



Polkadot

State of Decentralization Report

2022

Introduction

While [polkawatch](#) provides us with multiple analytics of the effective decentralization achieved by the [polkadot](#) network, we still believe that some relevant information may get lost in the details.

Polkawatch was created with the idea that each member of the community could see how their actions are impacting all of us, providing an opportunity to act accordingly.

By providing detailed analytics by nearly 28.000 entities, including regions, countries, operators, networks, nominators etc, we may fall into a situation where *the trees don't allow us to see the forest*.

Therefore, we decided to go back to the analytic database and compile a report with the following main goals in mind:

- Long term trends: where is decentralization heading to?
- Events: what remarkable decentralization events took place recently?

We also try to make sense of the data, share opinions received while discussing decentralization with the community and brainstorm possible actions that could help decentralization going forward.

The ultimate goal of the report is to generate debate in our community.

About the Dataset

The Substrate Reward event is used as the main measurement of effective computing effort in the network considering its Proof of Stake nature. Reward events are traced to corresponding Payout events then to Validator Accounts, Session Keys, Heartbeat Events and from IP Addressing Geolocation Data is retrieved from third party databases.

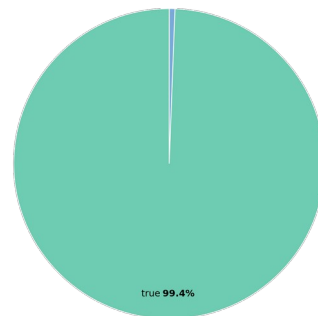
Additional characteristics of the events are also used to decorate it. If the commission paid was close to 100% the reward is labeled as “custodial”, whereas rewards with lower commissions from validators with an identity are labeled “public”.

These “decorated” rewards events are used as the basis for performing analytics.

Data Quality

It is not always possible to completely trace the Reward. This normally signals some kind of operational issue, such as a node address that could not be parsed properly or a missing entry in a third party database. In any case, traceability issues, even partial ones, rewards are labeled in the data so that we can ensure that the analytics remain statistically valid.

During 2022 only 0.6% of rewards contained traceability issues.



Reward distribution Overview

In 2022 rewards were distributed as follows:



We can notice that custodial validation was, overall, bigger during 2022, although as we will see below the trend reversed towards the end of the year.

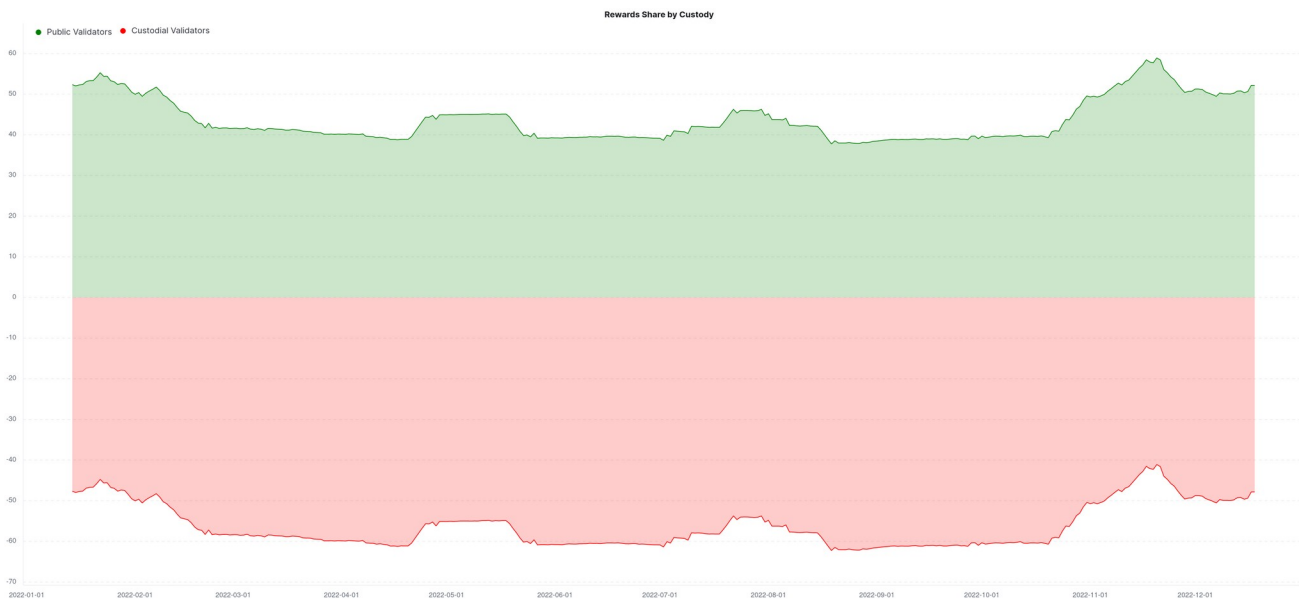
Except for custodial split, this report focuses on Public Validation. It is assumed that the network is to be secured by token holders that are self-custodian and nominate among Public Validators.

Long term trends

Custody, region, network and operator are the key areas to analyze for long term trends.

Trend in rewards by Custody

The following chart is a 28 era moving average on the split between custodial versus public distribution of rewards.



2022 ends more or less how it started with a 52/48 % split in rewards by custody granting an advantage to public validation.

This reverses a trend that saw a split of 38/62 % around mid August.



