

Software Defined Optical Network Orchestration - using vendor locked hardware

Outline

- Objectives
- Architecture
- Virtualisation
- Realisation
- Demo

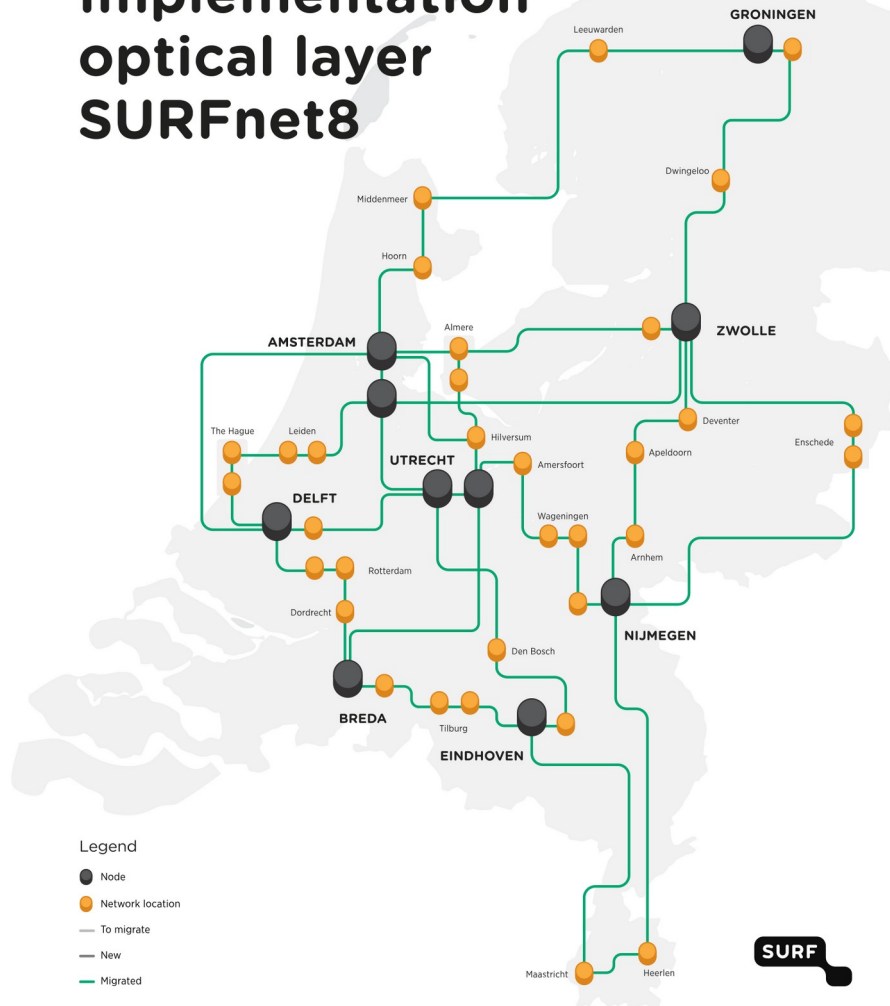
Objectives - 2019

- Connect multiple nodes
- Support dynamic configuration
- Network graph detection

