FLOW DIRECTOR

STATISTISCHE BEWERTUNG DER EFFIZIENZSTEIGERUNG

DURCH FLOWMAPPINGS

VON NIKLAS MÄDER

1. Steuerbarer Datenverkehr
2. Long-Haul Traffic-Reduzierung
3. Latenzreduzierung
4. Entwicklungsmöglichkeiten

STEUERBARER DATENVERKEHR

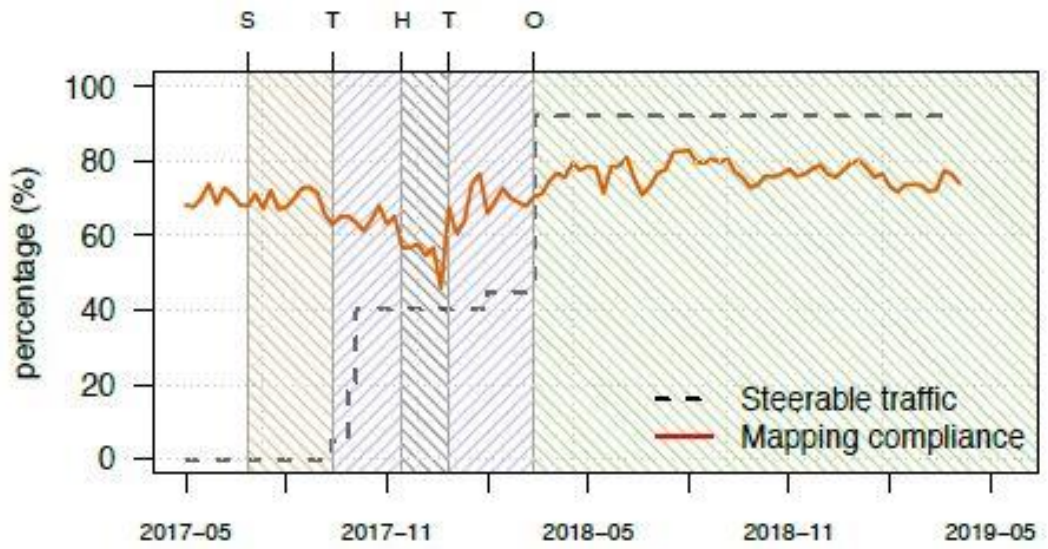
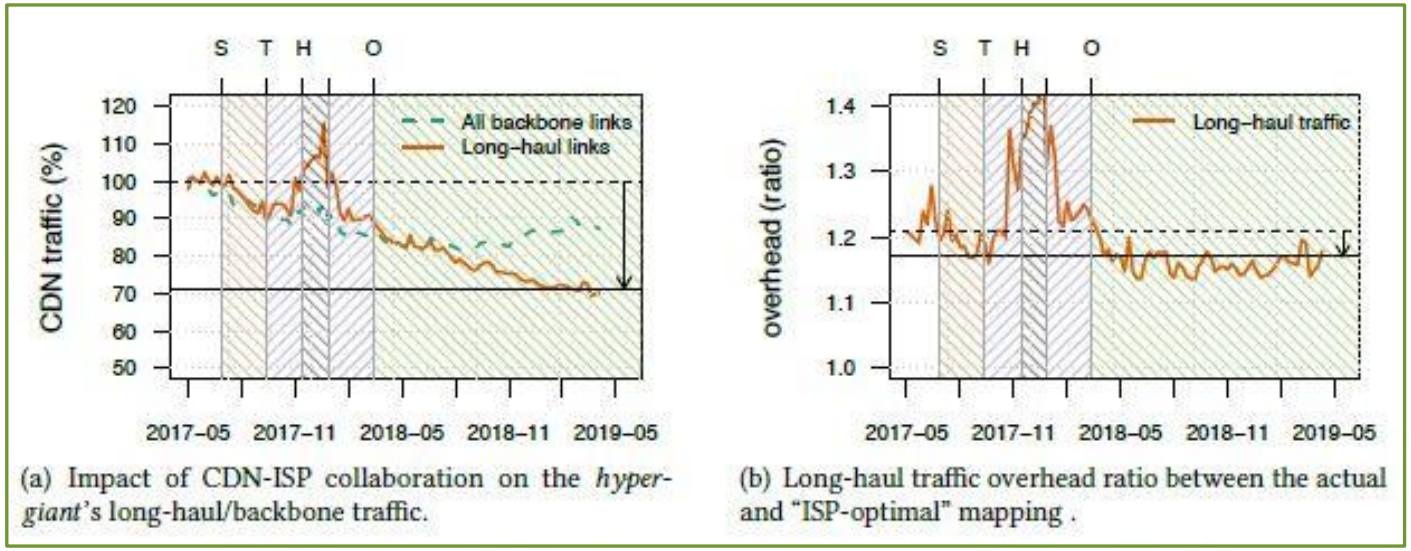


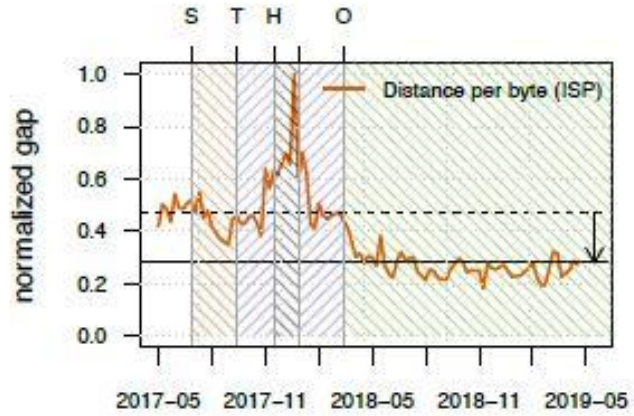
Figure 14: Timeline: Impact of CDN-ISP collaboration on share of optimally-mapped traffic annotated with events: Start (S/yellow), initial testing (T/blue), temporary hold (H/gray), operational (O/green).