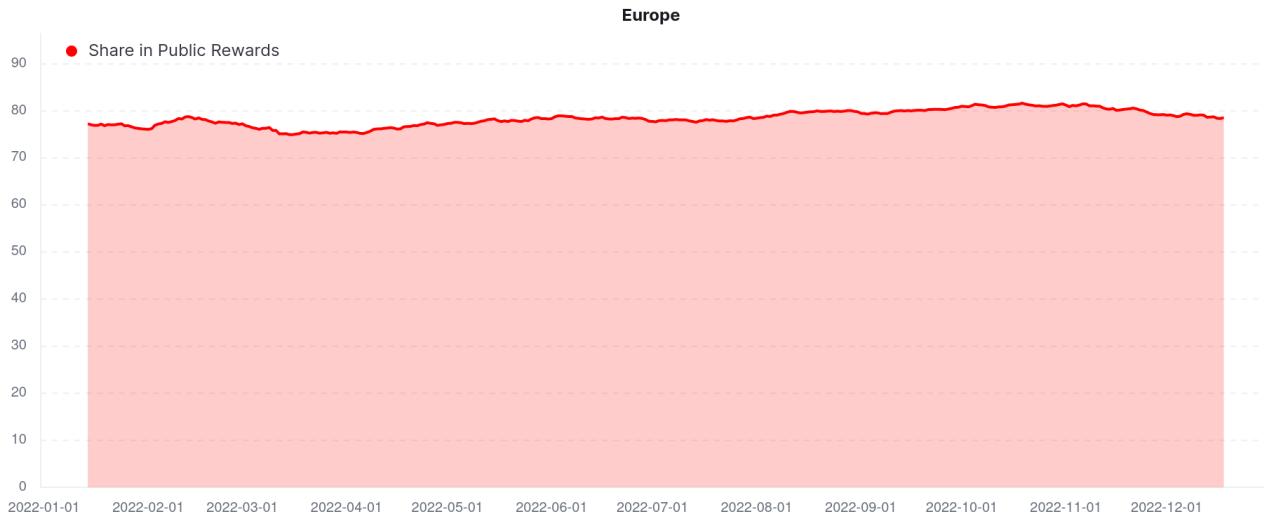
Custodial Validation peaked at 62% around August but finished at 48% at the end of the year.

Trend in rewards by Region

The Validation activity is heavily concentrated in Europe + North America regions.

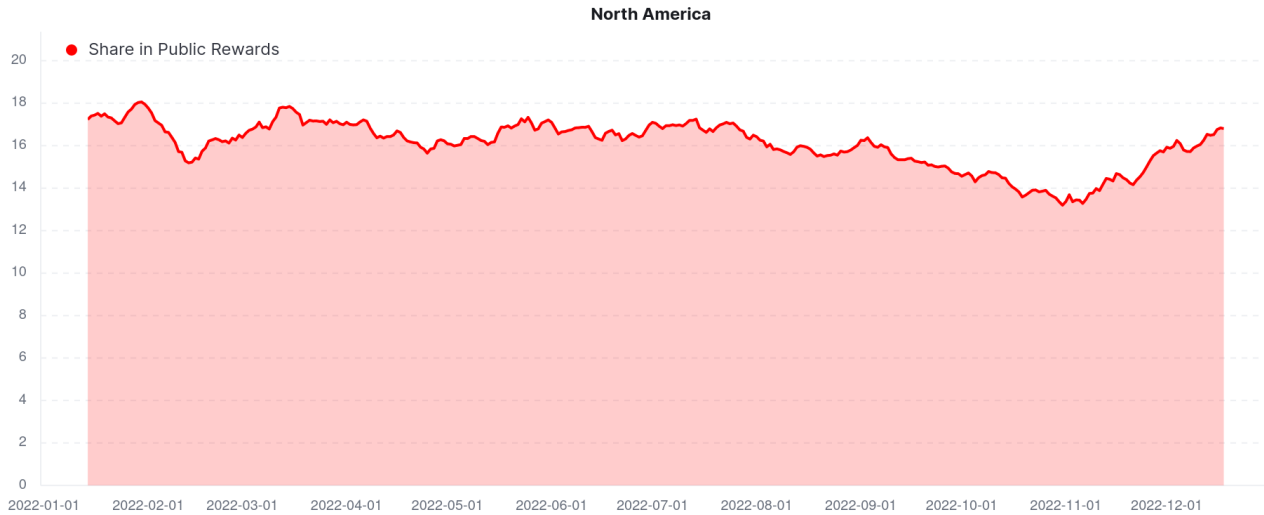
The following charts look into the trend of public reward distribution in these and other regions. They provide a 28 era moving average to reduce noise and focus on public validation specifically.

Trend in Europe



Europe accounted for 78.5% of Public Rewards at the end of the year, up 1.3% from the start of the year. It peaked at 81.6% towards the end of the year.

Trend in North America



North America accounted for 16.8% at the end of the year, down 0.4% from the start of the year.

Rest of the World



Validation in the rest of the world accounted for 4.7% at the end of the year, down 0.8% from the start of the year. It peaked at 7.6% during the first half of the year.



Polkadot Validator activity is centralized in Europe + North America and slowly trending towards further centralization.

