# P5: Event-driven Policy Framework for P4-based Traffic Engineering

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## Introduction and Problem Statement

**Intro**

Network policies express how the network's forwarding behavior should change in response to changing conditions.

**The Problem**

Despite the constant evolution of the P4 language and the community efforts to advance the P4 control plane, **expressing intuitive end-to-end network policies atop P4-based data planes is still extremely hard.**

## Solution based on the ETSI TeraFlowSDN Controller

**P5:** An intuitive event-driven framework for end-to-end network policies atop P4 data planes.

### 1 Contributions

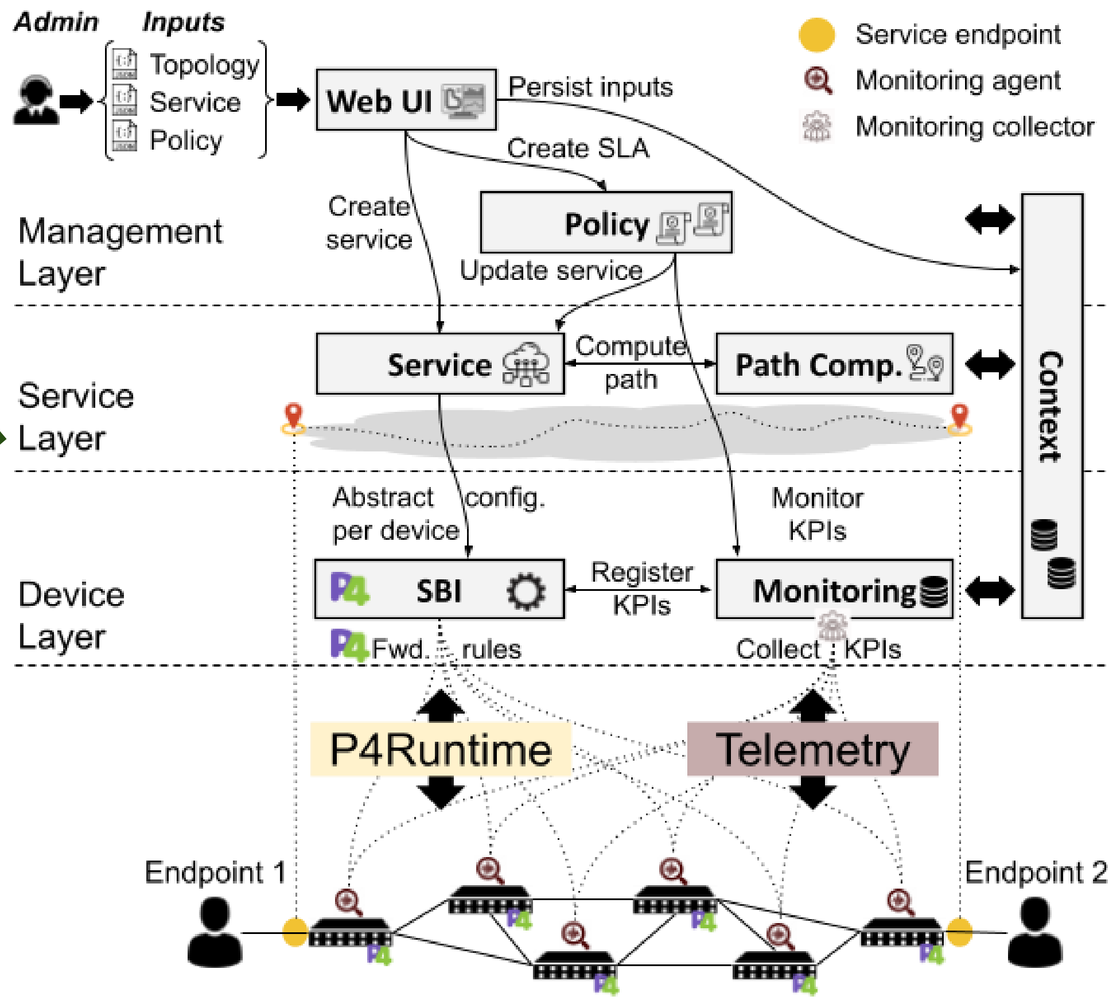
**Service Abstraction**

Definition based on endpoints. Calculates path and sets rules.

