

# 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



intel®



# Approach for All Devices

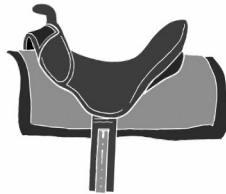
**Reduce** variation across implementations

**Reuse** standard APIs already used on CPUs *when it makes sense*

**Recycle** best practices and apply to infrastructure *when it makes sense*



Independently  
Boot & Provision

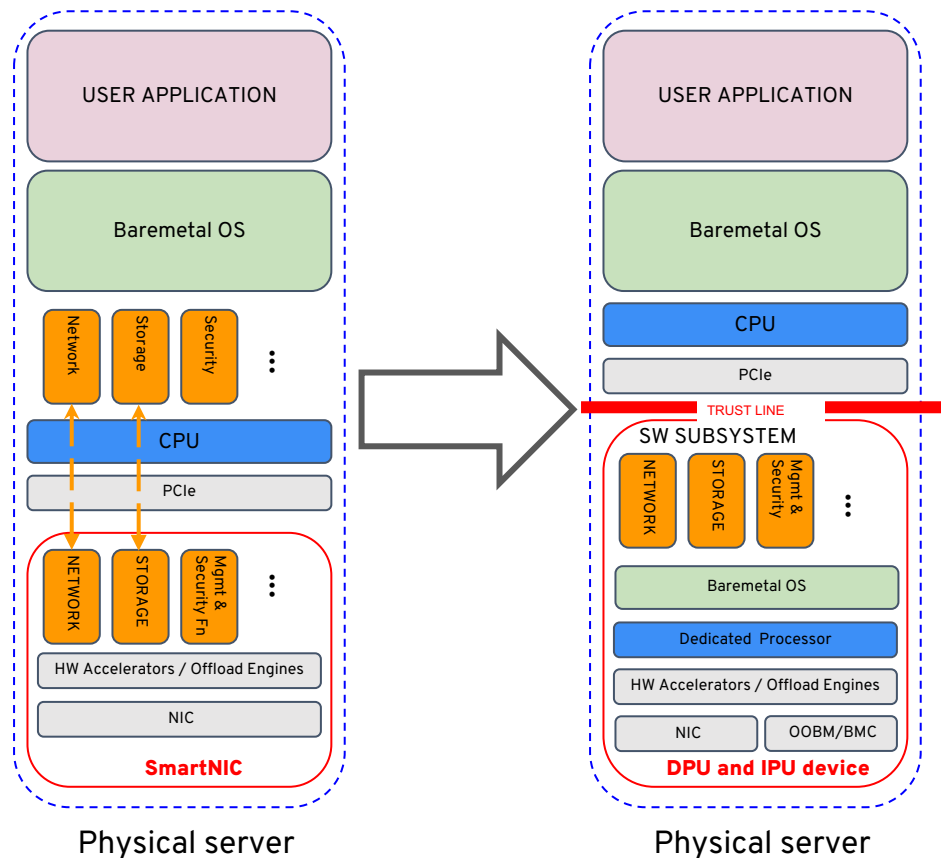


Program &  
Operate



Run  
Applications

# Infrastructure Transformation



## DPU and IPU models

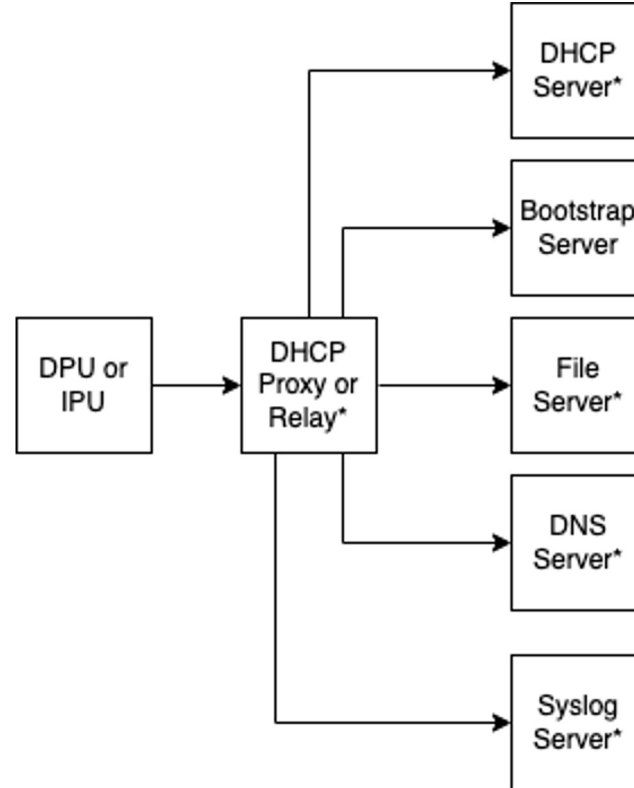
- Offload and Accelerate CPU functions
- Security Air Gap
- Independent infrastructure endpoint



