

Bachelor's Thesis

Predictability of Chameleon

The paper Chameleon describes a control path algorithm with the goal of achieving predictable latency and high network utilization. Chameleon utilizes path diversity, priority queueing and recalculating routes to outperform state of the art.

The controller decides if a new flow can be embedded depending on the current network state and the requirements of the new flow. Understanding the decision process of Chameleon is crucial to further improve performance. Therefore, the goal of this thesis is to investigate the decisions of the Chameleon controller. The task of the student is to design a framework to easily generate and store data with Chameleon for further evaluation. After this, the student should evaluate the collected data. The goal here is to find patterns the controller exhibits in its decisions.

References:

Amaury Van Bemten, Nemanja Đerić, Amir Varasteh, Stefan Schmid, Carmen Mas-Machuca, Andreas Blenk, and Wolfgang Kellerer. 2020. Chameleon: Predictable Latency and High Utilization with Queue-Aware and Adaptive Source Routing. In The 16th International Conference on emerging Networking EXperiments and Technologies (CoNEXT '20), December 1–4, 2020, Barcelona, Spain. ACM, New York, NY, USA, 15 pages. <https://doi.org/10.1145/3386367.3432879>

chameleon.lkn.ei.tum.de

Prerequisites

- Experience with Python
- Experience with Linux command line
- Experience with Java is a plus

Advisors

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