

PeerDAS Metrics Specifications



Ethereum Protocol Fellowship Cohort 5

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What is PeerDAS?

Scaling solution for data availability

**Same Protocol
Different Metrics**

Same Protocol Different Metrics

Core Devs

can't compare
results across
different
clients

Same Protocol Different Metrics

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DevOps

can't monitor
all clients in
one place

Same Protocol Different Metrics

Core Devs

can't compare
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DevOps

can't monitor
all clients in
one place

Research

can't use
unified data
from clients

Metrics

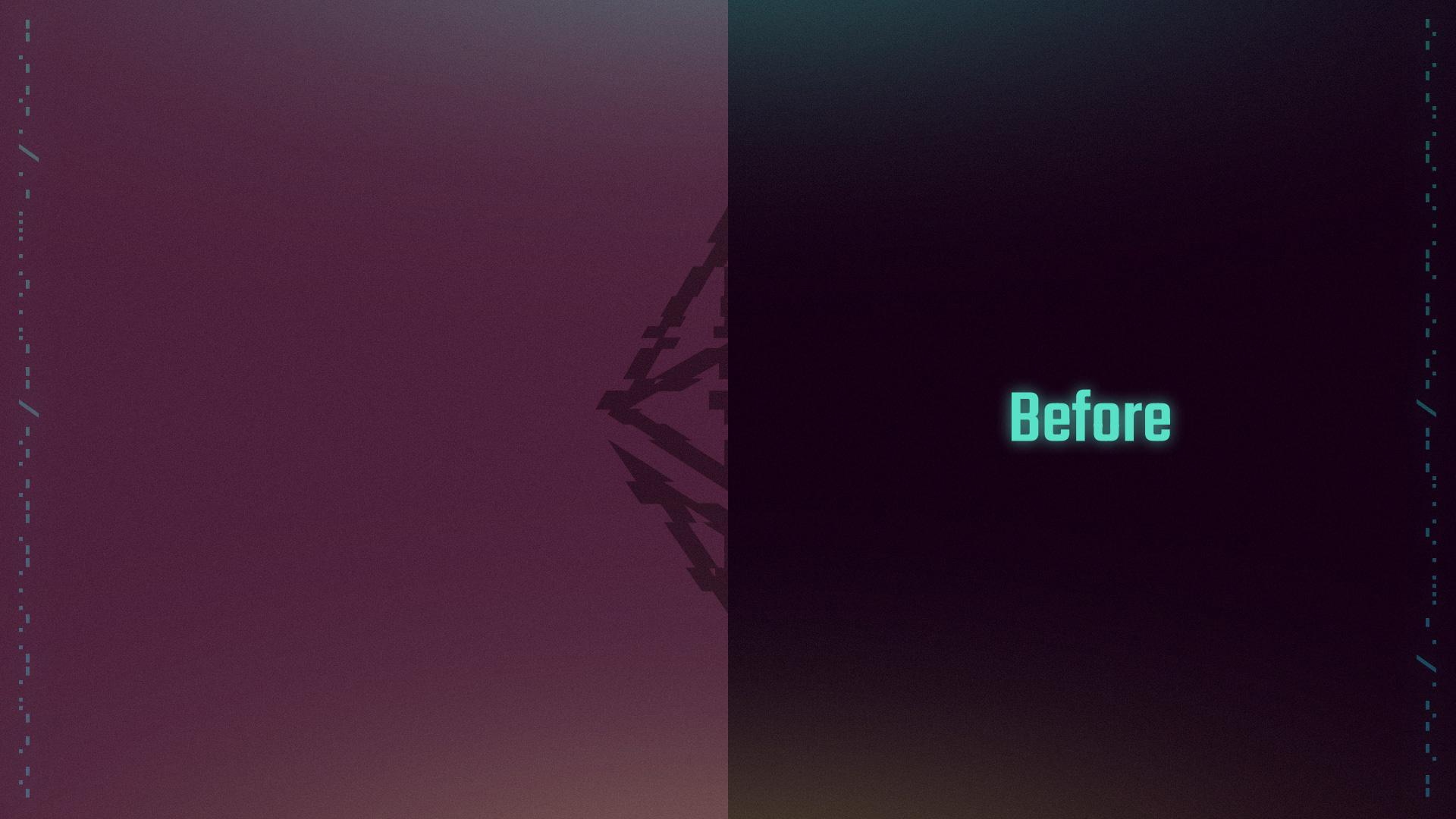
Standardized and unified
for all clients

