Obol

Performance Report

Athena Public Testnet

25th August - 24th October 2022

With the merge in the rear-view mirror, we are more excited than ever at Obol as Distributed Validator Technology (DVT) becomes the one of the next key primitives on Vitalik's Ethereum roadmap.

DVT is a technology primitive that allows an Ethereum PoS Validator to be run on more than one node or machine. This allows a cluster of nodes run by an individual, group, or community of operators to act together as a single validator on Ethereum. Running a validator as a cluster of nodes improves its resiliency while greatly reducing the slashing risk of honest validators, regardless of its size. This makes staking more robust and accessible for all validators.

Our testnet results have been a testament to the interest in DVT from the community and we will continue to scale and onboard more node operators. We've gathered some key metrics from active clusters for 61 days between the 25th Aug until the 24th Oct 2022. We also benchmark these metrics against key industry players and are confident in the future of our technology given the promising results.

Our public data exclusively comes from external clusters to Obol, mostly motivated home-stakers from more than 30 different countries. There were more than 1100 of them who performed 250+ Distributed Key Generation ceremonies successfully and resulted in 200+ running Distributed Validators with more coming online every day.

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Performance Metrics (Görli)

Metric	Obol: Home Staker Validators	Obol: Home Staker Validators Top 10%	ssv.network	LIDO	Attestant The business of staking
Number of Validators	196	20	3921	499	1968
Slashing Received	0	0	27	0	0
Avg. Uptime	93%	99%	85%	87%	100%
Avg. Inclusion Delay	1.58	1.57	1.72	1.57	1.56
Avg. Attester Effectiveness	55%	59%	47%	48%	58%
Avg. Proposer Effectiveness	99%	100%	98%	87%	100%
Avg. Validator Effectiveness	60%	63%	52%	54%	62%
Avg. Missed Attestations	7%	1%	14%	10%	0%
Successful Exits	99				

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Average Uptime
Attestant
Lido
Obol Public
Obol Public 10th
SSV
100%
80%
60%
40%
520
540
560
580
Day

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Average Inclusion Delay
Attestant
Lido
Obol Public
Obol Public 10th
SSV
2.00
1.75
1.50
1.25
Slots
520
540
560
580
Day

