SUPA problem statement

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SUPA Problem Statement I-D

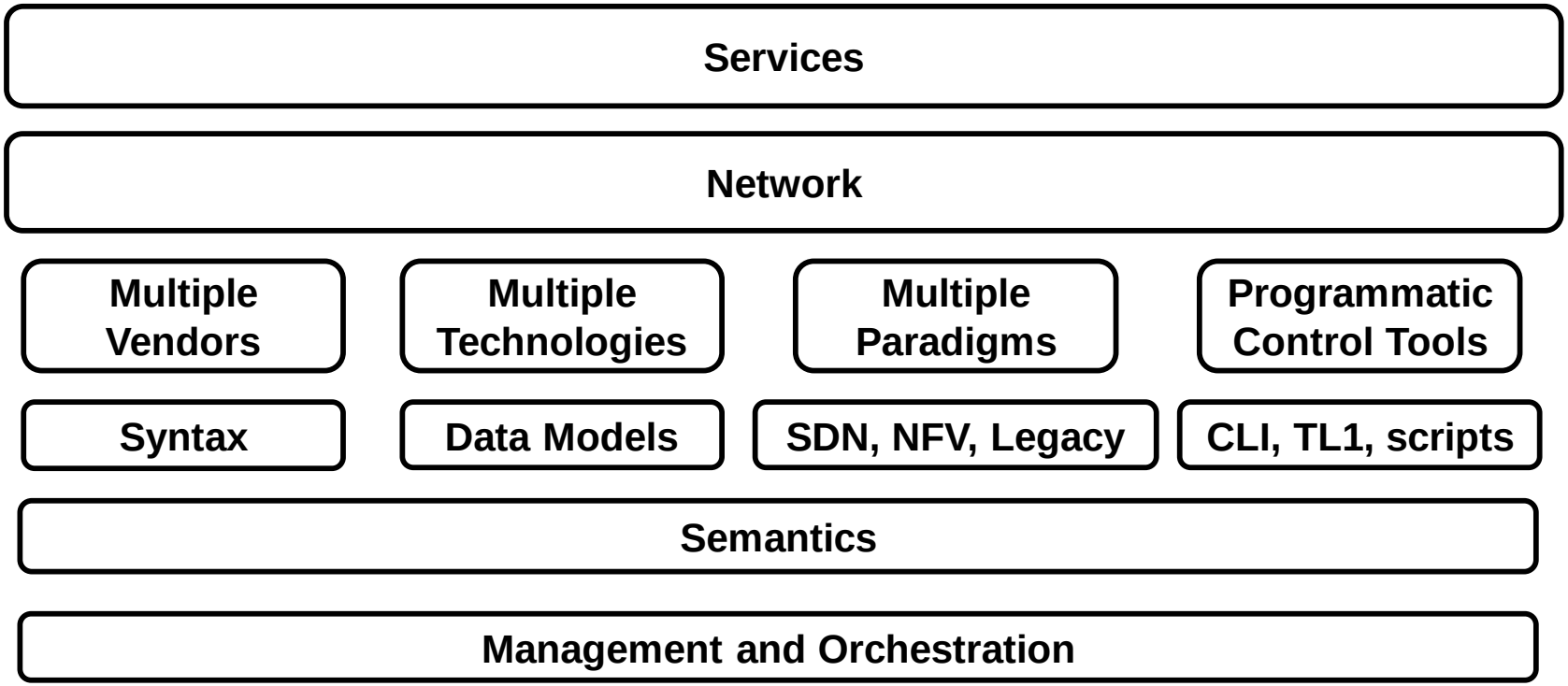
Motivation

- **Describes the problem that SUPA will solve**

Status of the I-D

- **created in line with the changes that have been done in SUPA value proposition draft**

