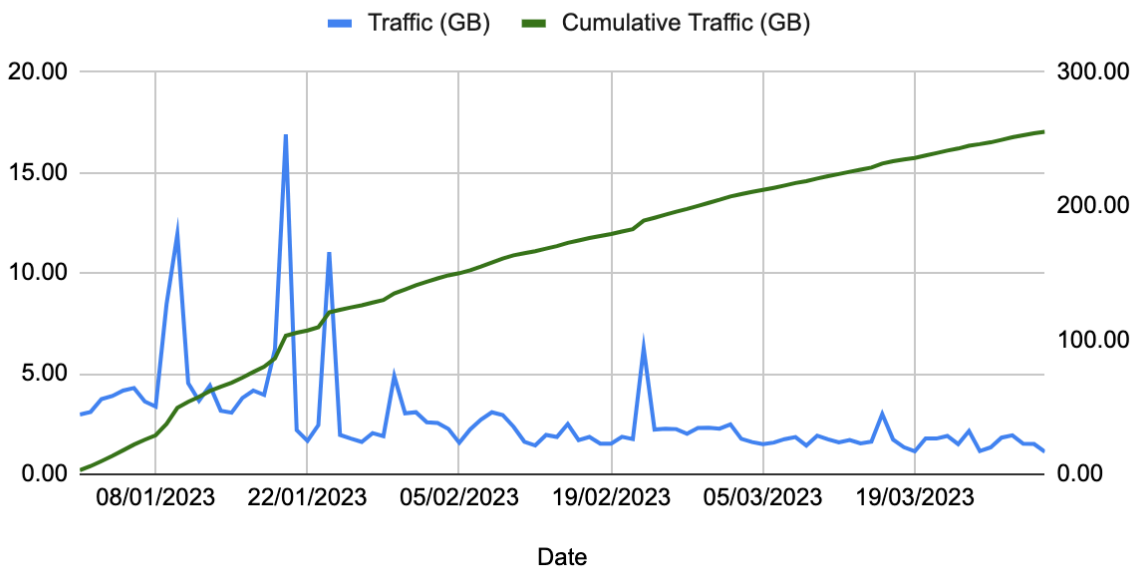
Top Countries	Requests
Japan	303,404
Canada	57,883
United States	55,871
India	40,447
Germany	10,476
Russia	4,879

Westend Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider

● Daily Request Count   ● ● 7 Day Moving Average   ━ Cumulative Requests

Date
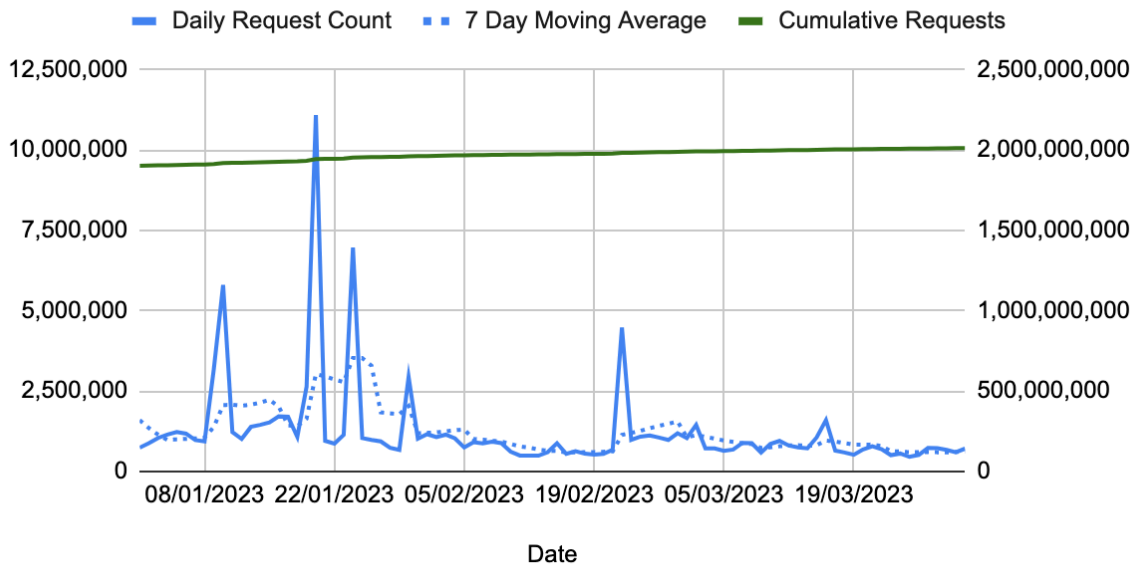
Westend Q1 2023 Data Traffic

Powered by OnFinality - Polkadot's Infrastructure Provider

━ Traffic (GB)   ━ Cumulative Traffic (GB)

