

Power-efficient quality-assuring decision framework

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Context

Decision frameworks can empower applications with more intelligence and control. They provide applications with software-defined infrastructure.

Distributed applications need decision frameworks as the single point of entrance to the cloud resources. Decision framework will ensure the application quality requirements.

Research Questions

- How can decision frameworks ensure performance, while being power efficient?
- How software-defined infrastructure can improve power efficiency of the running applications?

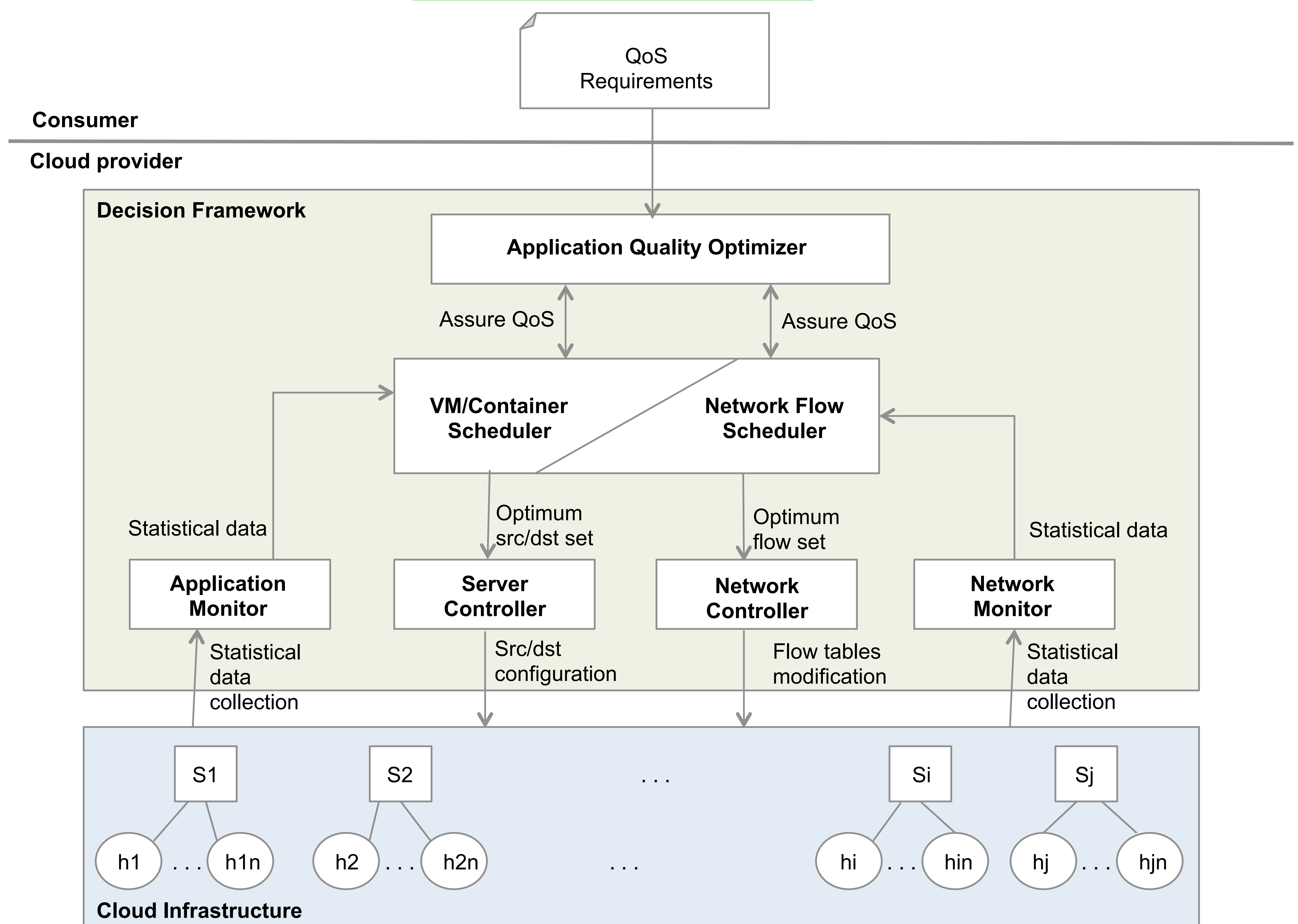
Objectives

- Software applications use the most efficient resources
- Quality requirements are tuned at runtime
- Maximize power efficiency

Challenges

- Quality Monitoring, without adding significant overhead expenses
- Quality Trending, to provide alternatives to address the quality decrease
- Quality-driven Adaptation, as a procedure to deploy new changes

Our Decision Framework



Fahimeh Alizadeh Moghaddam is a joint Ph.D student at VU University Amsterdam and University of Amsterdam.

Her research interest is to discover the models to support energy efficient operations of distributed software across programmable networks.

Her supervisors are prof. P. Lago (VUA) and dr. P.Grosso (UvA).

[1] Alizadeh Moghaddam, F., Lago, P. and Grosso, P., 2015. Energy-Efficient Networking Solutions in Cloud-Based Environments: A Systematic Literature Review. *ACM Computing Surveys (CSUR)*, 47(4), p.64.

[2] Alizadeh Moghaddam, F. and Grosso, P., 2016. June. Linear Programming Approaches for Power Savings in Software-defined Networks. In *Network Softwarization (NetSoft)*, 2016. IEEE.