

OTSDN – What is it, how does it help?

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Important Aspects of Critical OT Networks

- Determinism and low latency
- Precise time
- Fast fault detection, isolation, and recovery
- Cybersecurity defense in layers
- Monitoring, self-testing, and alarming
- Maintainability, testing and diagnostics
- High MTBF hardware

Challenges With Traditional Ethernet Switching

- Designed for plug and play
- Conveniently does things “we don’t want”
- Reactive failover
- Topology dependent performance
- Difficult to achieve 100% test coverage

True Traffic Engineering for Ethernet Standardized OpenFlow™ Protocol

Traditional Ethernet Switch

Individual Control and
Data Planes

Ethernet Switch

Control Plane

Data Plane

Software-Defined Networking (SDN) Switch

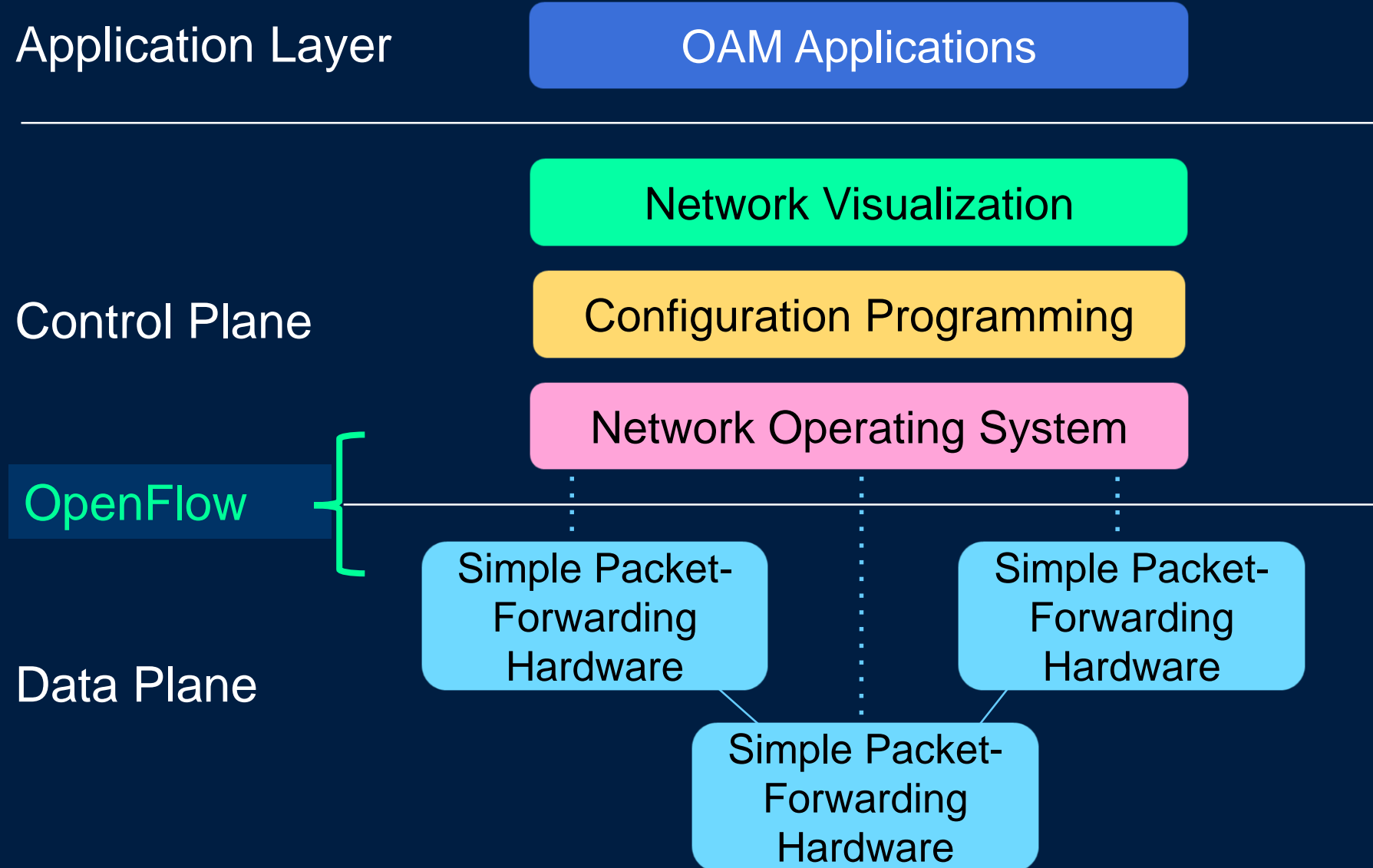
Centralized Control Plane,
Individual Data Plane