Date

Encointer March Requests by Country

Requests by Country

Top Countries	Requests
United States	175,661
United Kingdom	16,142
Russia	14,870
Canada	13,093
India	12,292
Germany	11,426
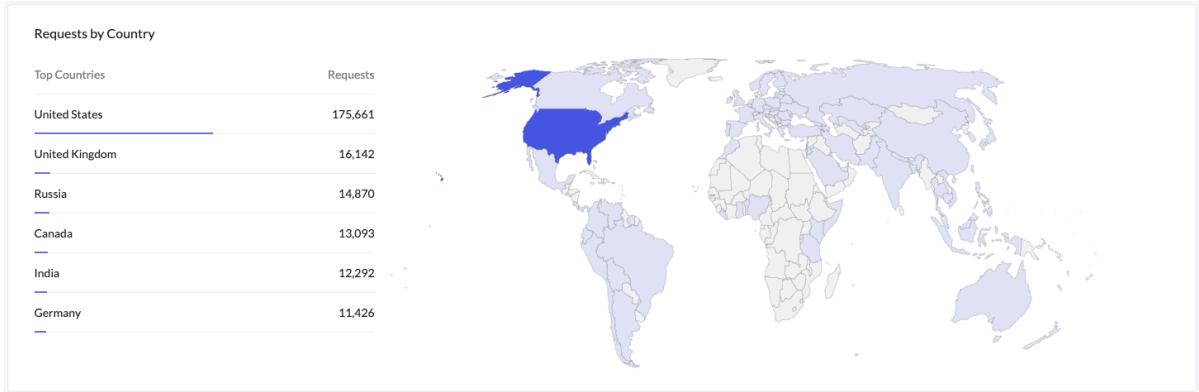
Encointer Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider

— Daily Request Count   ⋯ 7 Day Moving Average   — Cumulative Requests

Date
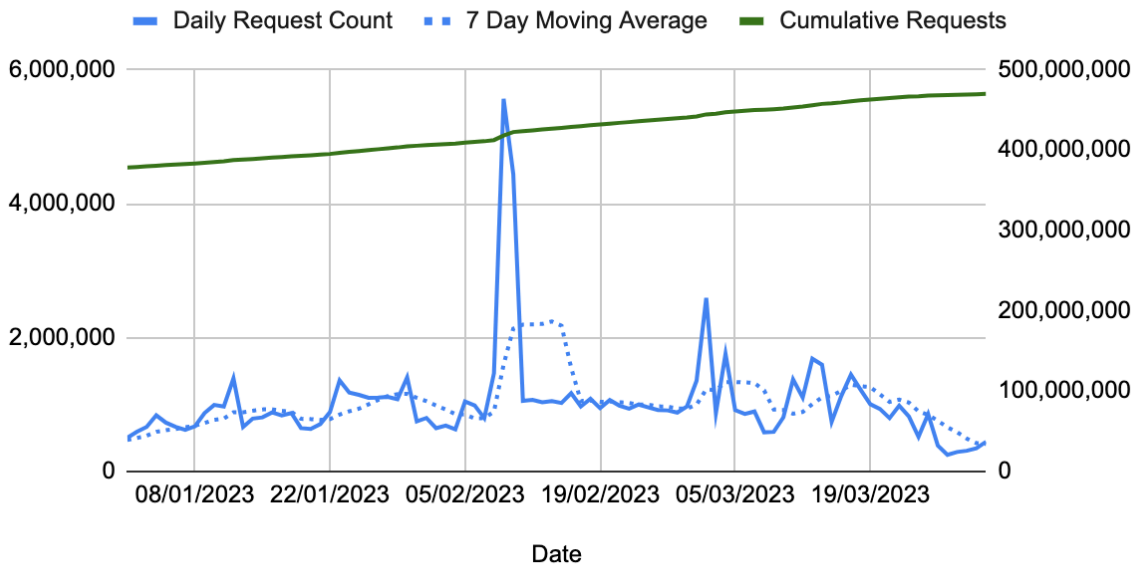
Encointer Q1 2023 Data Traffic

Powered by OnFinality - Polkadot's Infrastructure Provider

— Traffic (GB)   — Cumulative Traffic (GB)