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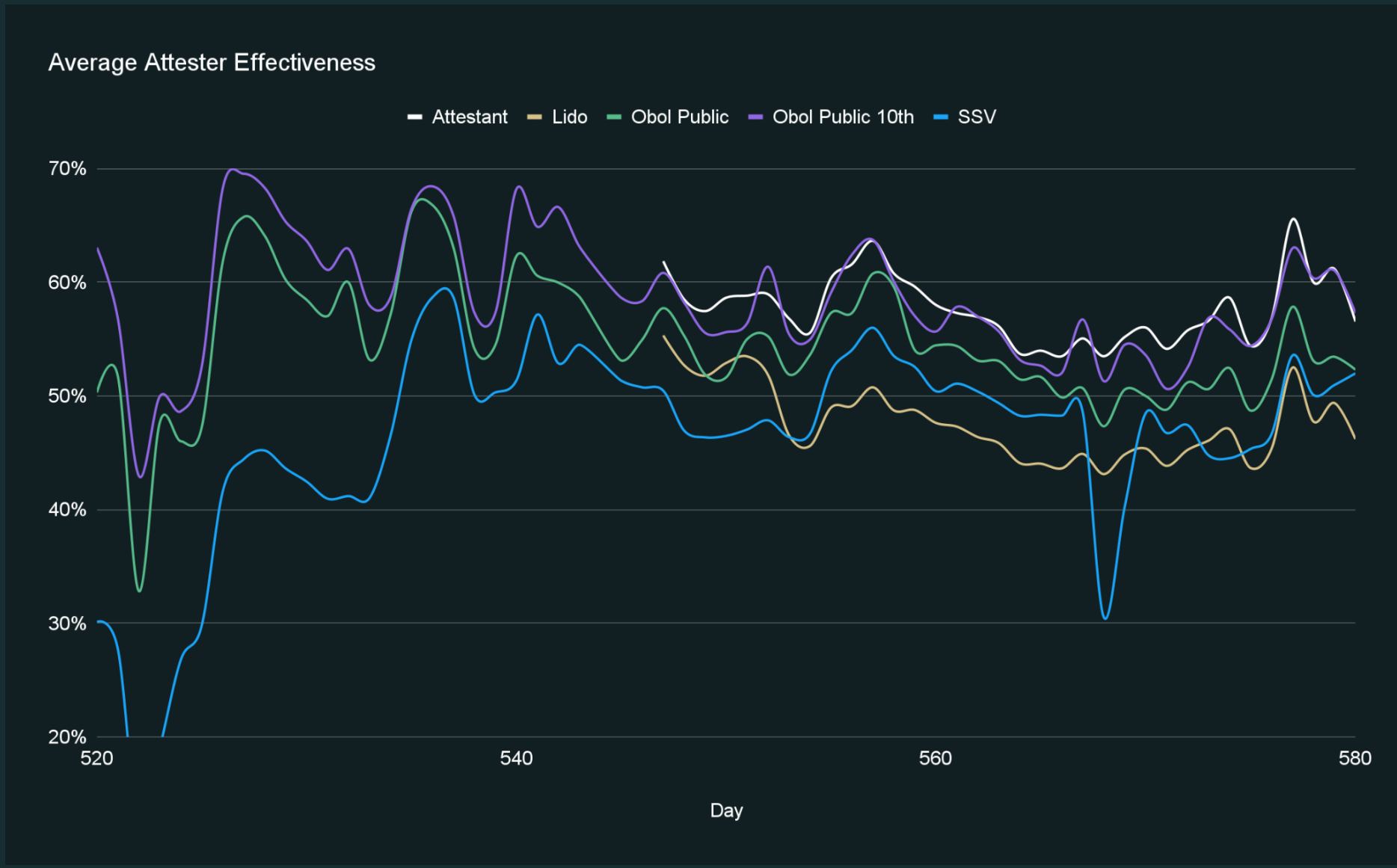
Average Attester Effectiveness
Attestant
Lido
Obol Public
Obol Public 10th
SSV
70%
60%
50%
40%
30%
20%
520
540
560
580
Day

