Today’s Data Center (DC) networks are facing increasing demands and a plethora of requirements. Factors for this are the rise of Cloud Computing, Virtualization and emerging high data rate applications such as distributed Machine Learning frameworks. Recently, several new architectures have been proposed that rely on topologies that can be reconfigured during run-time with the goal to account for changing demands. One example is Solstice [1] which proposes a scheduling algorithm for hybrid networks with electrical packet switch parts and optical circuit switches. It specifically considers the non-trivial switching times of optical circuit switches while also accounting for limited bandwidth on electrical packet switches. The goal of this research internship is to re-implement and evaluate Solstice in an existing flow-level simulator, to verify the original results and compare it to other topologies and identify potential weak spots in terms of traffic patterns that are not well handled by Solstice’s approach.


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