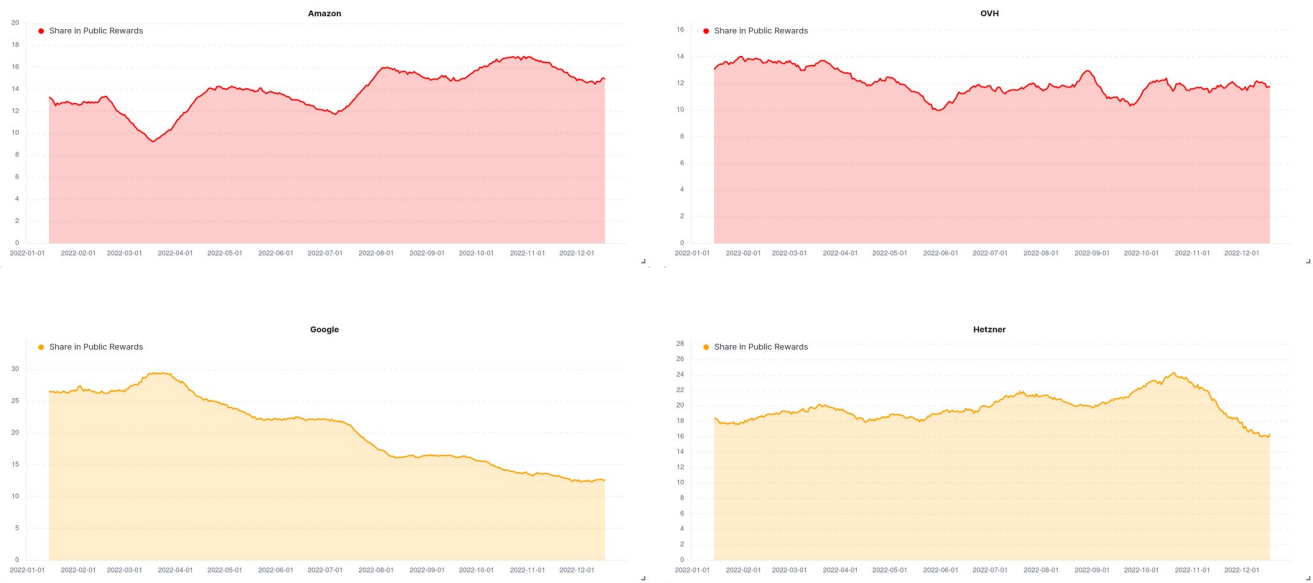
Trend in rewards by Network

Our validator nodes run in computing networks which typically fall in two categories: Public Clouds and Hosting Centers.

Network providers can easily deplatform entire blockchain communities as we discovered with the [Solana/Hetzner event](#) this year.

At the start of 2022 the Top-5 networks (2xGoogle, Amazon, Hetzner and OVH) accounted for 71.3% of public rewards.

We look at how they trended during the year, again with 28 eras mobile averages of public rewards:

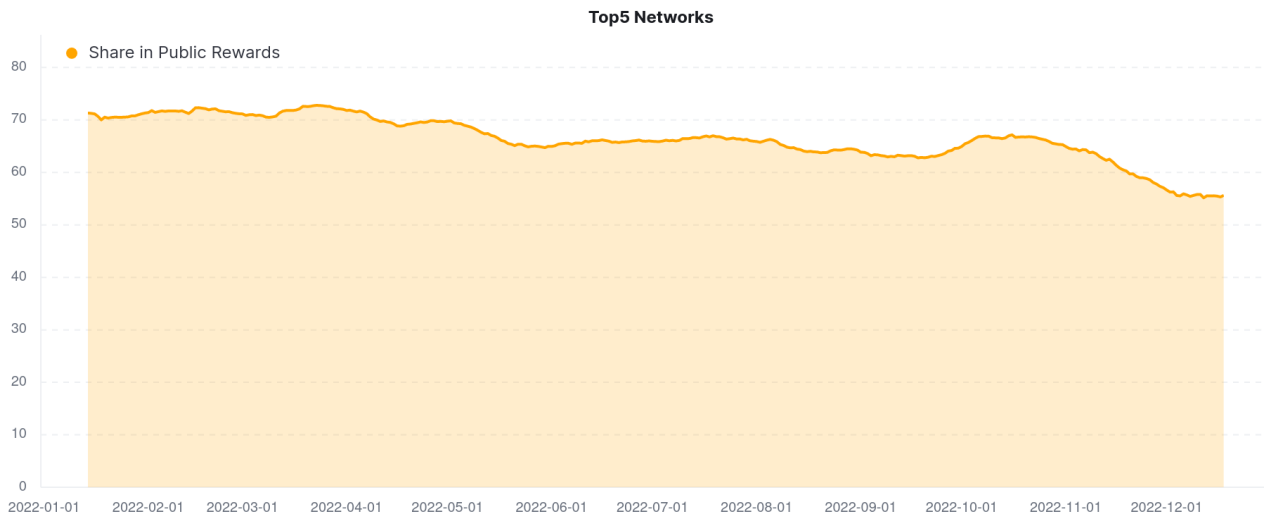


With the exception of Amazon, all Top-5 Networks reduced its share in public rewards. Google and Hetzner saw significant reductions.

Hetzner peaked at 24% before ending the year at 16%. The Solana incident was key in this reduction. Polkawatch received multiple support requests from Nominators and Validators with regards to this issue: Nominators wanted confirmation that they have successfully moved out of Hetzner, Validators wanted our DAPP to reflect their move of network ASAP.

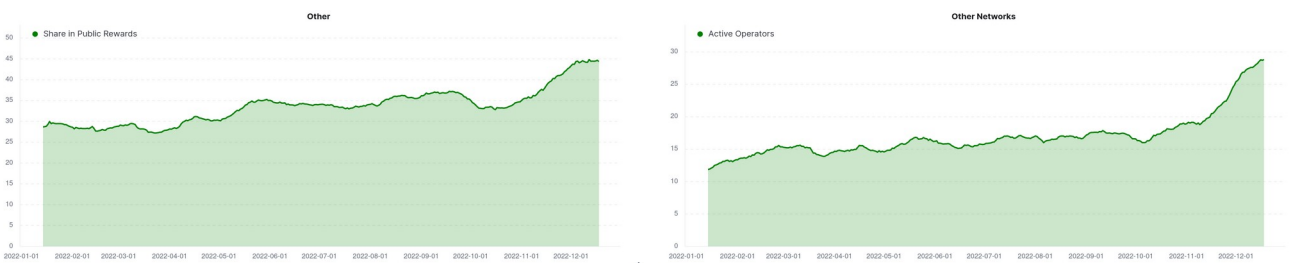
Google share was impacted, among other things, by Polychain Labs ceasing operation and Blockdeamon migrating to Teraswitch.

