Multi-layer and multi-domain SDN Interop

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Which architecture fits in a Network Operator?

Centralize functionalities to enable automation

Define simple standard interfaces

Big black box controlling the network

Hundreds of protocols

Specialized Hardware

Power hungry and bloated.

6,500+ ECs

Proprietary, outdated.

Billions of gates.
Current SDN solutions are mainly focused on **single domain and monovendor** scenarios (e.g. data center)

SDN architectures for **heterogeneous networks** with different technologies (IP, MPLS, Ethernet, optical...) and equipment providers are still **under definition**.

**SDN orchestrator:**
It takes decisions on E2E network configuration and resources allocation according to service and network optimization criteria

**Multilayer and multidomain control plane:**
It executes network configuration according to SDN orchestrator request

Abstrated information about network status

Control plane triggering
Interfaces requirements for SDN

- **South Bound Interface** has three main functions:
  - Discovery
  - Provisioning
  - Monitoring

- **North Bound interface** provides an abstracted interface with the upper layer.
Multi-layer and multidomain SDN architecture