Dashboard

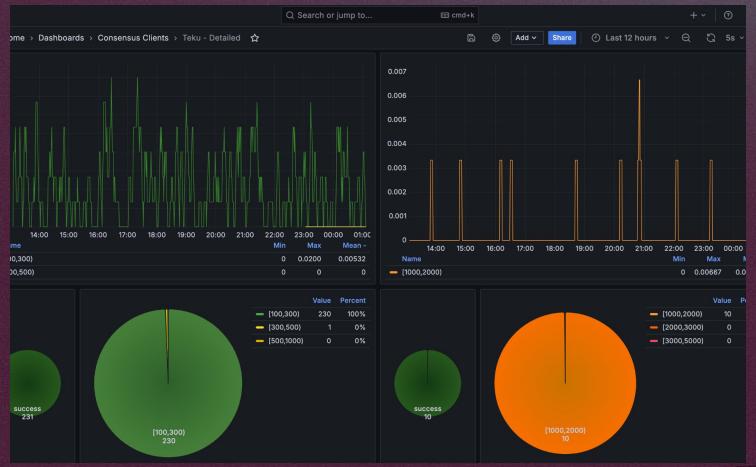
Displays all the clients
in one place



One Dashboard For All Clients



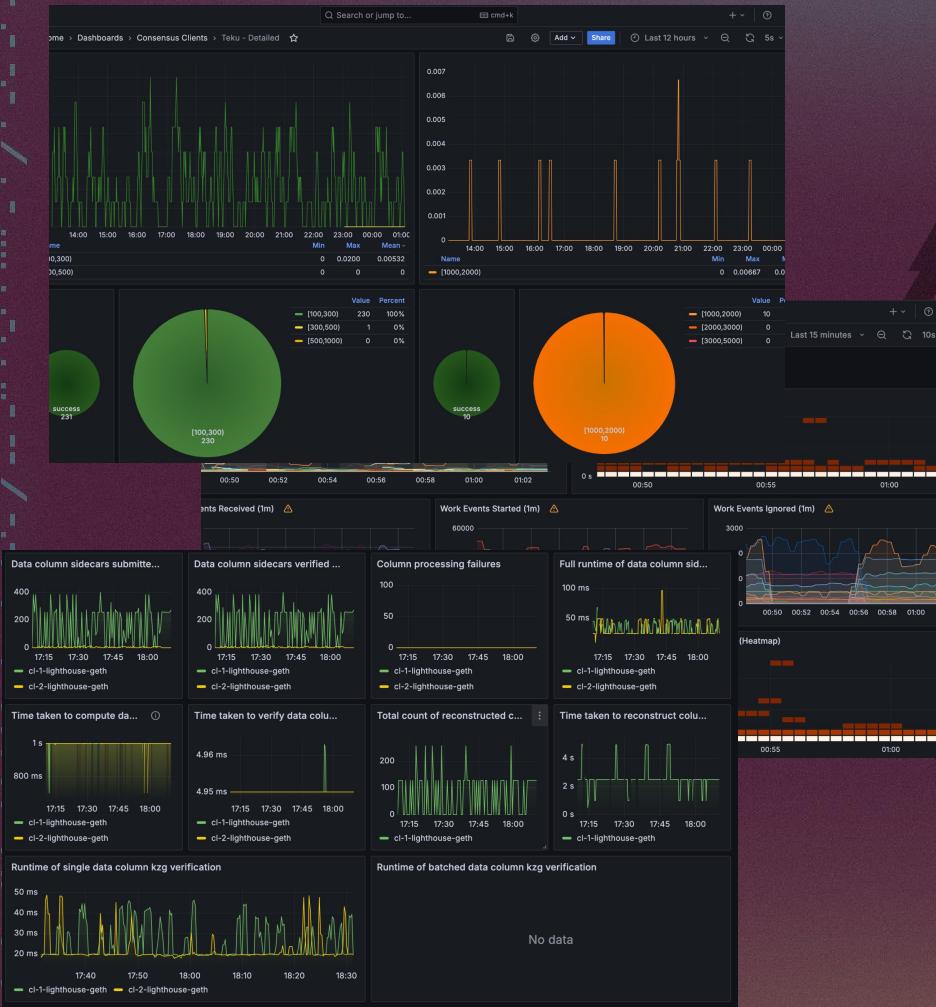