When we look at the Top-5 Networks combined:



Top-5 Networks ended 2022 with a 55.6% share in public rewards, a 15.6% reduction from the start of the year.

Effectively when we look at the evolution of the share in public rewards of Other networks:



We obviously see an equivalent growth in share of regards from other networks reaching 44.4%. But when measured in active operators generating rewards from other networks we reached 29 active operators at year end, a 17 increase from 12 at the start of the year.

Note that “active” operators means those that generated rewards, as opposed to just generating other events such as Heartbeats. Note also that it is a 28 day mobile average.

The increase of active operators is due to more operators validating from those networks and operators from those networks becoming active more often.



Polkadot made good progress towards decentralization by network provider. Top-5 networks reduced their share 15.6% while active operators form other networks more than doubled.

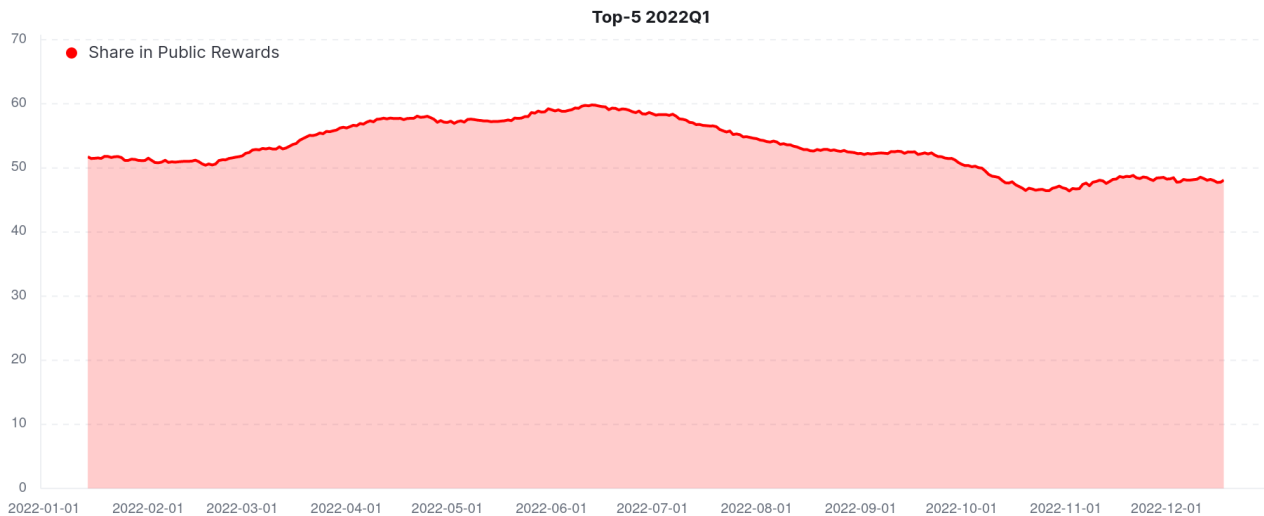
Trend in rewards by Validator Operator

Operators are responsible for running our Validator Nodes in clusters under their supervision.

At the start of 2022 the Top-5 operators accounted for 51.7% of public rewards.

When assessing if the long term trend is centralizing or decentralizing we can look at it from different point of views:

How did those very Top-5 operators end the year?

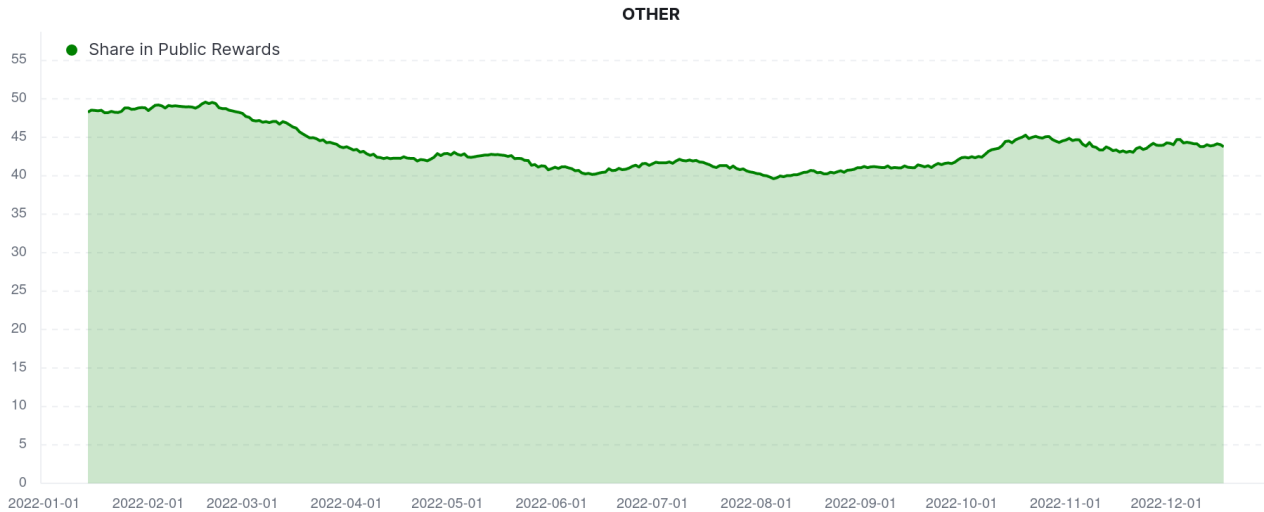


The Top-5 operators as of 2022Q1 ended the year accounting 48% of public rewards, down from 51.7%. However this is highly influenced by the cease of operations of Polychain Labs.