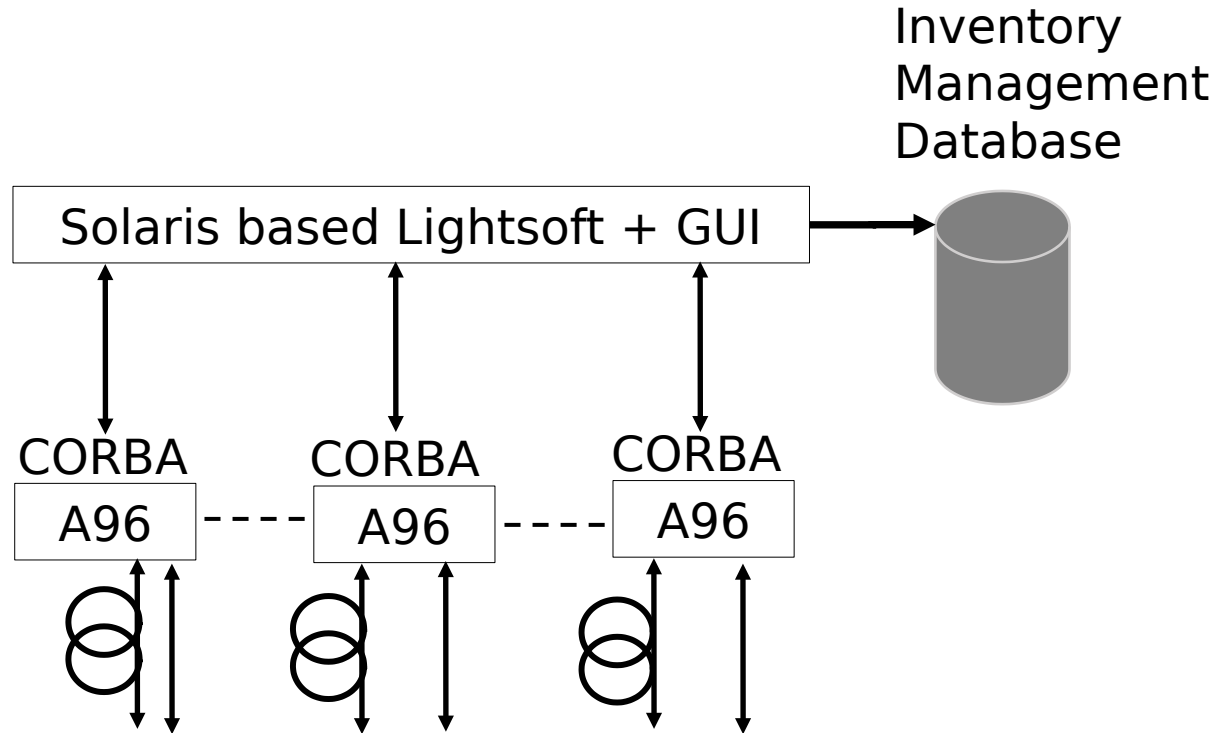
New architecture: Pro / Con

- Pro:
 - Redundant
 - Decentralized
 - Stateless
 - Self healing
 - Portable
 - Partition resistant
- Con:
 - Speed & latency, solved with caching

