

# AAMcon: an adaptively distributed SDN controller in data center networks

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# Problems & Ideas

- **Problems of elastic Software-Defined Network controller architecture in Data Center Networks**
  - Centralization places heavy burden on the software-based controller.
  - The mapping between a switch and controller is statically configured.
- **Ideas: Adaptively Adjusting and Mapping controllers (AAMcon)**
  - Using the complex network community theory to select a key switch to place the controller.
  - A physically distributed but logically centralized controller pool is built based on the NFV.
  - A fast start/overload avoid algorithm is proposed to adaptively adjust the number of controllers according to the demand.

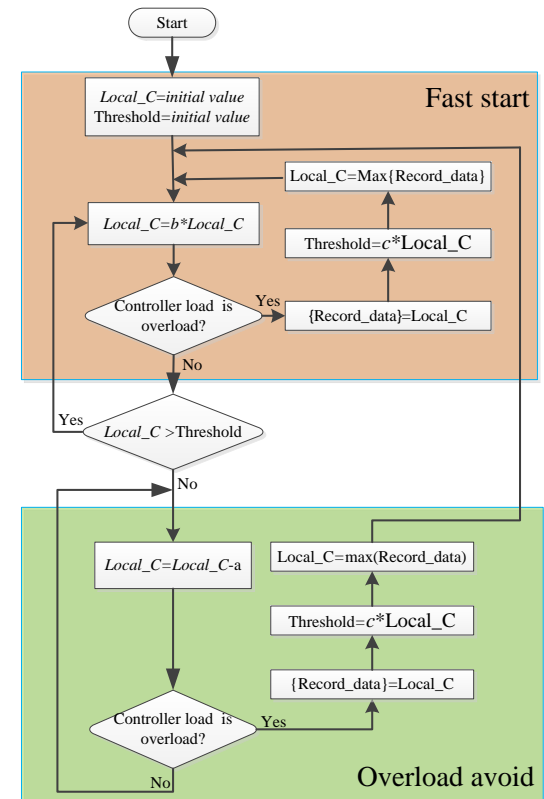


Figure 3. Fast start/overload avoid algorithm

# Main Contributions

- An elastic distributed SDN controller architecture for DCN
- An efficient switch-to-controller mapping scheme

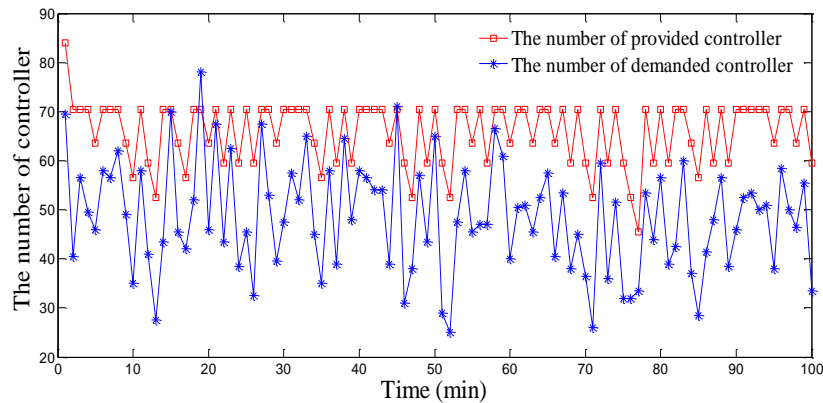


Figure 5. Relationship between the provided and demanded controllers for *AAMcon*

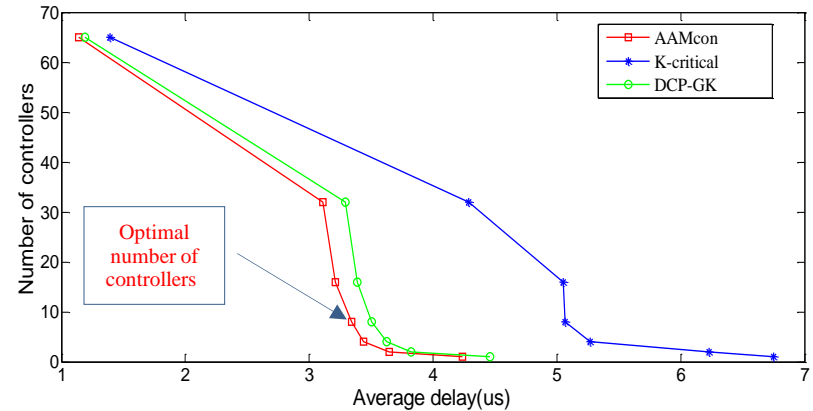


Figure 6. Number of controllers for average delay.