In fact Several Top-10 operators have ceased operating, and at the same time, they have been replaced by newcomers such as Coinbase Cloud and Figment.

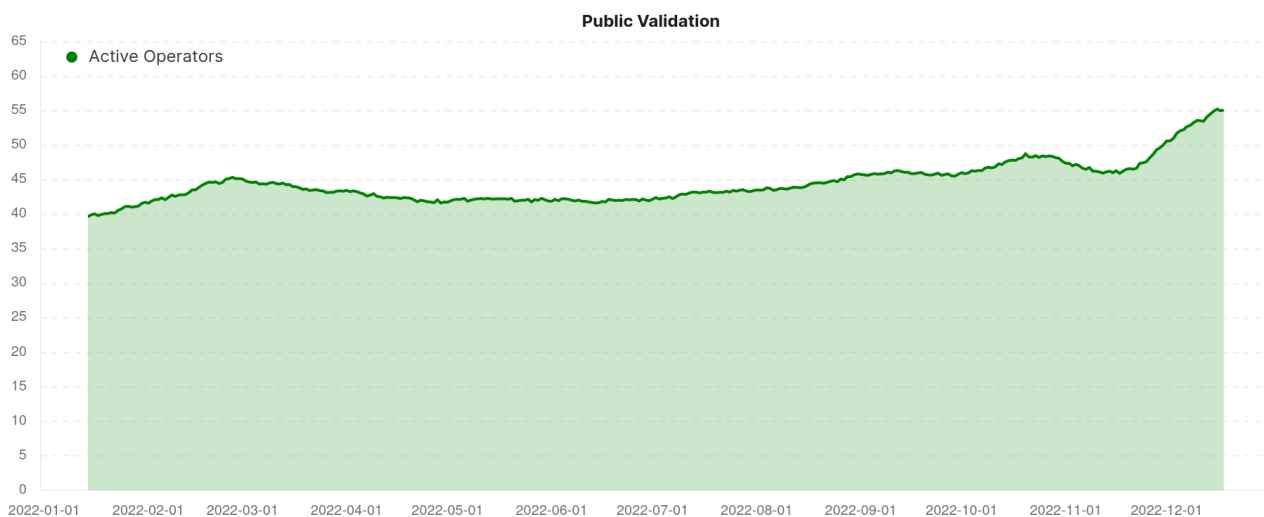
The “shaking” of operators could be considered positive in terms of decentralization, for a detailed list of how Operators Ranked and their Rank changed over the period see Appendix A.

It is also true that if we analyze the dataset excluding operators in the TOP-5 segment at any time of 2022 we obtain:



Non Top-5 operators ended 2022 generating 43.7% of public rewards down 4.5% from the start of the year.

Despite the net loss of Reward share, when we analyze decentralization in terms of operators becoming active we see that:



2022 ended with 55 operators active significantly up from 39 at the start of the year.

Again, note that “active” operators means those that have generated rewards, as opposed to just generating other events such as Heartbeats. Note also that it is a 28 day mobile average.



2022 was a mixed year in terms of Operator Decentralization. Top operators were shaken up, non-top operators lost share and more operators were active in general.

Analysis and Community Feedback

The following is a summary of many conversations we have had with different community members:

These analytics need to be considered into a greater context. On one hand **Polkadot is a young** project and on the other hand this year has been very turbulent at every level including macroeconomics. While this longer term report can help us open discussions and brainstorm, the data or findings have to be taken with a pinch of salt.

This report shows a great deal of centralization, which is bad, but considering the context there is a lot of good in the report too.

Yet we cannot lose our north. A handful of operators from a few western nations **stand little chance** in a world of sanctions, mandates and a struggling financial system. All decentralization we can realize now is very welcome / strategic.

Operators

While centralization across operators is particularly controversial in our community, because of the monetary implications, a wider picture needs to be put into context.

Top Operators

On one hand 5 or 6 operators managing more than 50% of rewards is generally considered negative for a decentralizing technology. However **6 is better than 2** and the network is still very young.

It is also important to note that within the Top-10 operators at the end of the year, **3 are newcomers**, and existing operators have been shaken quite a bit. **Change is therefore possible** and it is taking place, which is positive.

It is also important to note that Operators exercise control over the other decentralization dimensions: underlying network and region and this needs to be taken into account.

If we look in detail at Top operators **many contribute in other dimensions** too:

- Zug Capital and Blockdaemon bring new Network providers used in (almost) exclusivity
- p2p.org and Coinbase Cloud validate from 6 countries each, with the latter doing nearly 30% outside EU/NA.

- Jaco, as a core developer, contributes decentralization from the source code.

Contributions on other dimensions need to be taken into account when considering the level or decentralization of our Operators.

Other Operators, newcomers

We hear complaints from smaller operators about the **difficulty to bring the capital** required to be regularly in the active set.

We question whether operators with operational excellence alone can become regularly active without deploying some kind of fund management unit designed to attract stake.

We also find the opposite situation: medium operators that are regularly active due to their fund management activities find it **complex to operate** Polkadot nodes.

The previous two groups seem complementary, but we wonder if Polkadot has what it takes for both parties to feel comfortable with cooperation, find out about each other, assess their reputation, etc.

In this sense we want to bring attention to Figment. New entrants in our ranking this year, they are ranked number 8 by Share in Public Rewards and number 5 by share in Commissions. However they fulfill 3 roles: Operations, Fund Management and Value Added Developer (dashboard, taxation, multi-chain, etc).

Figment is an inspiring example but it will be difficult to find Operators with all those competences at the same time. We wonder if new Polkadot features could facilitate forming alliances with different competences.

Regions and Networks

These parameters are controlled by the operators, and while we are seeing improvement by network, decentralization by region is currently our worst dimension.

