An Introduction to the Open Programmable Infrastructure Project

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The objective of the Open Programmable Infrastructure Project is to foster a community-driven standards-based open ecosystem for next generation architectures and frameworks based on DPU and IPU technologies.

https://opiproject.org  https://github.com/opiproject
Joins THE LINUX FOUNDATION
Approach for All Devices

- **Reduce** variation across implementations
- **Reuse** standard APIs already used on CPUs *when it makes sense*
- **Recycle** best practices and apply to infrastructure *when it makes sense*
**Infrastructure Transformation**

**DPU and IPU models**
- Offload and Accelerate CPU functions
- Security Air Gap
- Independent infrastructure endpoint
- Device discovery
  - Zero Touch
  - Zero Trust
  - Inventory
  - Lifecycle & Updates

- SHIM layer API
  - Storage
  - Network
  - Security
  - AI/MLI

- Device Monitoring
  - Open Telemetry (OTEL)
  - Metrics
  - Logs
  - Tracing

- Developer Platform
  - *Real devices & emulation*
  - *CI/CD pipeline*
Device Discovery and Provisioning

- Security first (mutual trust)
  - sZTP & FIDO
- Zero-Touch
  - Plug & Play
- Monitoring all the way
  - OTEL
- Multiple use cases
  - Challenges
Shim Layer API
Developer Platform