SLA-driven container consolidation with usage prediction for green cloud computing

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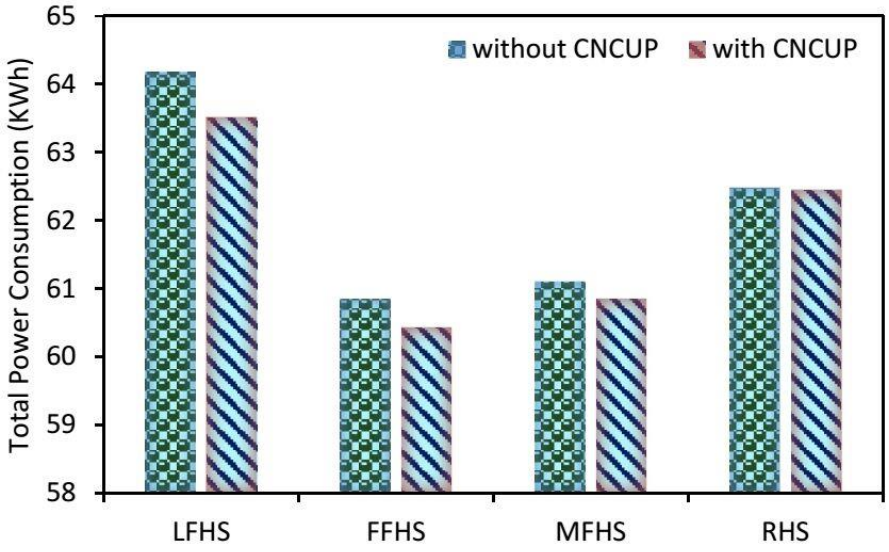
Problems & Ideas

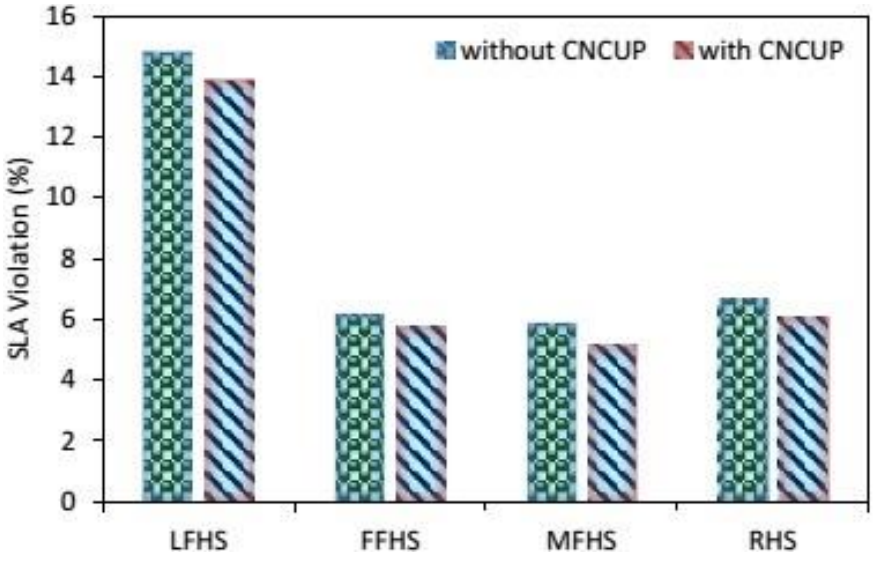
- Problems of Container Consolidation in Cloud Computing
  - reduce power consumption
  - comply with the service level agreement
- Ideas: With usage prediction
  - formulate a proactive container consolidation problem based on current and predicted CPU utilization using local history of the considered PMs as a bin-packing problem
  - introduce an efficient container consolidation scheme using linear regression based model

Main Contributions

- **Total power consumption of all algorithms**

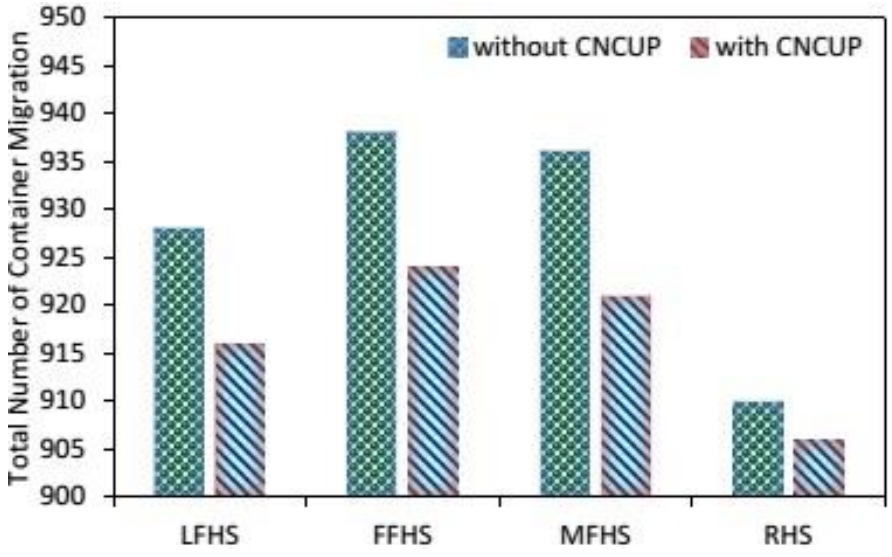


- **SLA violation of all algorithms**



Main Contributions

- **Total number of container migrations of all algorithms**



- **Average number of active VMs of algorithms**