The community should come together and raise the strategic importance of decentralizing across these two dimensions, as they are reasonably within our reach.

In this sense, treasury funded projects such as the [Infrastructure Builders Program](#) should be considered strategic and paid attention to.

Other good examples that should be promoted are Top Operators bringing new Network providers, as mentioned above.

Policy and Decentralization

We have discussed on multiple occasions whether policy can be brought in to accelerate decentralization.

We also wonder whether current policy, such as Slashing, generates centralization. The risk to lose tokens, even if remote and never actually applied, may trigger the “safety in numbers” instinct.

Perhaps enacting or reviewing policy could be an effective source of decentralization.

Takeaways

From longer term charts we can see that:

- Self custodian validation was surpassed by custodial validation this year but later recovered.
- Polkadot is very centralized by region and the trend is further centralization.
- Polkadot has improved its decentralization by computer network significantly.
- Decentralization by operator trend is mixed. Some good metrics and some bad ones. However, change is possible and taking place.
- Top newcomer Operators bring multiple capabilities at the same time.

After engaging the community:

- There is a lot of bad but also a lot of good in our data, a lot has been achieved so far.
- Top Operators can contribute in other dimensions and many do.
- Some operators find it difficult to attract capital, others find difficult to operate infrastructure: could Polkadot help forming multi-skill alliances?
- Could policy, new or tuning existing, accelerate decentralization goals?

Feedback and Staying in touch

From the Polkawatch project we believe Effective decentralization is an **Awareness and Continuous Improvement** activity.

We hope you found some use in our contribution. Whether you did or did not we would be interested in hearing from you, please do not hesitate to [contact us with your feedback](#).

If you find our Report useful you can [register to receive future issues](#) directly in your mailbox, if you wish to. You can also follow us on [Polkawatch Twitter](#) otherwise.

Appendix A. Operators Ranking, Changes

The following table ranks Public Operators by the Share in Public rewards and Share in Commissions and compares the change from the start of the year.

New operators are assigned the last+1 position in Q1 (183).

The table compares absolute values in Q4 versus absolute values in Q1 2022.

Operator	Rank		Public Rewards		Commission	
	Top	Change	Share	Change	Share	Change
P2P.ORG	1	+1	12.77	+1.833	3.07	+1.831
Zug Capital	2	-1	10.74	-3.949	20.52	+13.063
pos.dog	3	+0	9.23	+0.977	13.78	+10.683
Coinbase Cloud	4	+179	7.68	+7.675	11.3	+11.298
Blockdaemon	5	-1	7.68	+0.450	4.08	-1.971
Jaco	6	+0	5.96	-0.033	1.06	-0.227
Figment	7	+176	2.84	+2.835	5.4	+5.404
DARKFOREST	8	+175	1.96	+1.955	2.69	+2.692
YellowFin Tuna	9	+26	1.1	+0.741	0.35	+0.106
Ryabina	10	+7	1.05	+0.001	0.45	-0.014
Staker Space	11	+1	1.03	-0.153	0.56	-0.230
Joe	12	+39	1.03	+0.839	0.38	+0.296
Current	13	+10	0.98	-0.005	0.17	-0.040
Staking4All	14	+1	0.98	-0.088	0.17	-0.058
ZKValidator	15	+6	0.9	-0.013	1.35	-0.328
Polkadot.pro - Realgar	16	-3	0.78	-0.087	3.25	-3.105
MC Parallel Polka Haus	17	+166	0.93	+0.932	0.32	+0.321
RockX_Polkadot	18	+6	0.83	-0.040	1.8	-0.260
CP287-CLOUDWALK	19	+3	0.86	-0.059	1.17	-0.461
PureStake	20	+6	0.89	-0.018	0.63	-0.107
CoinFund/Grassfed	21	-5	0.87	-0.145	0.88	-0.374
stateless_money	22	-8	0.86	-0.180	0.78	-0.309
T-Systems MMS	23	-4	0.82	-0.123	1.4	-0.810
Staked	24	-14	0.81	-0.920	1.55	-2.489
HYPERSPHERE	25	-18	0.88	-3.709	0.37	-1.736
STAKE.SU	26	+50	0.89	+0.750	0.04	+0.033
SNZPool-1	27	-9	0.87	-0.167	0.15	-0.069