Date
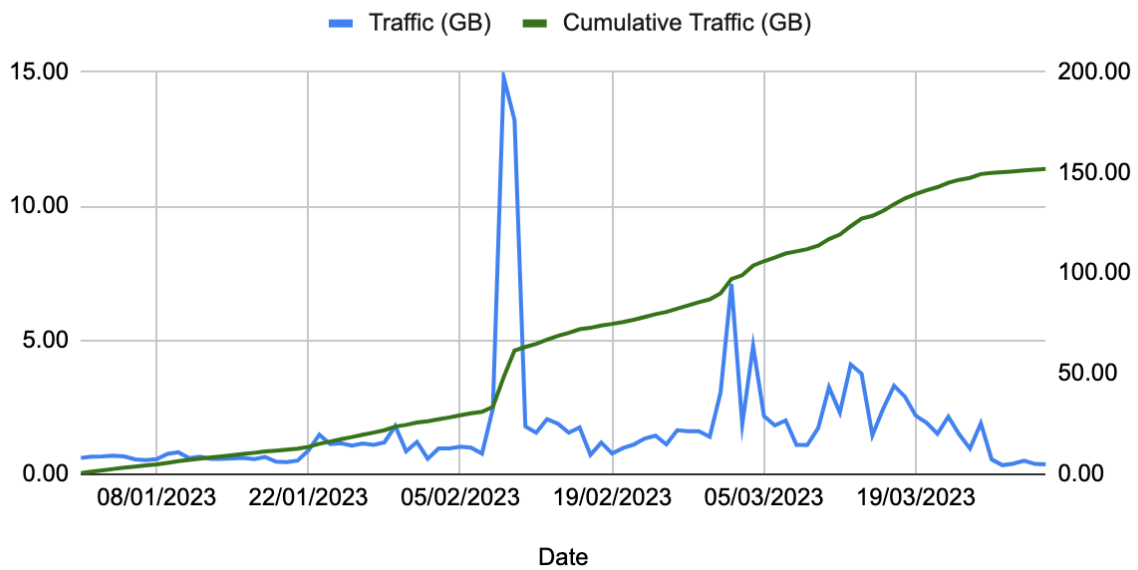
Collectives March Requests by Country

Requests by Country

Top Countries	Requests
United States	192,396
United Kingdom	37,188
Germany	27,451
Russia	14,985
France	13,014
Norway	9,653
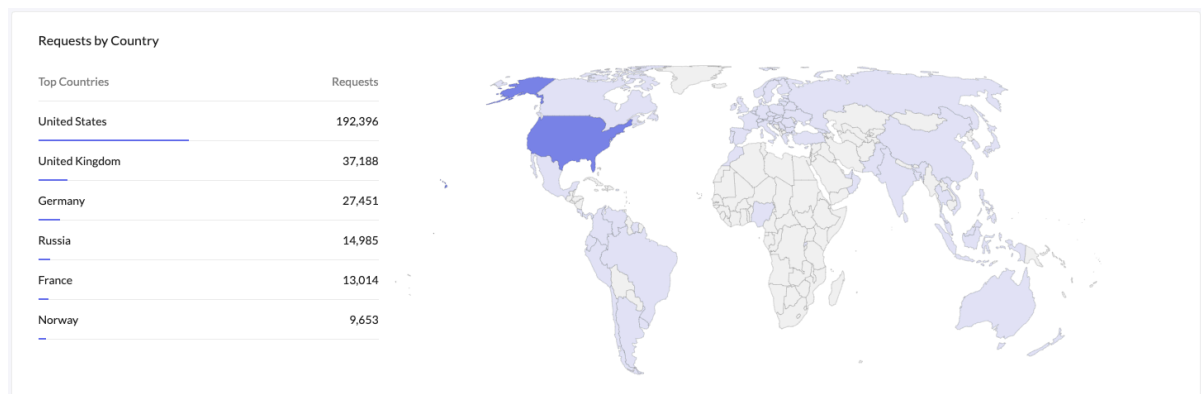
Collectives Q1 2023 Requests

