

# **Orchestration: Networks and Network management viewpoints**

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## Conductor and Orchestra

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Two radically different roles

One common objective

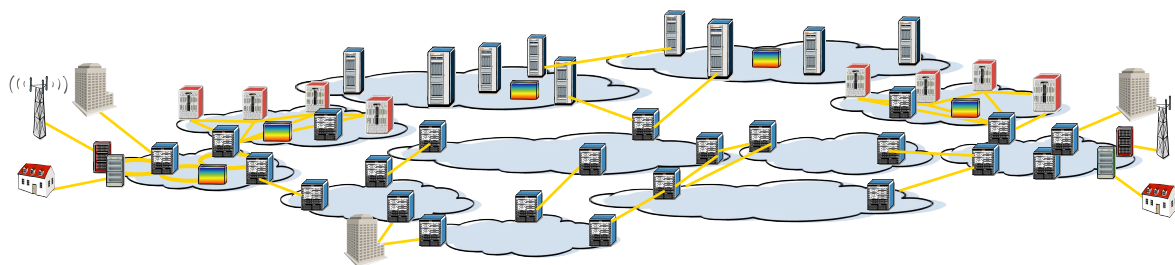
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## The analogy (hum ... really?)



### NOCs - The conductor?

- Top-down command and control
- Information pull
- System focused



### Systems and Networks - The orchestra?

- Limited knowledge and understanding of objective
- Limited cross function collaboration

Orchestration implies Trust, Confidence, Autonomy, Rules and Objectives

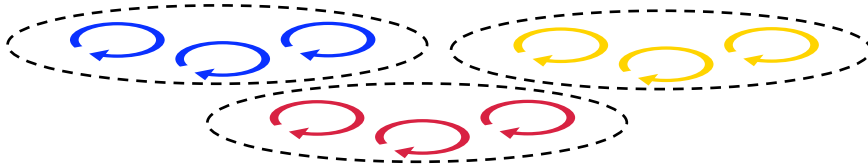
- Require a paradigm change (operators, systems, networks, services)

# Orchestrated Autonomics: Systems and Networks

Orchestration implies “autonomics”

- Well understood principle
- Some solutions, no overall solution
- Time to bring it to maturity

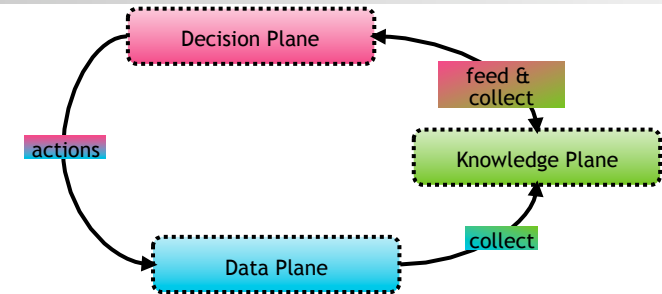
## Independent feedback loops



- “I understand you, you are me”
- Same language, interfaces, information modelling
- Information composition

## Implications on Orchestration

- activation/deactivation, configuration/initialization
- coordination, distribution and consistency management
- information management
- horizontal (and vertical) trust
- deterministic and trusted behaviours
- emergence management



## Collaborative feedback loops



- “I don’t know you let’s work together”
- Various languages, interfaces, information modelling
- Cross function discovery & composition
- Description: role objectives, interfaces
- Learning & empowerment

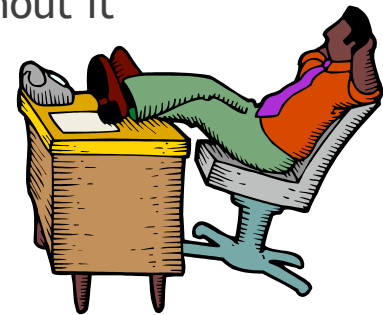
# Orchestrated Autonomics

## Operators/NOCs

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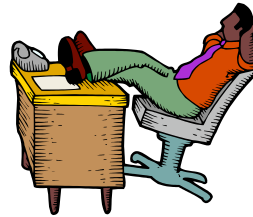
### Substantial change in operational models