StakeDOTs.com - by Bison Trails	28	-8	0.57	-0.191	5.29	+0.046
IOSG Ventures	29	+1	0.85	+0.325	0.48	+0.059
General-Beck	30	-2	0.82	+0.029	0.74	-0.004
RockX_Polkadot3	31	+152	0.72	+0.721	0.77	+0.771
STAKEFISH	32	-7	0.63	-0.293	0.45	-0.359
Swiss Bond	33	+1	0.56	+0.196	0.21	-0.036
DRAGONSTAKE	34	+3	0.53	+0.211	0.14	-0.081
Polychain Labs	35	-30	0.31	-4.670	1.31	-24.840
synclub-2	36	+147	0.34	+0.342	0.18	+0.181
Coinstudio	37	+1	0.29	+0.007	0.19	-0.014
cryptostake.com	38	+145	0.27	+0.271	0.14	+0.144
Dionysus	39	+45	0.27	+0.142	0.08	+0.037
SAXEMBERG	40	-4	0.26	-0.079	0.14	-0.063
NEWDEAL	41	+6	0.23	+0.040	0.23	+0.093
DWELLIR DOT	42	+95	0.22	+0.146	0.13	+0.078
Amforc	43	+129	0.22	+0.204	0.13	+0.125
redpenguin	44	+8	0.21	+0.028	0.22	+0.084
Mermaid	45	+138	0.21	+0.210	0.2	+0.201
LuckyFriday.io	46	+58	0.21	+0.100	0.2	+0.125
LLoyds.tech	47	+136	0.21	+0.207	0.12	+0.122
APERTURE MINING	48	+135	0.2	+0.199	0.04	+0.036
DotSkull	49	+134	0.2	+0.196	0.04	+0.043
hsinchu	50	+133	0.19	+0.188	0.18	+0.179
OnFinality.io	51	+24	0.19	+0.052	0.12	+0.019
HELIKON	52	+131	0.19	+0.189	0.1	+0.102
***** **	53	+28	0.19	+0.062	0.11	+0.022
snf dot validator	54	+129	0.18	+0.184	0.17	+0.167
turboflakes.io	55	+55	0.19	+0.085	0.04	+0.034
Sakura	56	+127	0.18	+0.184	0.11	+0.107
ParaNodes.io	57	-4	0.17	+0.000	0.17	+0.049
Zetetic Validator	58	-18	0.17	-0.080	0.16	-0.025
Uno Staking	59	-27	0.16	-0.261	0.16	-0.168
RADIUMBLOCK.COM	60	+88	0.17	+0.108	0.1	+0.060
StakedTech	61	-17	0.16	-0.053	0.16	+0.004
Staking Lab	62	+121	0.16	+0.160	0.09	+0.093
High/Stake	63	+92	0.16	+0.110	0.12	+0.093
AURORA STAKING	64	+42	0.15	+0.047	0.15	+0.071
Northwoods	65	+92	0.15	+0.108	0.15	+0.114
MIDL.dev	66	+103	0.15	+0.135	0.12	+0.110
Cypher Labs	67	+52	0.15	+0.060	0.14	+0.080

Titan Nodes	68	+115	0.15	+0.151	0.14	+0.144
dakkk	69	+57	0.15	+0.066	0.15	+0.085
Stakin	70	+43	0.16	+0.058	0.01	+0.002
Mile	71	-42	0.15	-0.438	0.07	-0.326
DOZENODES.COM	72	+111	0.15	+0.153	0.01	+0.007
NOVY	73	+110	0.15	+0.146	0.11	+0.113
n-fuse Validator #1 Stash	74	+103	0.15	+0.138	0.03	+0.028
Genesis Lab	75	-6	0.14	+0.003	0.09	-0.015
michalis	76	-21	0.14	-0.032	0.13	+0.012
Basecamp	77	+56	0.14	+0.063	0.13	+0.081
Khastor	78	+7	0.14	+0.016	0.03	-0.054
POLKACHU.COM	79	-15	0.14	-0.009	0.01	-0.063
www.isg.dev	80	+103	0.14	+0.138	0.06	+0.055
stk.center	81	+18	0.14	+0.021	0.1	+0.016
Nodeasy	82	-55	0.14	-0.769	0.09	-0.579
COSMOTRON	83	+100	0.14	+0.136	0.07	+0.073
Mitch-Wariner	84	+21	0.13	+0.025	0.11	+0.035
Watermelon	85	+98	0.13	+0.132	0.13	+0.125
Sik crifferent.de	86	+59	0.14	+0.077	0.03	-0.013
Simply Staking	87	-37	0.13	-0.051	0.09	-0.056
NeNa	88	+4	0.13	+0.008	0.1	+0.015
MathCrypto	89	+94	0.13	+0.127	0.12	+0.115
METASPAN	90	+93	0.13	+0.132	0.02	+0.023
ilgio	91	-19	0.13	-0.012	0.13	+0.028
Sonder Validation	92	-35	0.13	-0.040	0.12	+0.003
Alko	93	+1	0.13	+0.007	0.12	+0.036
HODL.FARM	94	+77	0.13	+0.116	0.02	+0.020
AG	95	-50	0.13	-0.083	0.07	-0.067
il4r141	96	+4	0.12	+0.010	0.12	+0.038
Compute Crypto	97	-8	0.12	+0.000	0.12	+0.061
PDP_Validator	98	-30	0.12	-0.019	0.12	+0.021
ONDIN	99	-38	0.12	-0.038	0.12	+0.002
SUNSHINEAUTOSDOT	100	+83	0.12	+0.121	0.12	+0.116
decentraDOT.com	101	+43	0.12	+0.060	0.12	+0.073
Pioneer	102	+60	0.12	+0.083	0.09	+0.066
The Badger Lab Validators Co.	103	+21	0.12	+0.034	0.07	+0.010
ETHICAL VALIDATORS 0	104	+8	0.13	+0.026	0.02	+0.001
Liberty	105	-26	0.12	-0.012	0.12	+0.058
Tesla	106	-9	0.12	+0.002	0.11	+0.032
Eric	107	-58	0.12	-0.067	0.07	-0.061