Before



Before

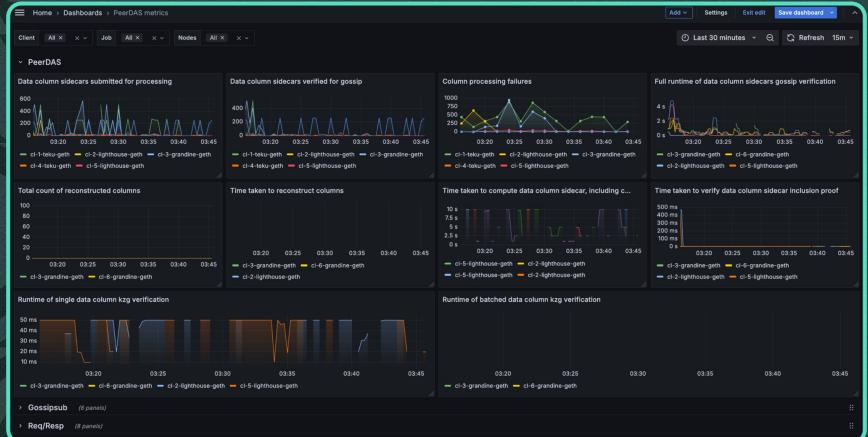


Before

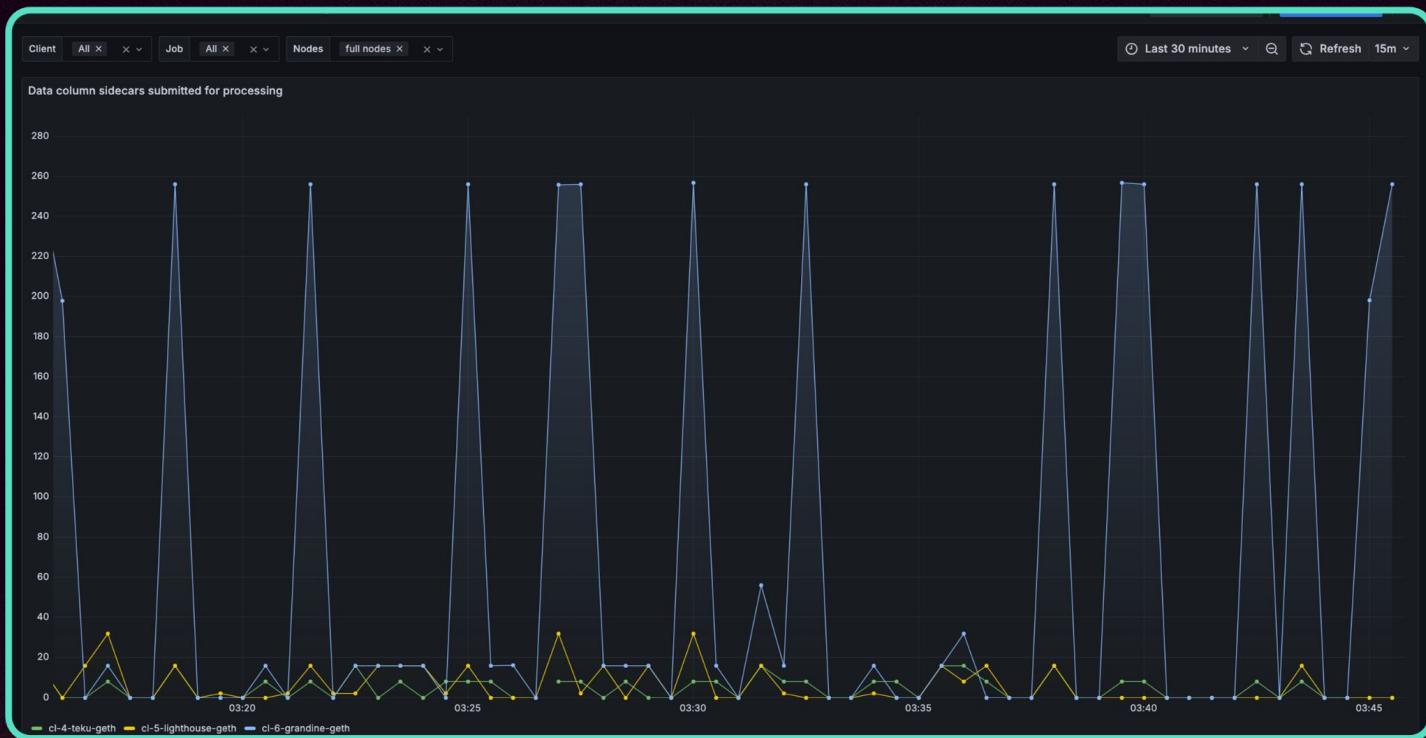


Before

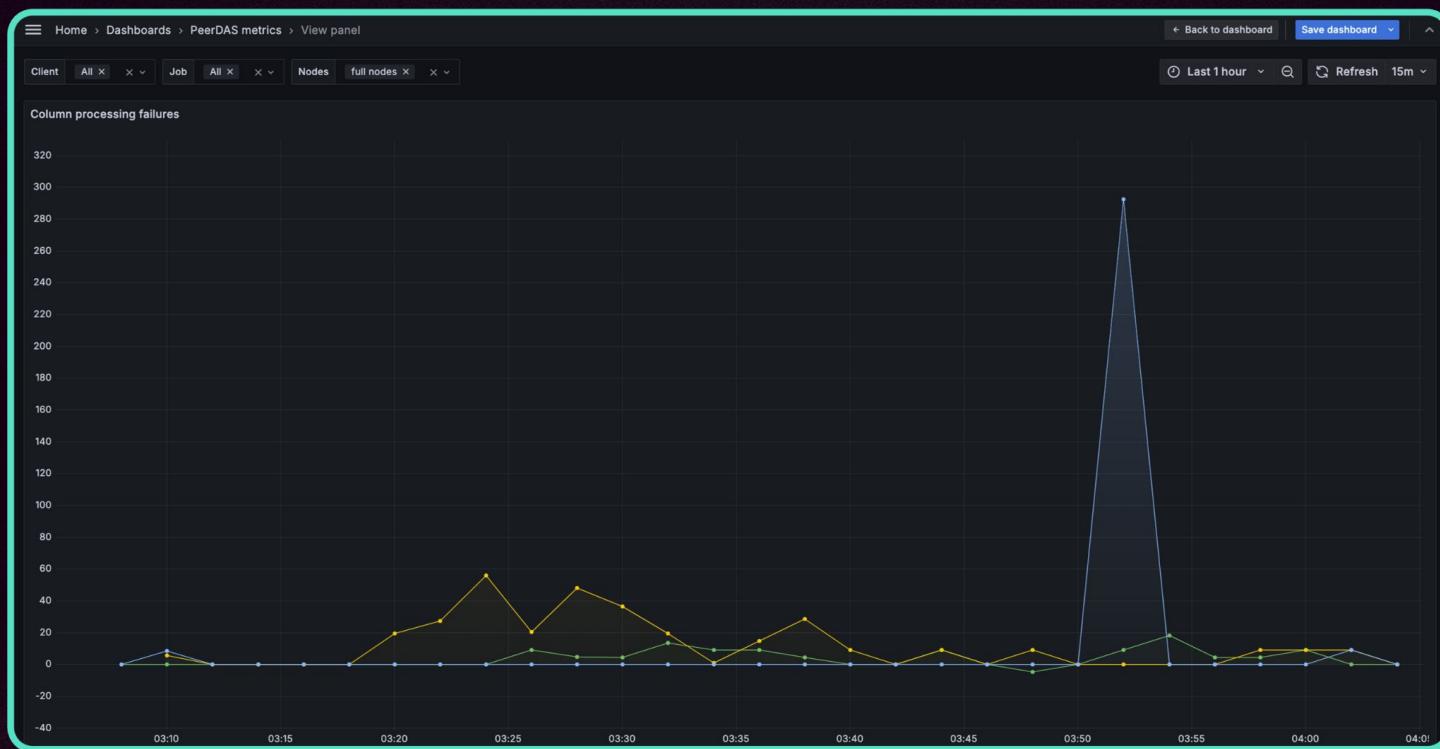