Centralized
Control Plane

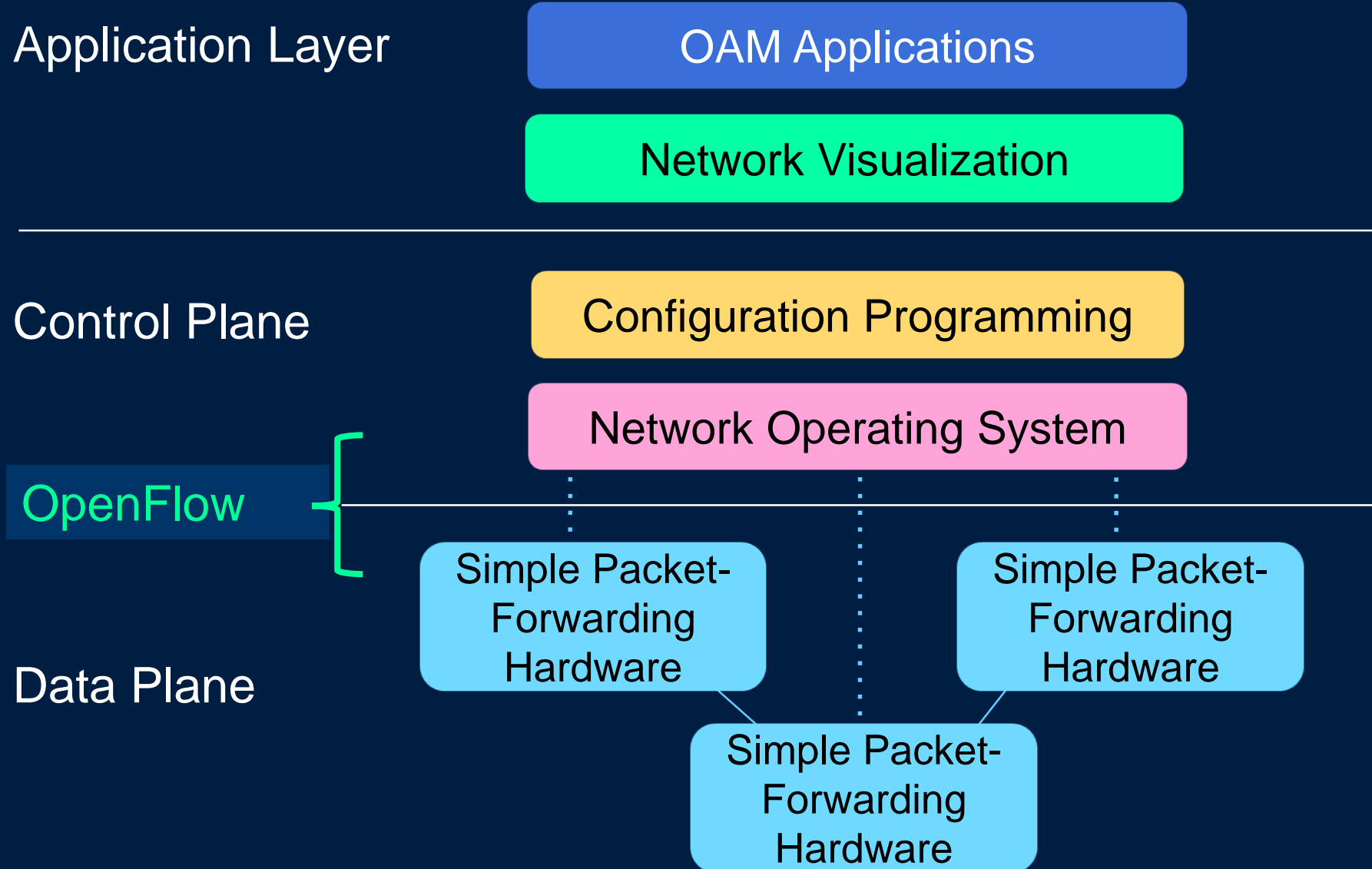
Ethernet Switch