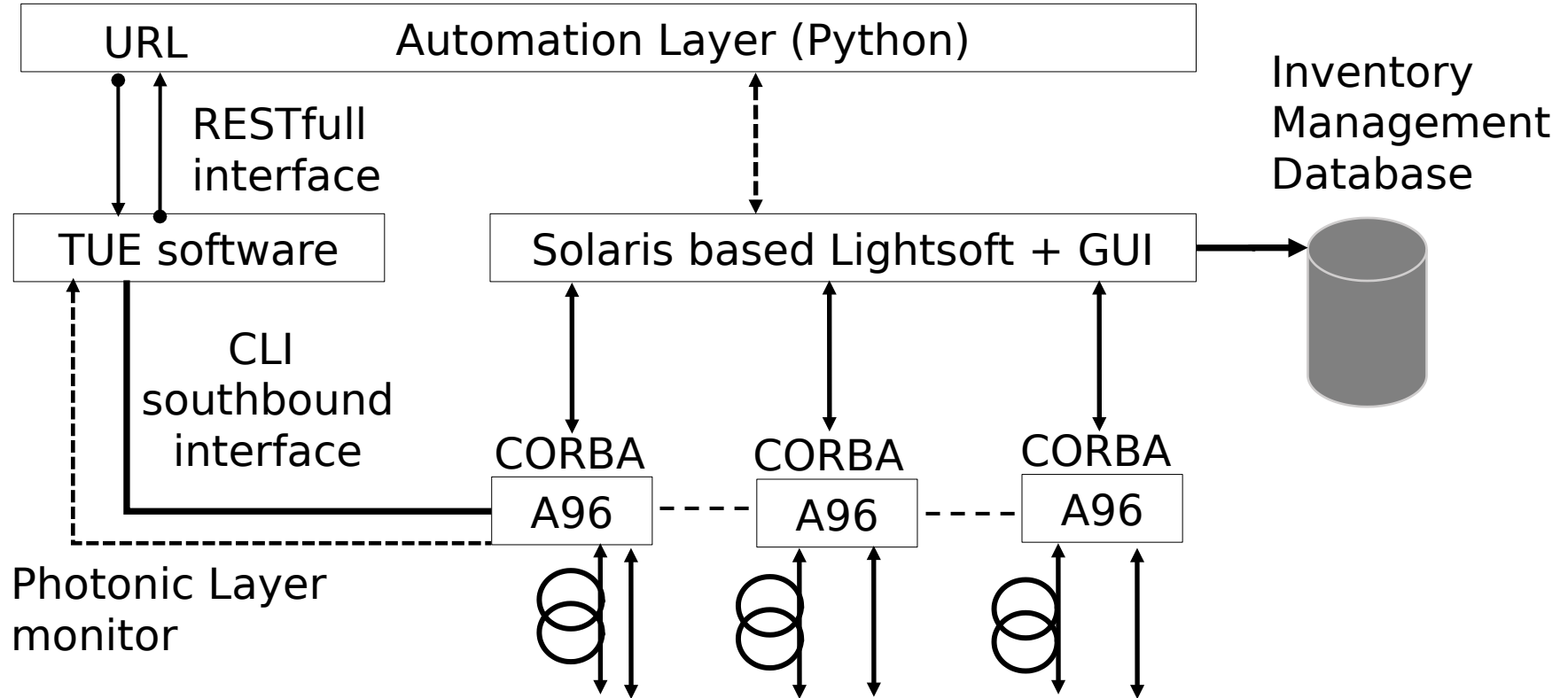
Implementation optical layer SURFnet8



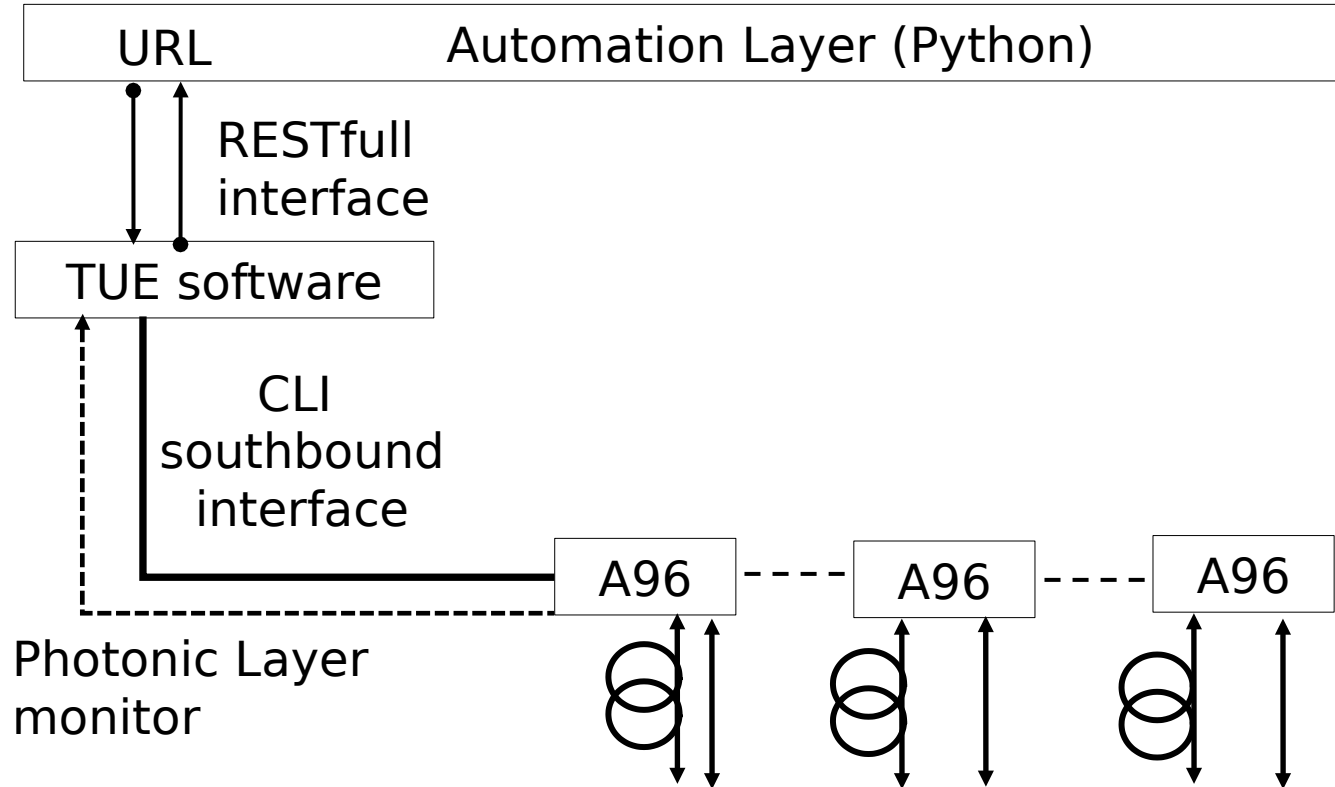
Old Surfnet Architecture



Surfnet proposed Architecture