Powered by OnFinality - Polkadot's Infrastructure Provider

Daily Request Count ⋯ 7 Day Moving Average — Cumulative Requests

Date
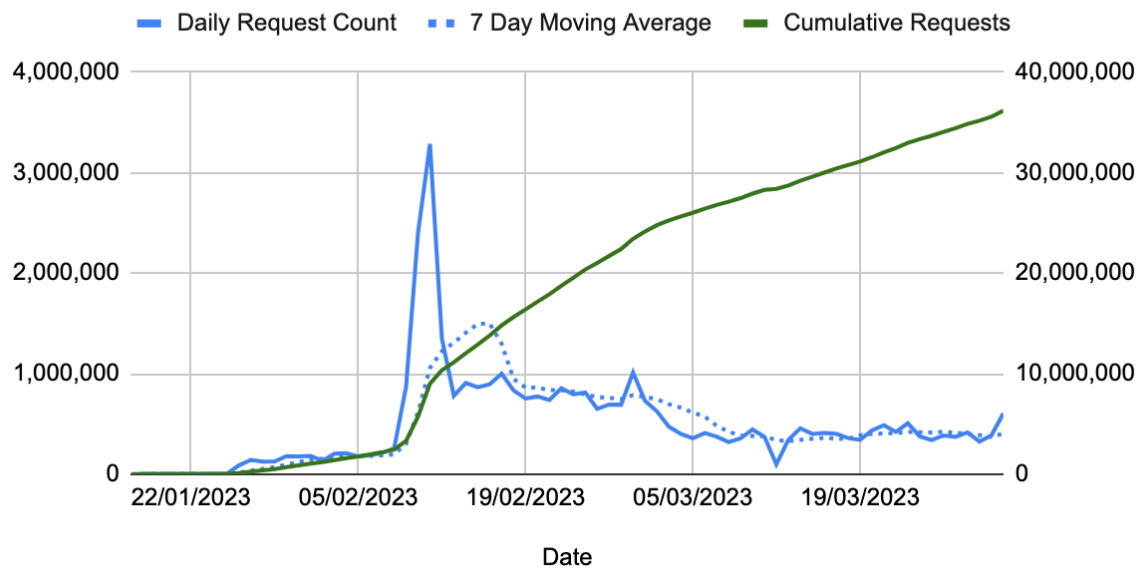
Collectives Q1 2023 Data Traffic
Powered by OnFinality - Polkadot's Infrastructure Provider
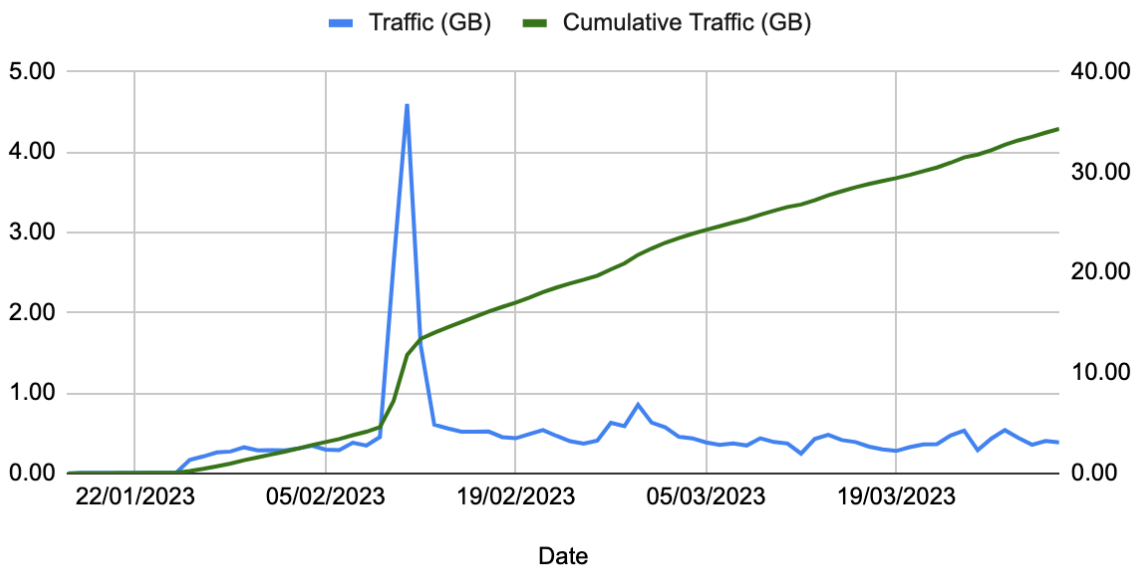
Enhancements