Data Plane

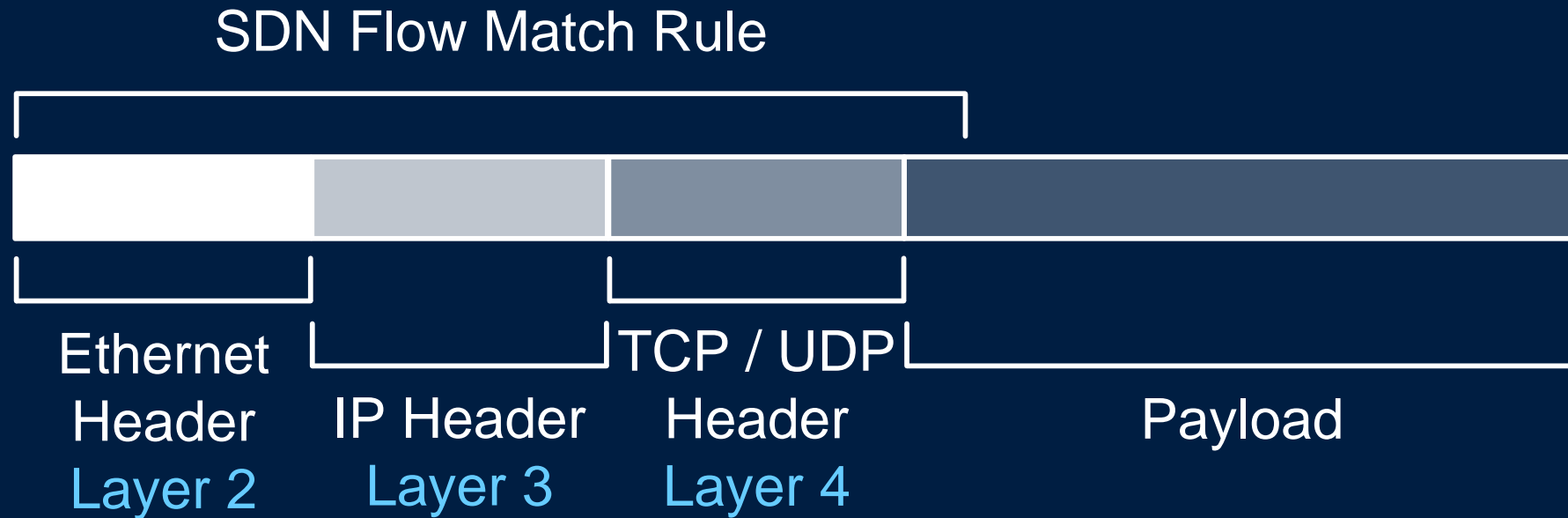
Introducing SDN and OpenFlow