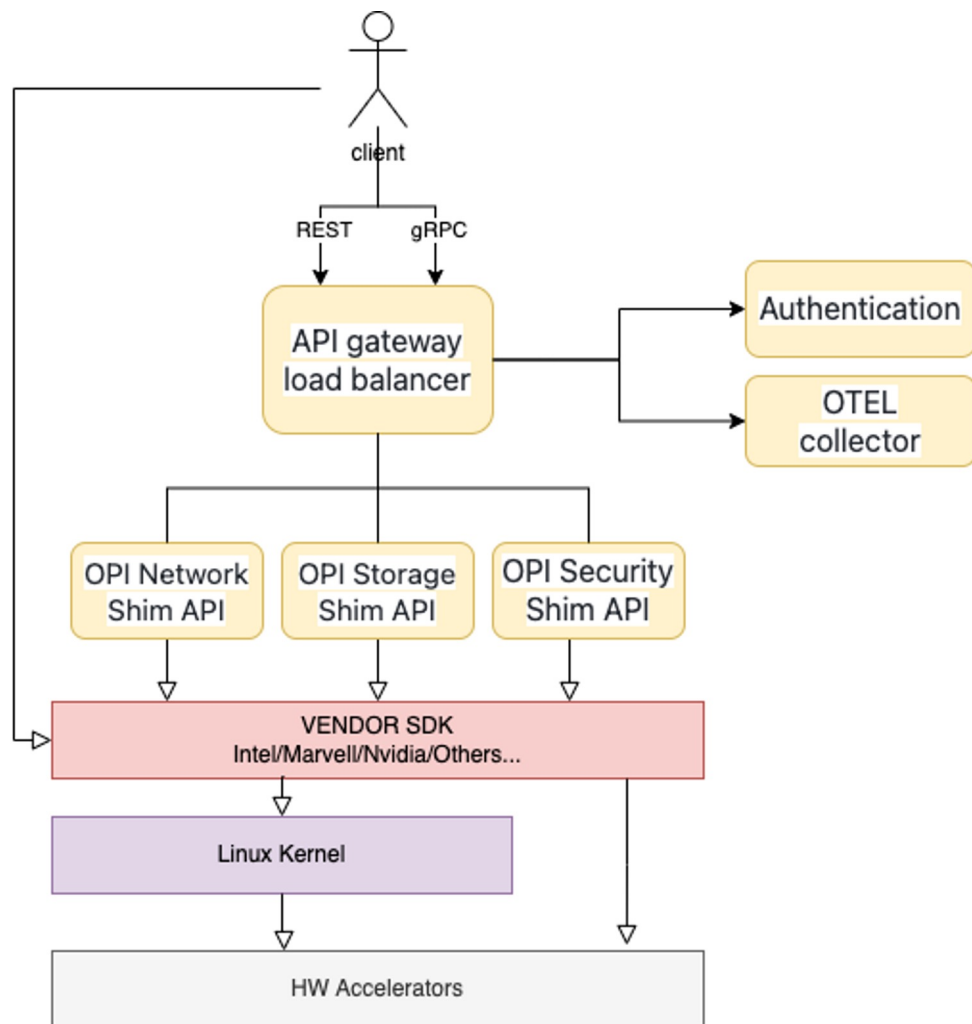
- Device discovery
    - Zero Touch
    - Zero Trust
    - Inventory
    - Lifecycle & Updates
  - SHIM layer API
    - Storage
    - Network
    - Security
    - AI/MLI
  - Device Monitoring
    - Open Telemetry (OTEL)
    - Metrics
    - Logs
    - Tracing
- }
- Developer Platform
    - *Real devices & 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