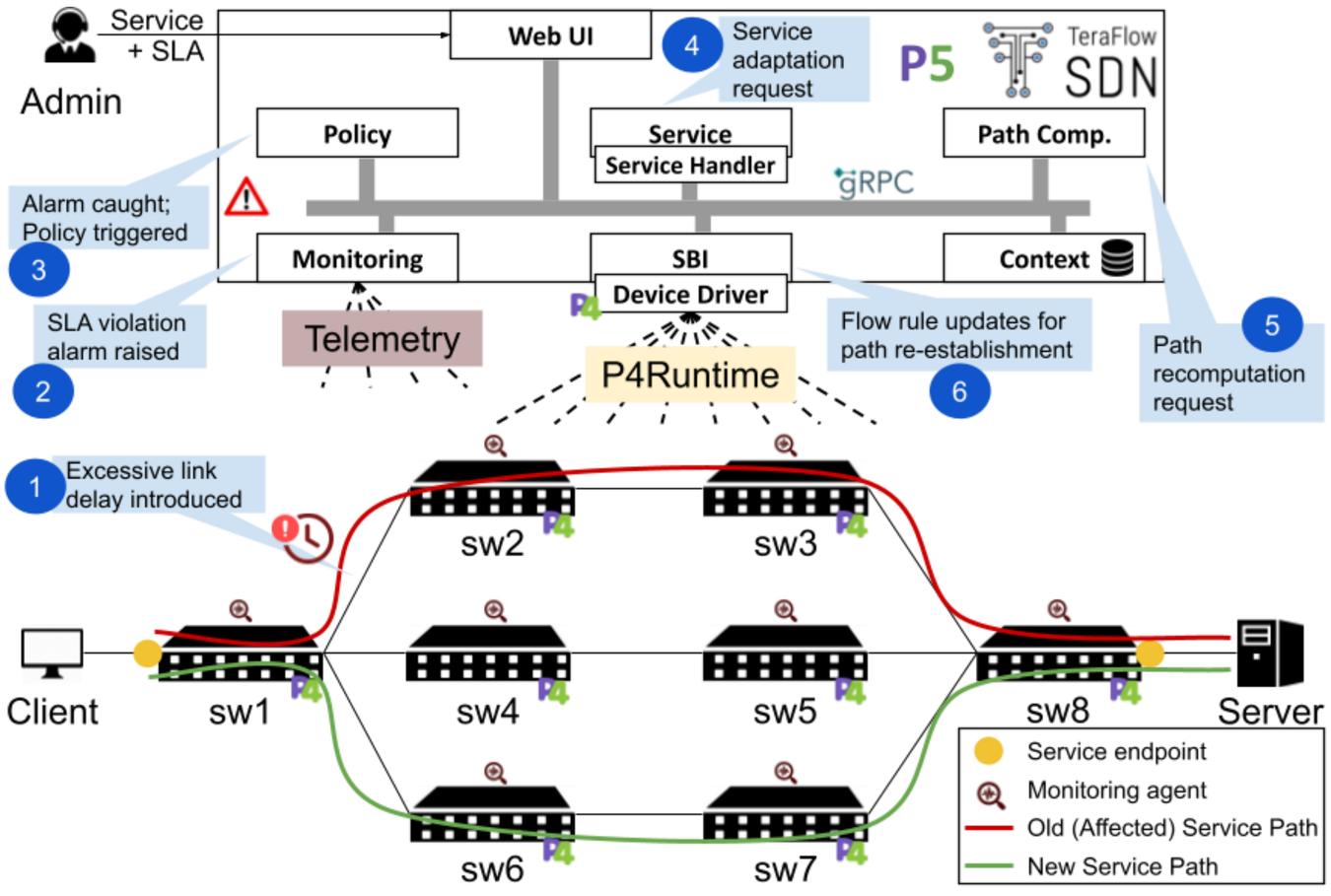
**Policy Abstraction**

Monitors KPIs and takes corrective actions based on alarms.

### 2 Architecture



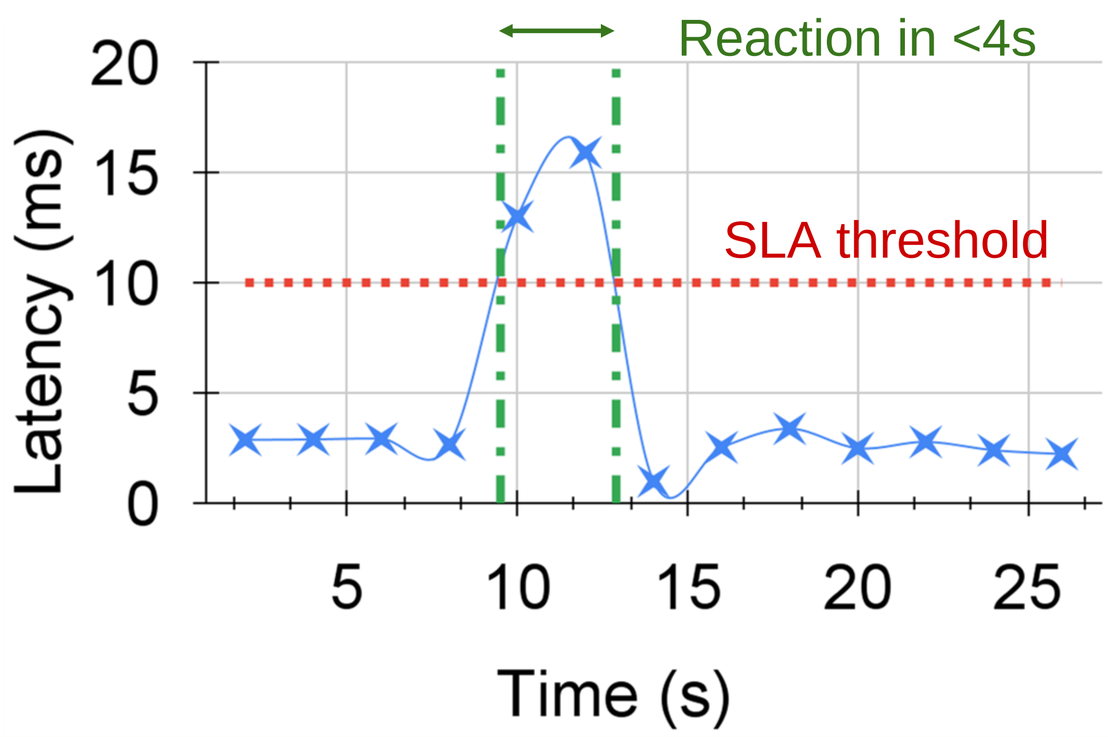

### 3 Workflow




When the end-to-end latency exceeds 10ms, Monitoring sends an alarm to the Policy component, which requests and establishes an alternative path, through the Service and Path Computation components. This procedure takes less than 4 sec to complete from the moment of the alarm to the establishment of a new service path.

### 4 Results

**Policy-driven SLA Enforcement**

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