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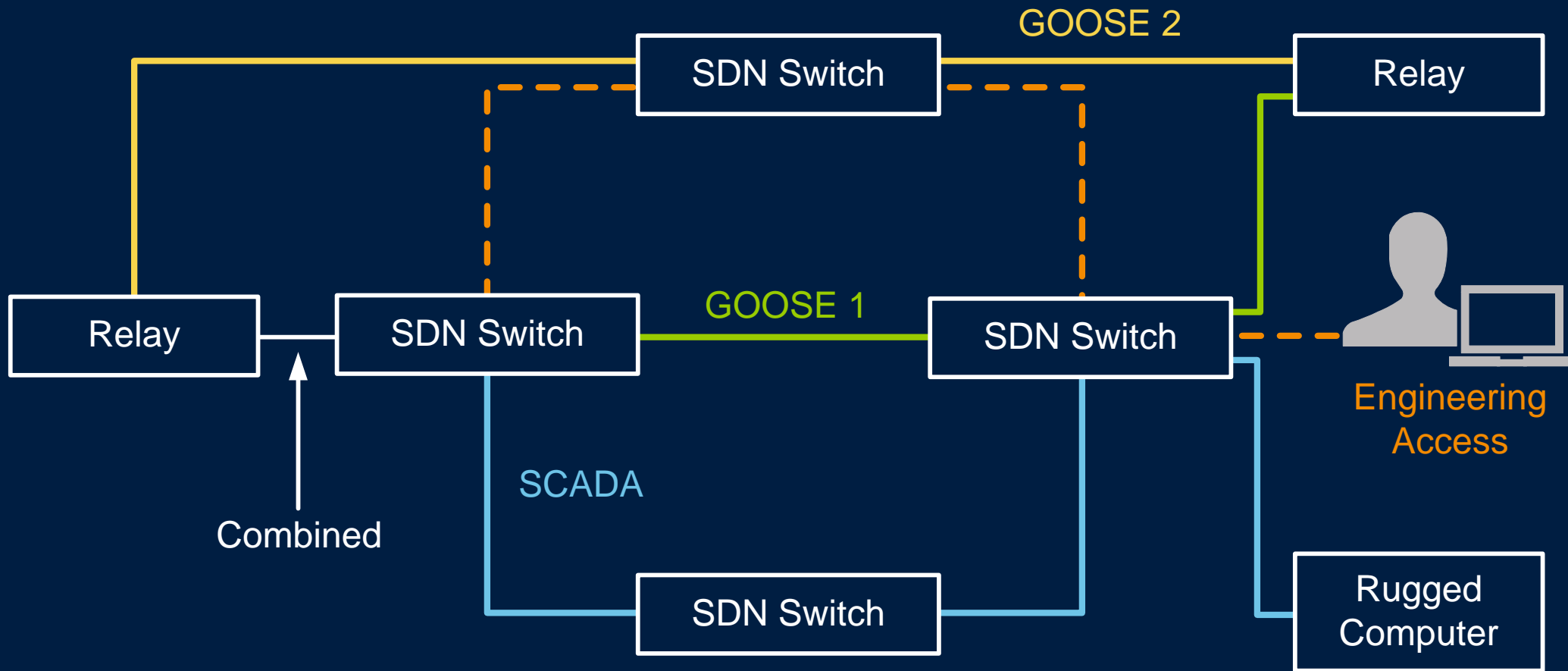