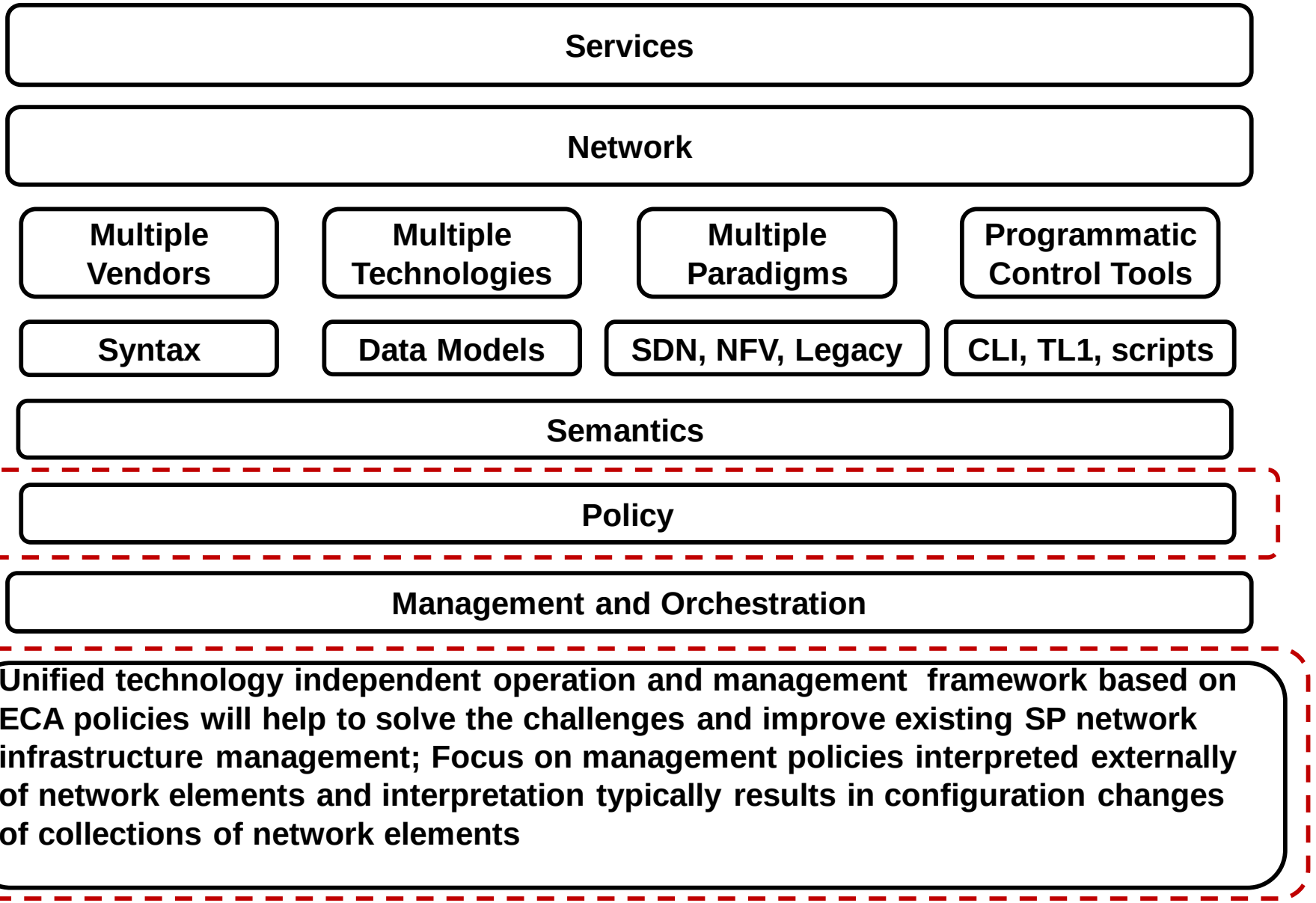
Problem Statement



Challenges

- **Complicated network infrastructure operation and management**
- **Hard to deploy new and manage existing network services**
- **Difficult to adapt new technologies to existing network operation and management ecosystem**

Problem Statement



ECA Policy Examples

Network Service Management Example

Event:	too many interface alarms received from an L3VPN service
Condition:	alarms resolve to the same interface within a specified time period
Action:	if error rate exceeds x% then put L3VPN service to Error State and migrate users to one or more new L3VPNs

Security Management Example

Event:	anomalous traffic detected in network
Condition:	determine the severity of the traffic
Action:	apply one or more actions to affected NEs based on the type of the traffic detected (along with other factors, such as the type of resource being attacked if the traffic is determined to be an attack)

ECA Policy Examples

Traffic Management Examples

Event: edge link close to being overloaded by incoming traffic
Condition: if link utilization exceeds Y% or if link utilization average is increasing over a specified time period
Action: change routing configuration to other peers that have better metrics

Service Management Examples

Event: alarm received or periodic time period check
Condition: CPU utilization level comparison
Action: no violation: no action
violation:
1) determine workload profile in time interval
2) determine complementary workloads (e.g., whose peaks are at different times in day)
3) combine workloads (e.g., using integer programming)

Value and Benefits of SUPA

Vendor and Technology Independent Policy Framework

- **Network Policy independence reduces complexity and vendor lockin. Helps unify network management.**
- **Simplifies deployment of new Network Function and Services.**

Unified Network Infrastructure Policy Management

- **Increased abstraction enables simpler and effective network infrastructure management for operators;**
- **Define high-level, network-wide management policies that are interpreted outside network elements, to create interoperable network element configuration snippets**

Real-time and event-based Network Management

- **Network infrastructure can automatically change based on context monitored by policy at the current moment of time**

New Independent Network Management (Policy) Layer

- **Policy can help to build intermediate layer between SP and Subscribers for unified and shared management.**
- **Policy-holders can provide instruments to Policy-users for their network resource management.**
- **Creates management and operations interface to enable existing IETF data models (I2RS, L3SM) to be managed in unified way independent of application domain, technology and vendor**

Next steps

Propose to make this draft a SUPA working group draft