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
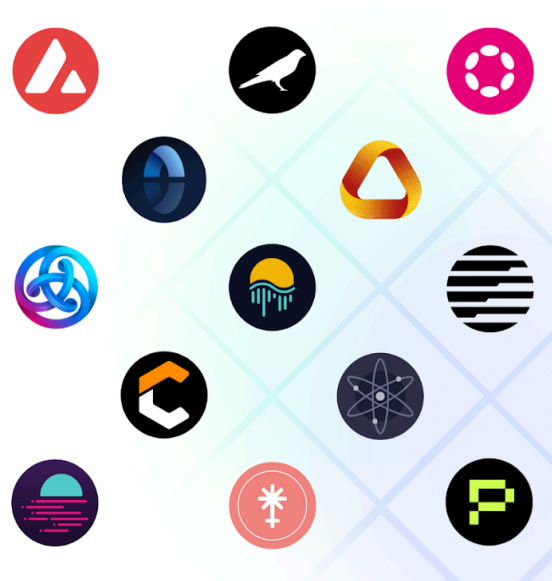
Costings

This proposal includes combined running costs for our infrastructure for Polkadot, Statemint, Collectives, and Westend. The total combined running cost is USD $64,834.42 - raw data is here

Network	Type	Price (USD)	Billable Units	Cost
Polkadot	Compute	$0.085 / Compute Unit / hr	419,262.0	$35,637.27
Polkadot	Storage	$0.0004 / GB / hr	22,400,555.4	$8,960.22
Polkadot	Backup	$0.0004 / GB / hr	6,634,070.0	$2,653.63
Polkadot	Data	$0.15 / GB	46,138.1	$6,920.71
			Subtotal	$54,171.83
Statemint	Compute	$0.085 / Compute Unit / hr	39,629.0	$3,368.47

Statemint	Storage	$0.0004 / GB / hr	1,853,453.7	$741.38
Statemint	Backup	$0.0004 / GB / hr	850,916.0	$340.37
Statemint	Data	$0.15 / GB	286.1	$42.91
			Subtotal	$4,493.12
Westend	Compute	$0.085 / Compute Unit / hr	25,920.0	$2,203.20
Westend	Storage	$0.0004 / GB / hr	1,879,215.0	$751.69
Westend	Backup	$0.0004 / GB / hr	540,000.0	$216.00
Westend	Data	$0.15 / GB	237.9	$35.68
			Subtotal	$3,206.57
Encointer	Compute	$0.085 / Compute Unit / hr	14,967.2	$1,272.21
Encointer	Storage	$0.0004 / GB / hr	1,609,838.4	$643.94
Encointer	Backup	$0.0004 / GB / hr	798,910.0	$319.56
Encointer	Data	$0.15 / GB	141.4	$21.21
			Subtotal	$2,256.92
Collectives	Compute	$0.085 / Compute Unit / hr	8,928.0	$758.88
Collectives	Storage	$0.0004 / GB / hr	669,600.0	$267.84
Collectives	Backup	$0.0004 / GB / hr	186,000.0	$74.40
Collectives	Data	$0.15 / GB	11.7	$1.75
			Subtotal	$1,102.87
			Less API Revenue Share Discount	$396.90
			Grand Total	**$64,834.42**
			DOT Rate	**$5.340000**
			DOT Total	**DOT 12,141.277331**

DOT rate calculated using the EMA7 Rate as of 2023-05-24 here

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://polkadot.api.onfinality.io/public

- wss://polkadot.api.onfinality.io/public-ws
- https://westend.api.onfinality.io/public
- wss://westend.api.onfinality.io/public-ws
- https://collectives.api.onfinality.io/public
- wss://collectives.api.onfinality.io/public-ws
- https://statemint.api.onfinality.io/public
- wss://statemint.api.onfinality.io/public-ws
- https://encointer.api.onfinality.io/public
- wss://encointer.api.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:.

- Amount in USD: $64,834.42

- DOT Rate: $5.34000 USD (using the EMA7 Rate as of 2023-05-24 [here](#))

- Amount in DOT: **12,141.2773** DOT

- Beneficiary address: 12mRyiCp9zdh1wEVW5gLLiFBxDPKks72rRXmSupyEK3VAMLf

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