Multilayer Matching Rules Forward Approved Packets



Design Traffic Where Paths Are Based on Requirements and Applications

Flow Controller Is Not Required for Network Operation



Benefits of OTSDN

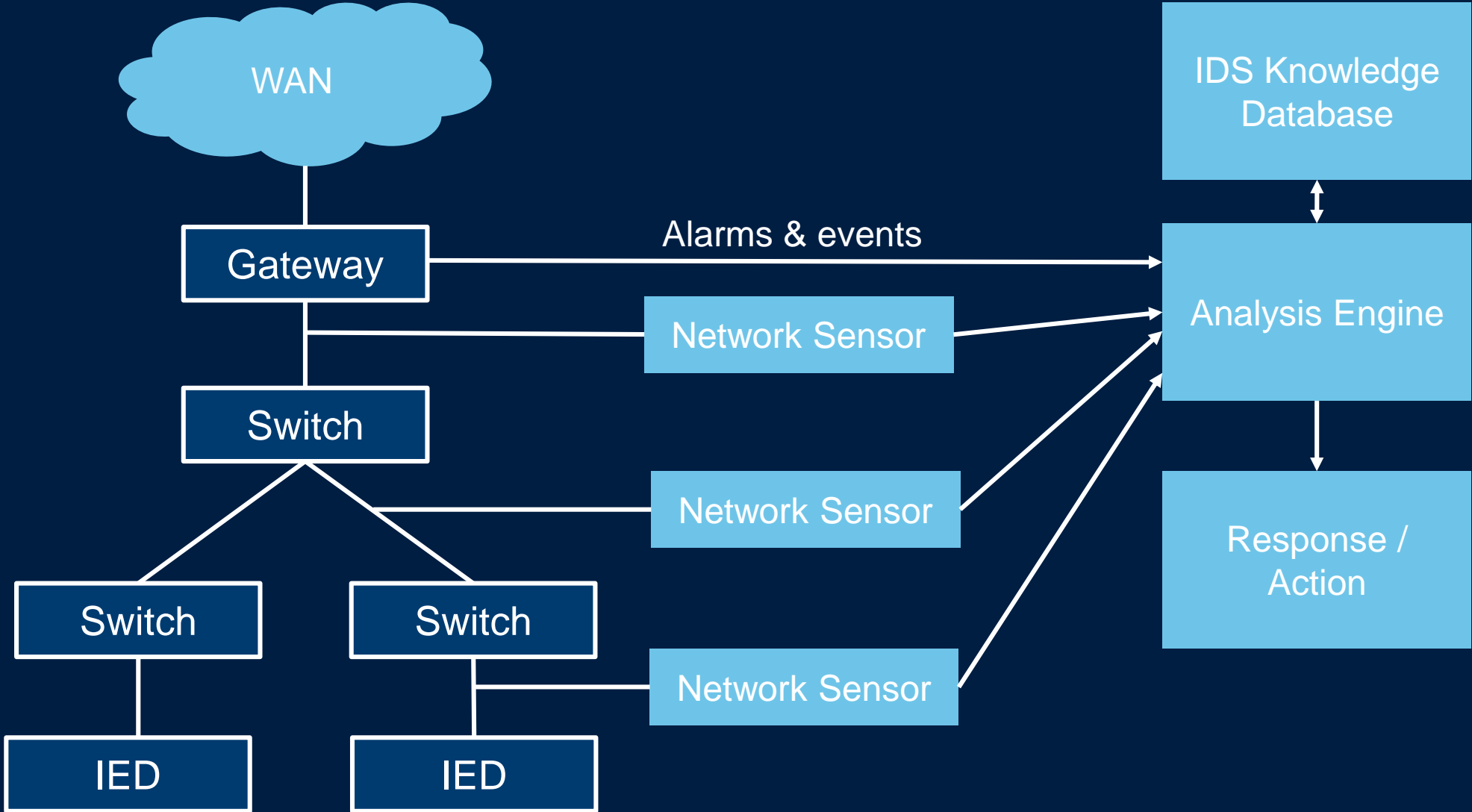
- Based on standard SDN standards
- Broad topology support
- Fast failover
- Application-focused circuits
- Deny by default traffic
- Static traffic engineered flows

OTSDN - Cybersecurity at Every Network Hop

- Only allow traffic that is required and only to the places it is needed.
 - No ARP Cache poisoning
 - No Broadcast storms
 - No BPDU attacks
- Hosts only see traffic for destined them and nothing else