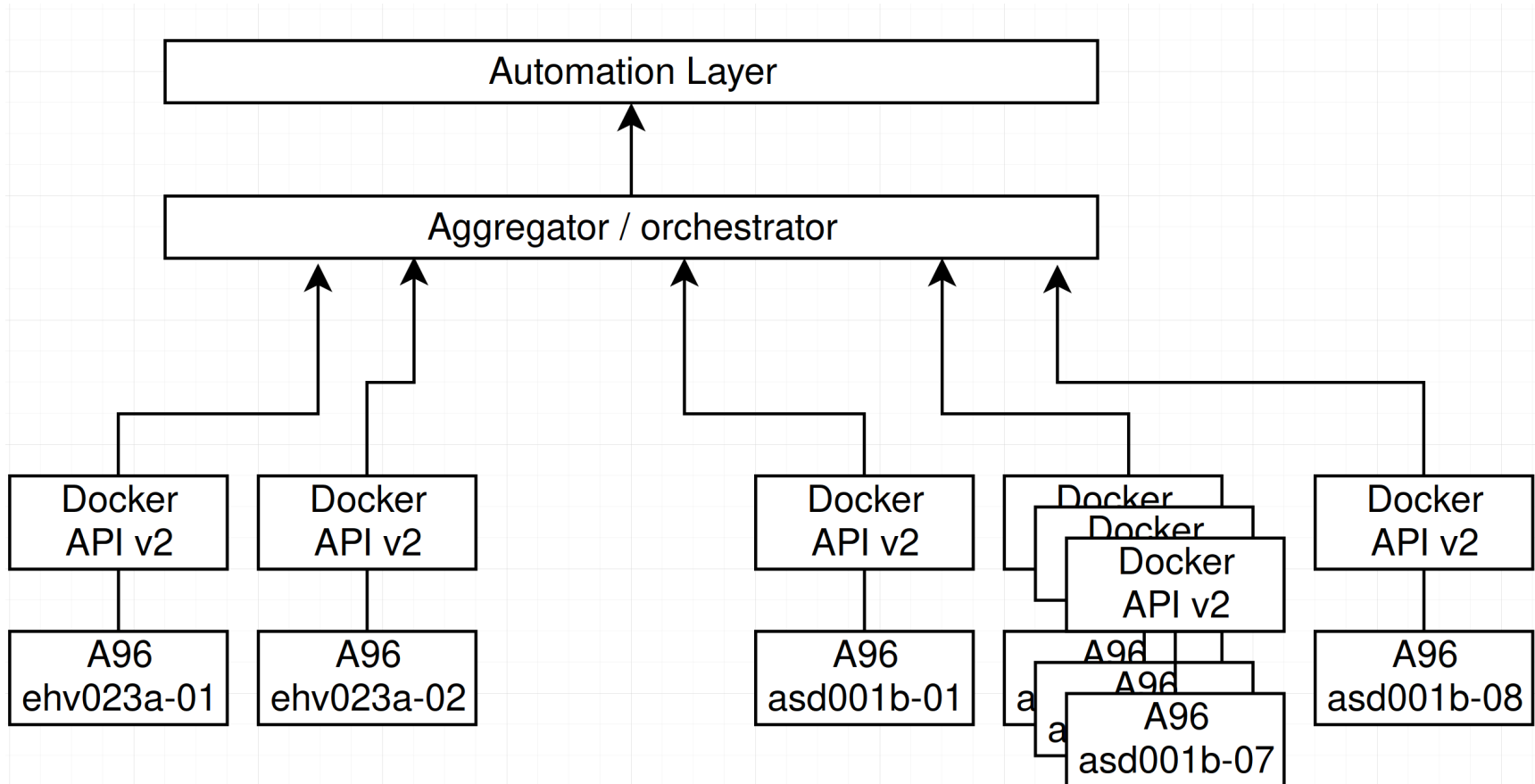
Realized Architecture



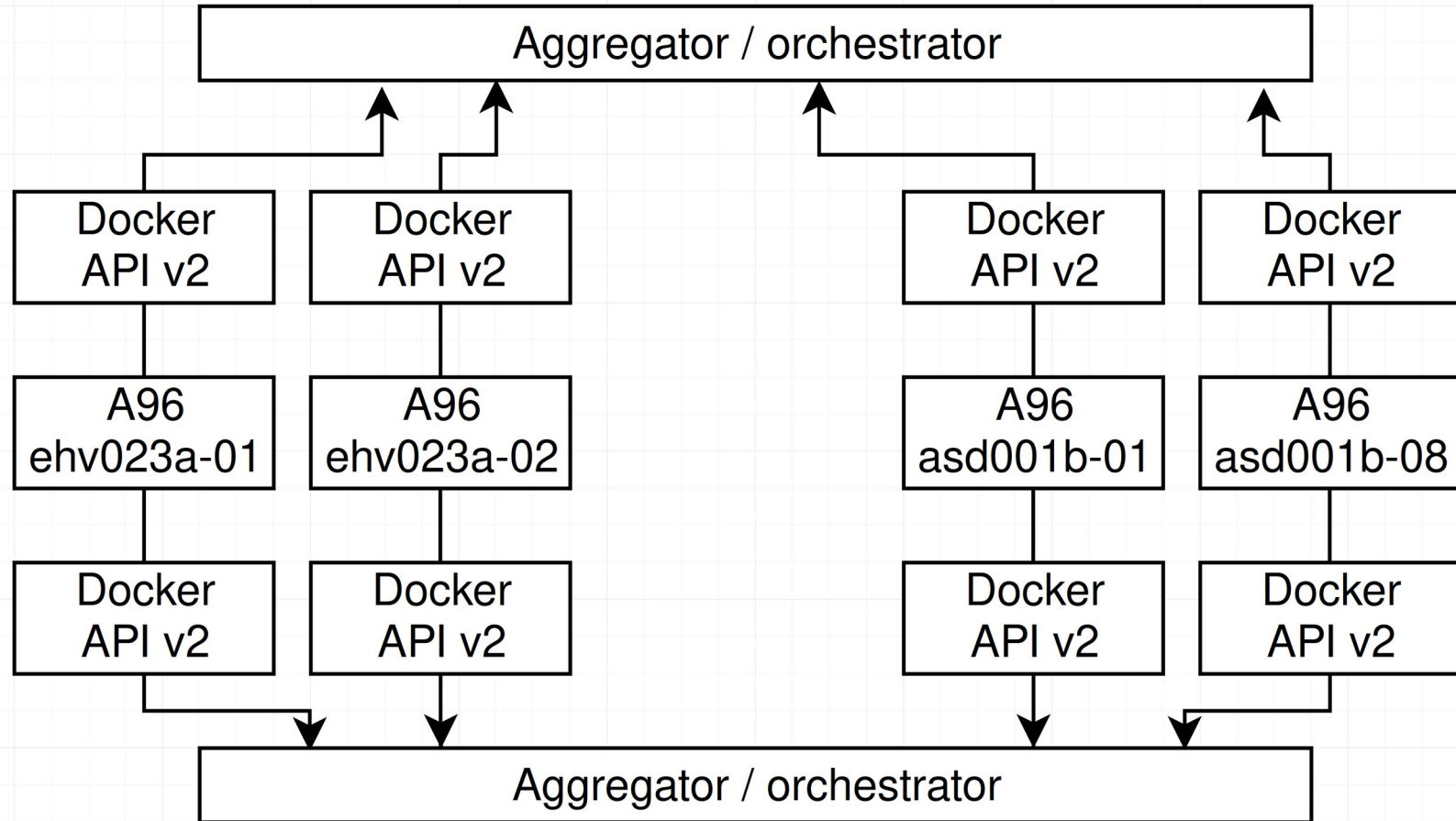
Virtualisation

- All components in separate docker
 - Node API v2
 - Aggregator
 - Dashboard, v1 & v2
- Ready for full cluster integration
 - Kubernetes or others

Realized Architecture - detail



Realized Architecture - redundant





Demo