- From command & control to monitor & guide
  - Business driven operations, objective based approach, semantic feedback, zero-touch
- From system view to service view
  - “everything (systems and services) as a (self-)managed service”
  - Cross technology, seamless service deployment, ...
  - GUIs
- Trust
  - Key, essential, mandatory, no wide adoption nor deployments without it
  - out of decision not out of control

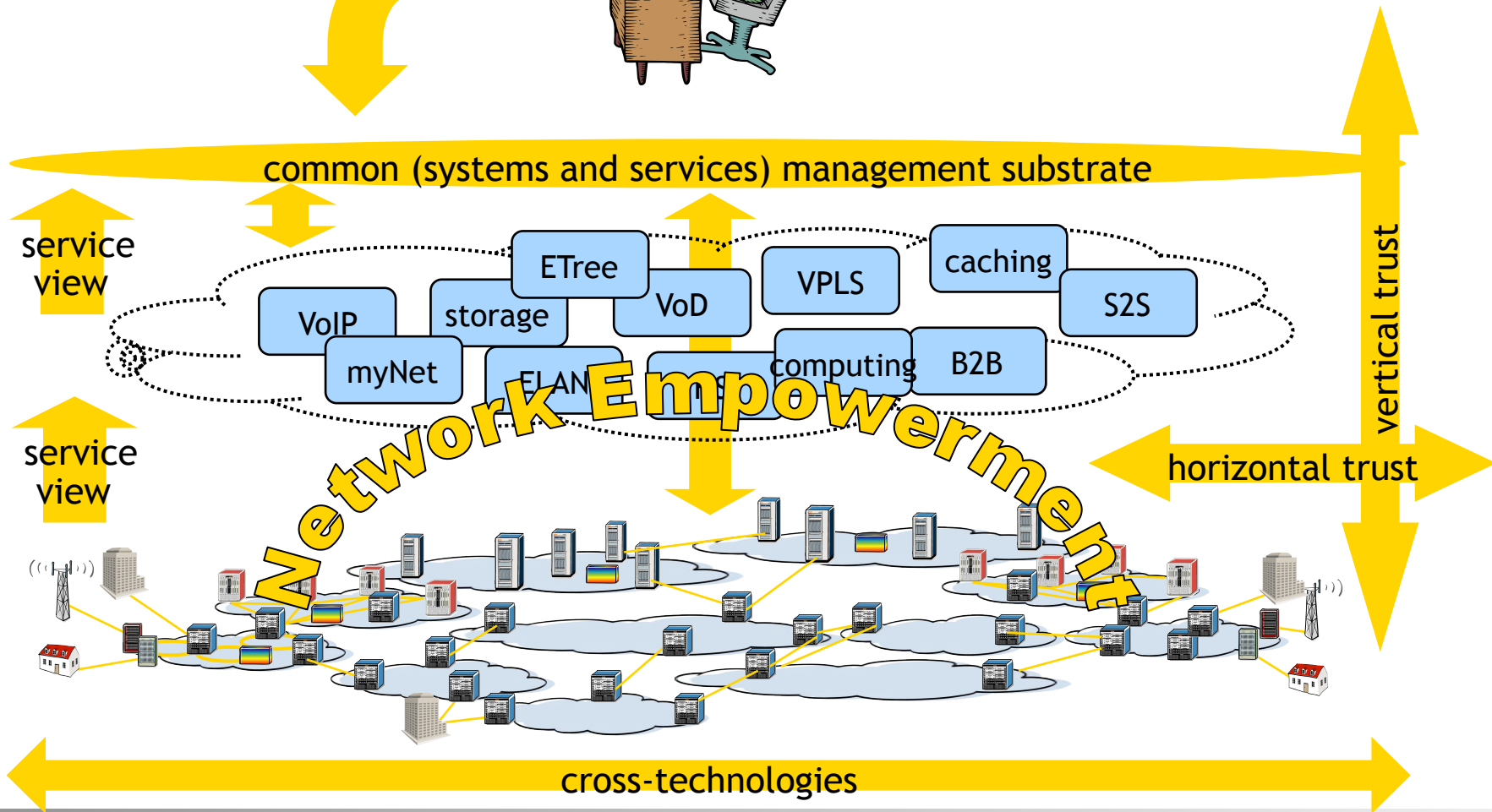


# Orchestrated Autonomics Operator, Systems and Networks

Business driven goals  
Human2Network

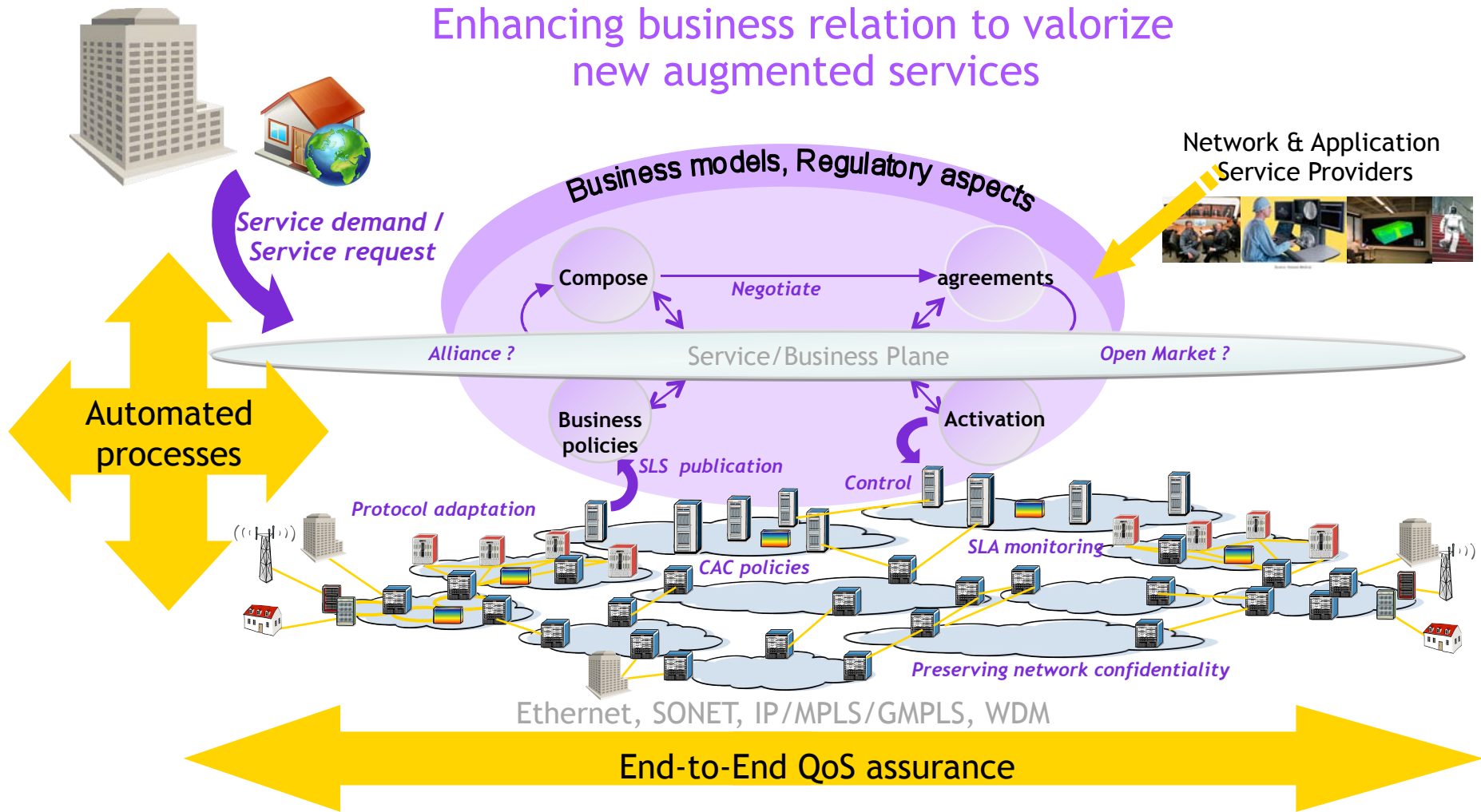


Towards self-councious,  
reasoning and mission aware  
networks



# Orchestration Networks and Services - Service Mashups

Enhancing business relation to valorize new augmented services





**Thank you**