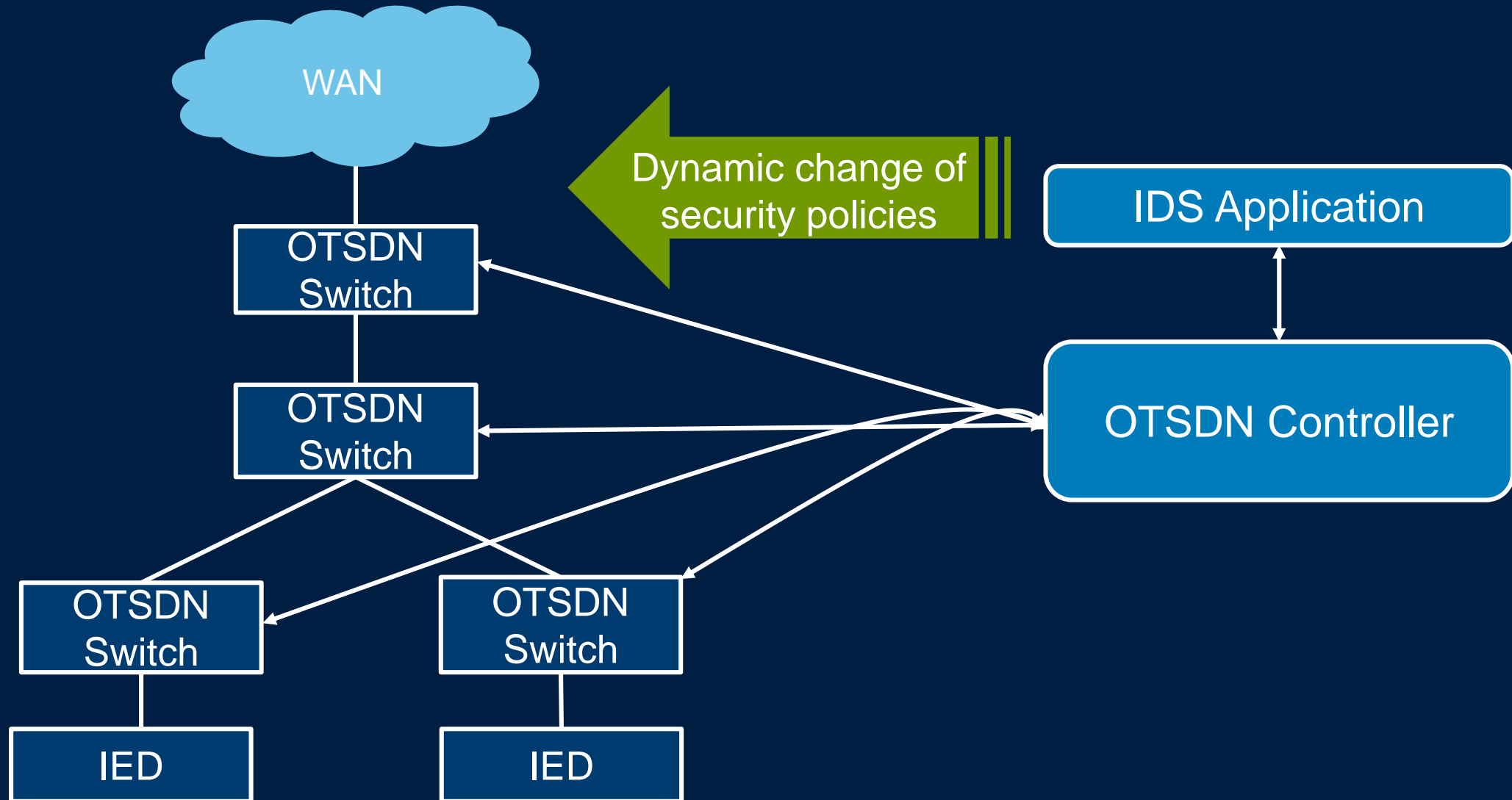
Traditional Intrusion Detection System

External with Slow Action Response



OTSDN Intrusion Detection System

Integrated With Fast Dynamic Response



Thank you