ANAMIX	108	-20	0.12	-0.007	0.11	+0.018
HashQuark	109	-27	0.12	-0.009	0.09	-0.025
COLD STORAGE CAPITAL	110	+73	0.12	+0.119	0.03	+0.025
GATOTECH	111	-45	0.12	-0.030	0.07	-0.033
COSMOON	112	-39	0.11	-0.025	0.11	+0.012
hirish	113	-50	0.11	-0.042	0.11	-0.002
ForklessNation	114	+8	0.11	+0.021	0.1	+0.065
Snake Stake	115	+68	0.11	+0.113	0.07	+0.066
Vires in Numeris	116	-62	0.11	-0.062	0.11	-0.015
1%	117	+66	0.11	+0.114	0.03	+0.026
Ministry Of Blocks	118	-59	0.11	-0.051	0.08	-0.032
STAKINGDX_COM	119	-77	0.11	-0.111	0.06	-0.092
Vegas_life	120	-27	0.11	-0.011	0.09	+0.006
CRYPTOBEES.XYZ	121	+13	0.11	+0.034	0.07	+0.022
AncibanciDOT	122	-83	0.11	-0.149	0.08	-0.108
P2P STAKING	123	+60	0.11	+0.107	0.1	+0.099
BLOCK AEGIS	124	-3	0.11	+0.018	0.07	+0.000
PromoTeam Validator	125	+27	0.11	+0.058	0.06	+0.026
Gontajones	126	-70	0.11	-0.062	0.08	-0.035
Melange	127	+4	0.11	+0.026	0.11	+0.045
ARISTOPHANES	128	+55	0.11	+0.106	0.07	+0.065
Paramito	129	-13	0.11	+0.013	0.03	-0.041
Eat Pray Validate	130	-39	0.1	-0.017	0.08	-0.006
Generic-chain	131	-64	0.1	-0.047	0.09	+0.082
Stampede	132	-86	0.1	-0.088	0.1	-0.038
CertHum MaxStake	133	+37	0.1	+0.085	0.08	+0.071
lux8.net	134	+1	0.11	+0.031	0.01	+0.001
PlusV	135	-65	0.1	-0.037	0.06	-0.034
9Stake by 9GAG	136	+47	0.1	+0.102	0.06	+0.060
Zizzle	137	-106	0.1	-0.343	0.1	-0.232
Lightning Blocks	138	+45	0.1	+0.099	0.09	+0.094
Stake Plus	139	+44	0.1	+0.103	0.01	+0.013
openbitlab	140	+20	0.1	+0.058	0.09	+0.066
STAKEPILE	141	-40	0.1	-0.013	0.02	+0.008
	142	+8	0.1	+0.043	0.07	+0.035
ALFASTAKE	143	-16	0.1	+0.011	0.1	+0.032
STAKEWORLD	144	+39	0.1	+0.099	0.02	+0.017
CapitalStaking.com	145	-42	0.09	-0.016	0.09	+0.013
Day7	146	-105	0.1	-0.128	0.06	-0.101
ALESSIO	147	-49	0.09	-0.021	0.07	-0.007

Zooper Corp	148	+35	0.09	+0.094	0.06	+0.055
KIRA Staking	149	-101	0.09	-0.092	0.06	-0.084
SEKOYA LABS	150	-88	0.09	-0.067	0.09	-0.024
Kuzo	151	+32	0.09	+0.091	0.08	+0.078
Zeke	152	-81	0.09	-0.047	0.04	-0.028
Iceberg Nodes	153	+26	0.09	+0.079	0.08	+0.084
- 【 CRYPTIDS 】 -	154	+9	0.09	+0.053	0.05	+0.034
CryptoLab 01	155	-60	0.09	-0.031	0.09	+0.001
Exotic Stake	156	+27	0.09	+0.088	0.08	+0.084
TheGuild	157	+2	0.09	+0.045	0.05	+0.020
Chris-Staking	158	+25	0.09	+0.086	0.08	+0.083
Polkadotters	159	+21	0.09	+0.080	0.05	+0.043
Sio34	160	-43	0.09	-0.009	0.05	-0.016
Masternode24	161	-118	0.08	-0.134	0.05	-0.104
XUAN	162	-66	0.08	-0.035	0.08	-0.004
MOON LAMBOS	163	+20	0.08	+0.077	0.04	+0.041
BESTVALIDATOR ZURICH	164	+19	0.07	+0.072	0.07	+0.069
STAKECRAFT	165	+18	0.07	+0.071	0.06	+0.056
Sensei	166	-64	0.07	-0.040	0.04	-0.036
G-DOT.TECH	167	+16	0.07	+0.070	0.06	+0.064
ARCHIPEL	168	-15	0.07	+0.018	0.07	+0.029
Polkica Kontrolica	169	+14	0.07	+0.068	0.07	+0.069
finalbits	170	-14	0.07	+0.023	0.05	+0.016
Vertex	171	+12	0.07	+0.069	0.04	+0.040
VISIONSTAKE	172	-52	0.07	-0.025	0.06	+0.000
Tsuki	173	-24	0.07	+0.010	0.06	+0.023
kouti	174	-6	0.07	+0.045	0.04	+0.025
Rekt Street Capital	175	+8	0.06	+0.061	0.06	+0.058
BigTuna	176	+7	0.06	+0.060	0.06	+0.057
Nodamatics	177	-16	0.06	+0.017	0.01	+0.002
Mark Crince DOT control	178	-104	0.06	-0.082	0.05	-0.047
Legiojuve	179	-70	0.06	-0.046	0.03	-0.039
Ruby-Node	180	-50	0.05	-0.028	0.05	-0.007
Ernst Kints	181	-104	0.05	-0.083	0.05	-0.046
ALGO STAKE	182	-71	0.04	-0.056	0.02	-0.046
ERN VENTURES	183	+0	0.04	+0.039	0.04	+0.037
Green Cloud	184	-1	0.04	+0.038	0.03	+0.032
UBIK CAPITAL	185	-56	0.03	-0.051	0.02	-0.038
Legos	186	-58	0.03	-0.053	0.03	-0.030

EVERSTAKE	187	-49	0.03	-0.043	0.02	-0.036
3080ra	188	-47	0.03	-0.039	0.01	-0.011
Anubi Digital Main Identity	189	-38	0.02	-0.034	0.02	-0.022
LUGUSLABS	190	-7	0.01	+0.011	0.01	+0.011
Stakely.io	191	-45	0.01	-0.049	0.01	-0.036
POWERSTAKE POLKADOT	192	-9	0.01	+0.009	0.01	+0.009
bLd Nodes ChadStakeKing	193	-10	0.01	+0.008	0	+0.004
RockX_Polkadot4	194	-11	0.01	+0.005	0	+0.003
andreita-validator-0	195	-87	0	-0.106	0	-0.082