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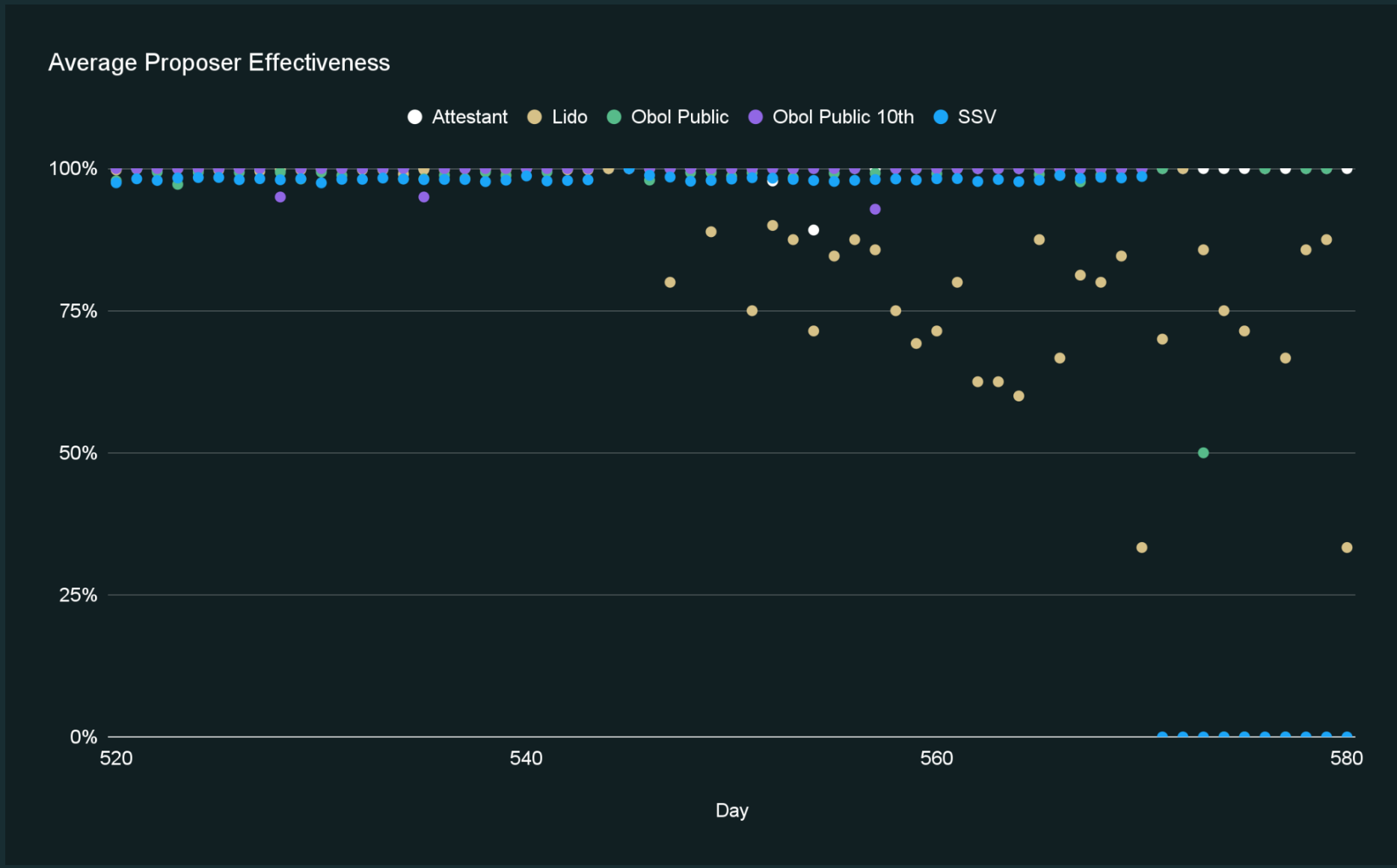
Average Proposer Effectiveness
Attestant
Lido
Obol Public
Obol Public 10th
SSV
100%
75%
50%
25%
0%
520
540
560
580
Day

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Average Validator Effectiveness
Attestant
Lido
Obol Public
Obol Public 10th
SSV
80%
60%
40%
20%
520
540
560
580
Day

Data Considerations

- Obol & SSV Data was retrieved using Rated Network's API (/v0/eth/validators/{validator_index_or_pubkey}/effectiveness) for days 520 to 580 since genesis on Prater/Görli.
- Lido & Attestant Data was retrieved using Rated Network's API (/v0/eth/operators/{operator_id}/effectiveness) for days 520 to 580 since genesis on Prater/Goerli.
- All metrics except exits are as is from Rated Network or deduced from simple maths definition (perc. missed attestations). See Rated docs and definitions here.
- Obol's Top 10th Percentile defined as validators from the Obol set with the highest uptime during the considered timeframe.
    - We excluded some home staker clusters that appeared to be running on only a single machine.
- SSV's clusters operated by 3 or more SSV Core Team members were excluded.
- Pubkeys can be accessed freely here.
- Full Data can be requested here.

Supported Duties

Obol's middleware, Charon, is a distributed validator, so its main responsibility is performing validation duties. The following table outlines which clients have produced which duties on Athena Public Testnest, and which are still under construction (🚧)

One of the key recent additions is the support for MEV-Boost.

Duty \ Client	Teku	Lighthouse	Lodestar	Nimbus	Vouch	Prysm
Attestation	✅	✅	🚧	🚧	✅	🚧
Attestation Aggregation	✅	✅	🚧	🚧	🚧	🚧
Block Proposal	✅	✅	🚧	🚧	🚧	🚧
Blinded Block Proposal (MEV-boost)	✅	✅	🚧	🚧	🚧	🚧
Sync Committee Attestation	✅	✅	🚧	🚧	🚧	🚧
Sync Committee Aggregation	🚧	🚧	🚧	🚧	🚧	🚧