After



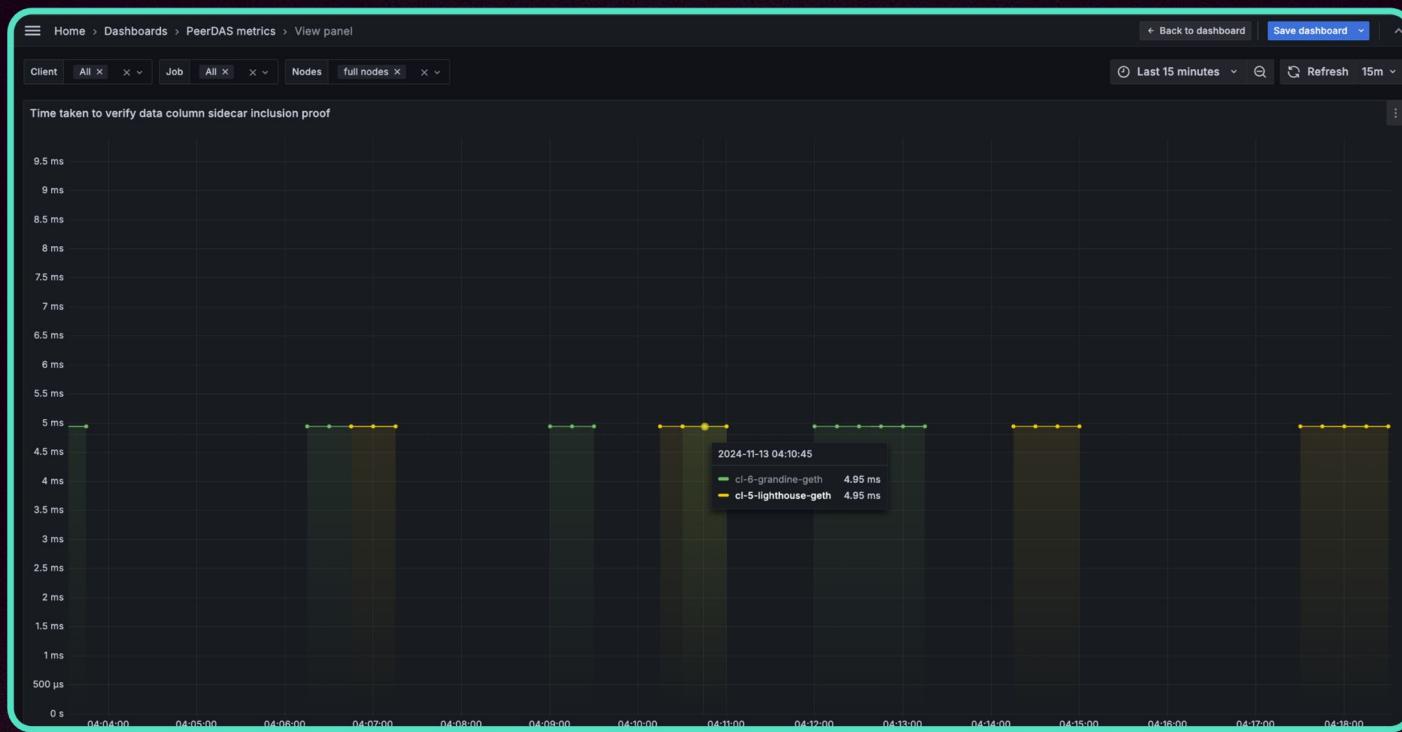
Core Developers



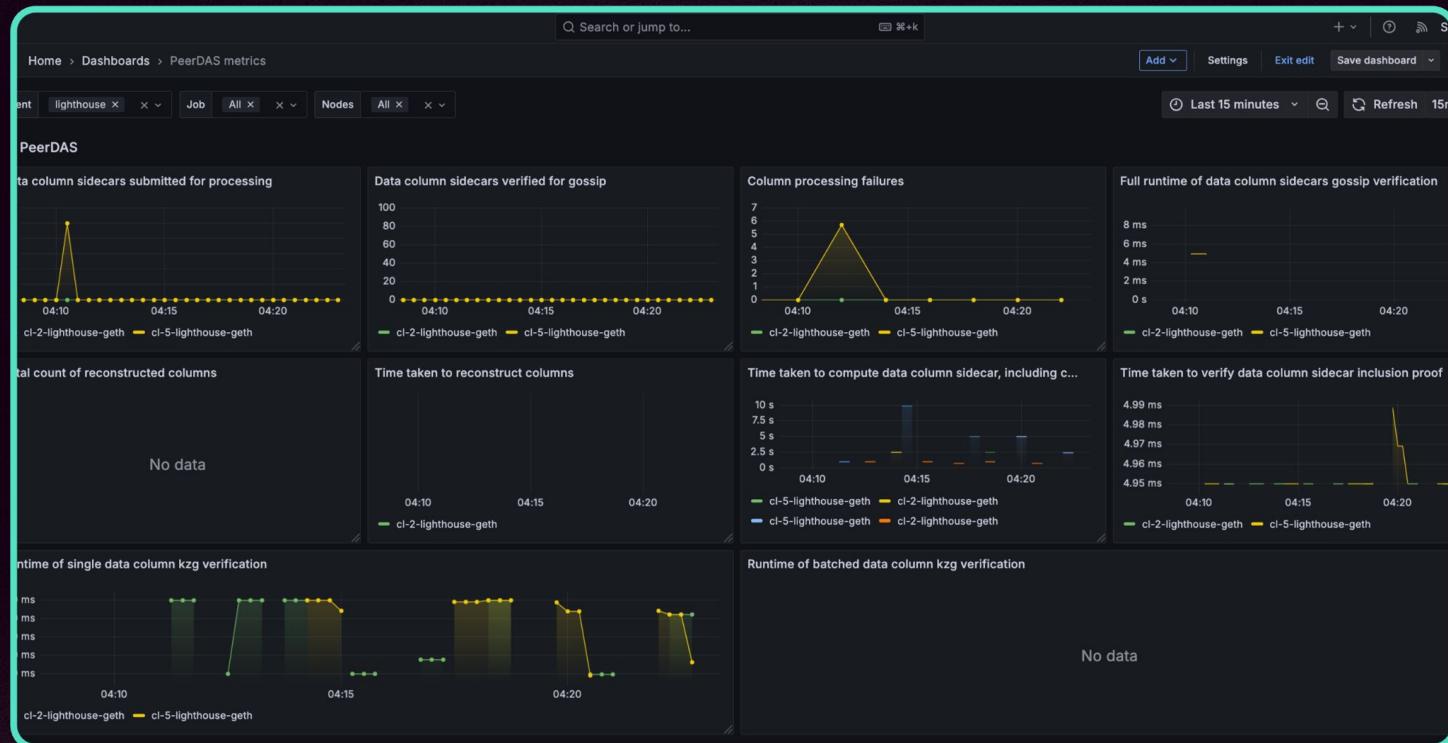
DevOps



Researchers



Kurtosis Dashboard



Using Kurtosis Dashboard

Lighthouse PeerDAS Metrics

KZG

We've switched from `c-kzg` from the Rust `peerdas-kzg` library. Again, numbers are not meaningful here, but included here for completeness. For better numbers see [this](#).

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Lighthouse PeerDAS Full ...