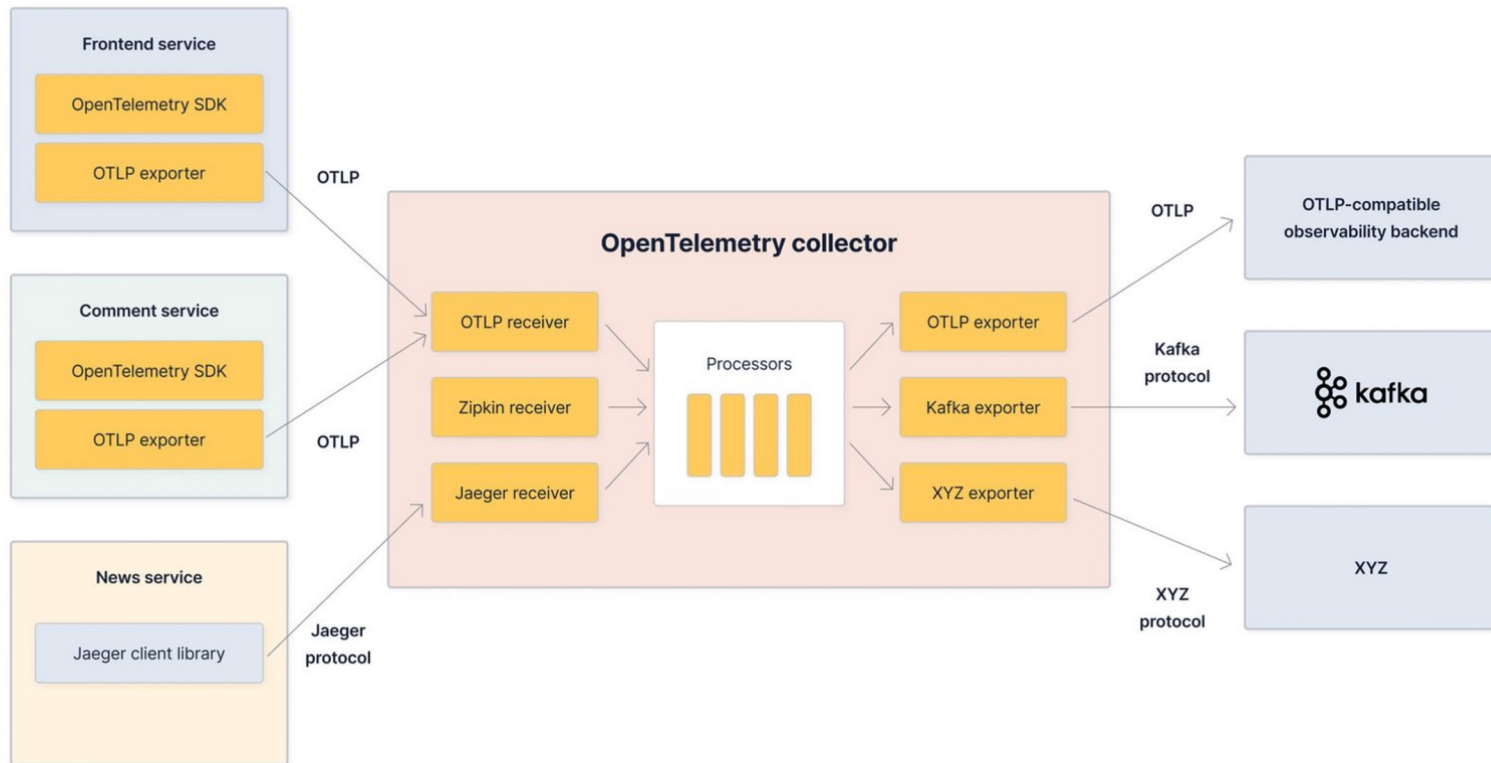


# Shim Layer API





# OTEL



# Developer Platform

