

# P2P Networking @ Fusaka Berlin Interop '25'

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## Info

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- Session at Forschungsingenieurtagung - June 2025 (<https://notes.ethereum.org/@timbeiko/berlin-agenda>).
- Thu, Jun 12 @ 10.30 CEST.
- Duration: 90 min.
- Moderator: Raúl Kripalani (@raulk).
- Note taker: Pop, Wonbin, and some random AI.

## Slides

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### **P2P Networking @ Berlinterop**

P2P Networking Fusaka Interop @ Berlin '25 Raúl Kripalani & Marco Munizaga Ethereum Foundation

<https://docs.google.com/presentation/d/1Ek38ZSiKMCZtBDI9RQrO28BhKwDnLfGaox3pHXG7...>

<https://docs.google.com/presentation/d/1Ek38ZSiKMCZtBDI9RQrO28BhKwDnLfGaox3pHXG7phU/edit?usp=sharing>

## Agenda

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*Includes 10min slack.*

- [10min :: Raúl] Overview, context, and roadmap.
- [20min] Propagation layer planning.
  - [10min :: Marco] Gossipsub evolution: what's feasible for Fusaka? (incl. simulations and benchmarks).
  - [10min :: Raúl] Next-gen propagation: network coding, structured topologies, Robust Distributed Arrays.
- [5min :: Marco] Transport layer planning: prioritizing QUIC, mplex deprecation, QUIC unreliable datagrams, 0-RTT + session resumption.
- [5min :: Marco] Benchmark and Simulation ⇒ feedback loop.

- [5min :: Raúl] Telemetry and Analysis.
- [10min :: group brainstorm] Paranoid mode on (Reliability, Security, Privacy, Anonymity).
- [15min :: group discussion] First principles thinking network stack design.
- [10min :: group discussion] Takeaways and conclusions.

## Summary

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We just established the P2P Networking team at the EF! Our goal is to align with everyone on the current state of the P2P layer, define clear action plans pre- and post-Fusaka, and collectively focus on promising directions. By improving propagation speed, optimizing bandwidth utilization, and reducing latencies, we aim to prepare the networking stack to support the projects that make Ethereum win.

## Desired outcomes

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- Define clear action plans and directions in each of the areas + potential timelines & priorities.
- Surface hidden uncertainties, risks, and blind spots, for us to tackle together.
- Align on how to best collaborate to make all of this happen quickly.

## Pre-reads

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- Gossipsub changes (<https://hackmd.io/@marcopolo/SkhOnxNQex>).
- Choke extension to gossipsub:
  - Description (<https://github.com/libp2p/specs/pull/681>)
  - Spec (<https://github.com/libp2p/specs/pull/681/files>)

## Notes

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- Taken by Pop: [https://notes.ethereum.org/sgr6oeivSGKw9owxEjJY\\_A](https://notes.ethereum.org/sgr6oeivSGKw9owxEjJY_A) ([https://notes.ethereum.org/sgr6oeivSGKw9owxEjJY\\_A](https://notes.ethereum.org/sgr6oeivSGKw9owxEjJY_A))
- Taken by Wonbin: <https://hackmd.io/@HMu3ciGqSo2XRf4OpBV7Ng/HkpETIFmgg> (<https://hackmd.io/@HMu3ciGqSo2XRf4OpBV7Ng/HkpETIFmgg>)