- Setup
- Metrics**
- Network
- Block & Data Column ...
- KZG
- Machine spec

Expand all

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Machine spec

- CPU: AMD Ryzen 7 3700X (3.6 GHz, 8 cores)
- RAM: 64 GB
- Drives: 2 x 1 TB SSD

Last changed by

0 137

Jimmy Chen - Follow Software Engineer @ Sigma Prime, Ethereum

Why Hasn't It Been Done Before?

Monitoring a few clients
was manageable

Why Do We Need It Now?

More clients -> more monitoring
+1 client 10x time consuming

- Catch errors
- Save resources
- Compare clients
- Create benchmarks

Metrics Specs Benefits

PeerDAS Metrics Specs

- Computation
- Inclusion proof
- Kzg verification
- Reconstruction
- Gossip verification
- Custody

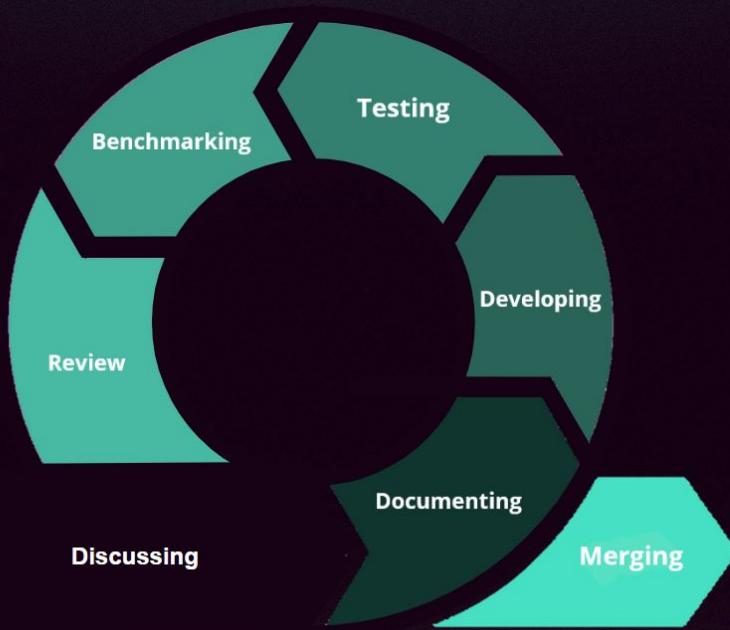
PeerDAS Metrics Specs

- Computation
 - Inclusion proof
 - Kzg verification
 - Reconstruction
 - Gossip verification
 - Custody
-
- Gossipsub
 - Libp2p

Current State Overview

Metric	Lighthouse	Teku	Grandine	Prysm	Lodestar	Nimbus
Raised issue	#6018	#65		#14129		
beacon_data_column_sidecar_processing_requests_total	✓	✓	✓	□	□	□
beacon_data_column_sidecar_processing_successes_total	✓	✓	✓	□	□	□
beacon_data_column_sidecar_gossip_verification_seconds	✓	✓	✓	📝	□	□
beacon_data_availability_reconstructed_columns_total	📝	📝	□	□	□	□
beacon_data_availability_reconstruction_time_seconds	📝	📝	✓	□	□	□
beacon_data_column_sidecar_computation_seconds	📝	□	✓	□	□	□
beacon_data_column_sidecar_inclusion_proof_verification_seconds	📝	□	✓	□	□	□
beacon_kzg_verification_data_column_single_seconds	📝	□	□	□	□	□
beacon_kzg_verification_data_column_batch_seconds	📝	□	✓	□	□	□
beacon_custody_columns_count_total	□	□	□	□	□	□

Workflow



Roadmap

PeerDAS Metrics

Specs

Q1 2025

CL Metrics

Specs

Q2 2025

EL Metrics

Specs

Q3 2025



Clients Diversity & Collaboration



Matthew Keil Today at 14:40

such a nice thing!!! client diversity for the win!!!

Mentors



Parithosh Jayanthi
EthPanda0ps



Dmitrii Shmatko
Teku



Barnabas Busa
EthPanda0ps



Jimmy Chen
Lighthouse

Thank you!

Ekaterina Riazantseva

X @sib_katya

n @sibkatya

