

MultiFlow

MultiFlow (MPTCP routing by OF)

- Website:
- Organization: UFSCar - Federal University of São Carlos
- Contact: marcus.sandri@ufscar.br
- Repository: <https://github.com/Marcus1911/MULTIFLOW>
- License:

Project Description: We design MultiFlow to use MPTCP in OpenFlow networks. Our proposal is to improve the throughput by forwarding subflows from a same MPTCP connection through multiple paths.

Further info:

MPTCP is a network protocol designed to branch a single TCP connection into many subflows. The main idea is to forward subflows through disjointed paths. Commonly, ECMP protocol is adopted together to split flows through distinct paths. Nevertheless, there are many issues that shows that ECMP is not pareto-optimal, such as: ECMP can easily set two subflows from the same TCP connection on the same path and/or set a distinct forward and back forward route to the same subflow. To solve these issues, it is designed MultiFlow, a module which uses a controller for guarantee multipath routing by setting subflows from the same MPTCP connection so that such subflows are forwarded through distinct paths. MultiFlow is evaluated in experimentation where is analyzed throughput and resilience comparing it with Spanning-Tree (STP) and ECMP. The experiments were done by using Mininet: An OpenFlow emulator for experimenting with a set of topologies.



- Link scientific paper(s) https://www.academia.edu/11946457/On_the_Benefits_of_Using_Multipath_TCP_and_Openflow_in_Shared_Bottlenecks
- Link whitepaper(s)
- Link video(s)
- Link presentation(s)
- Link further resources <https://repositorio.ufscar.br/handle/ufscar/637>