LONG-HAUL TRAFFIC-REDUZIERUNG



(a) Impact of CDN-ISP collaboration on the *hyper-giant*'s long-haul/backbone traffic.

(b) Long-haul traffic overhead ratio between the actual and "ISP-optimal" mapping .



(c) Gap between the actual and the "ISP-optimal" *distance·byte* (relative to obs. worst case).

Figure 15: Timelines annotated with cooperation events: Start (S/yellow), initial testing (T/blue), temporary hold (H/gray), operational (O/green). Horizontal lines for metric average for May 2017 (top) and March 2019 (bottom).

LONG-HAUL TRAFFIC-REDUZIERUNG

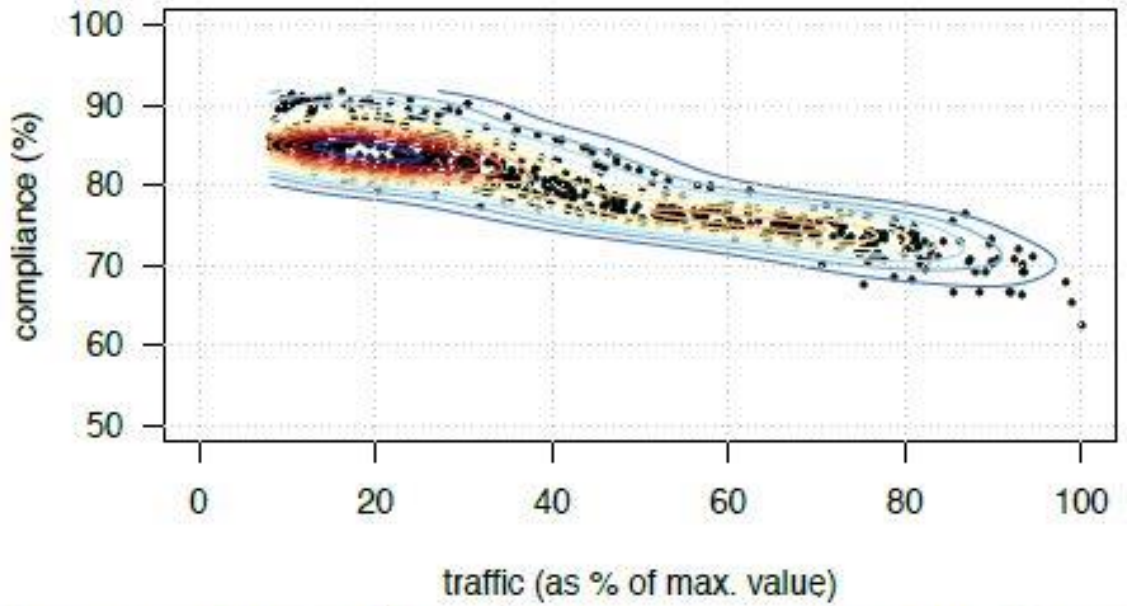
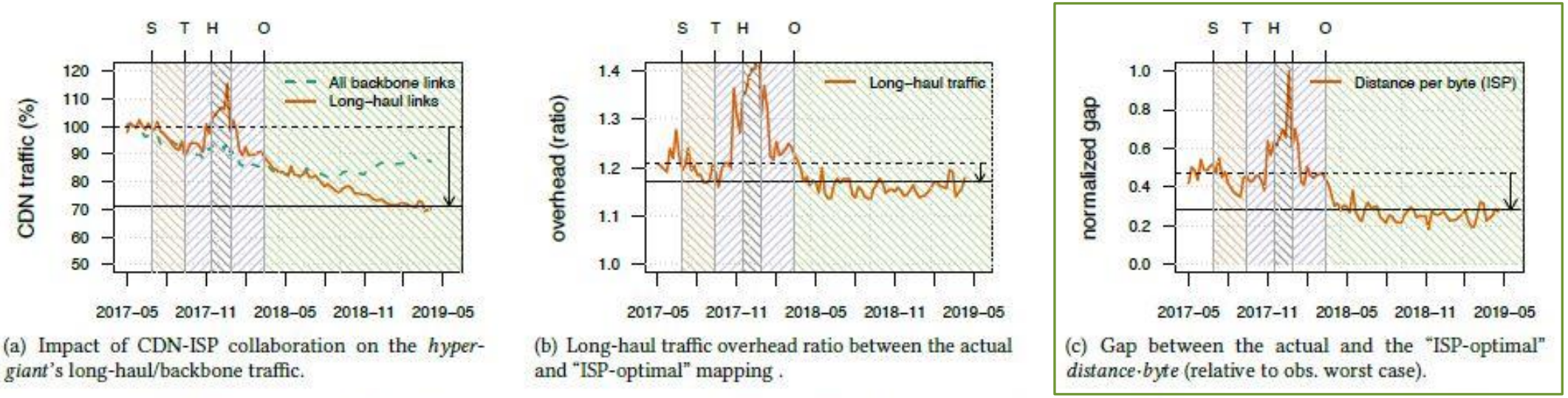


Figure 16: Scatter-plot with heatmap overlay: Compliance ratio vs. *hyper-giants* traffic normalized by peak traffic for February 2019.

LATENZREDUZIERUNG



(a) Impact of CDN-ISP collaboration on the *hyper-giant*'s long-haul/backbone traffic.

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ENTWICKLUNGSMÖGLICHKEITEN

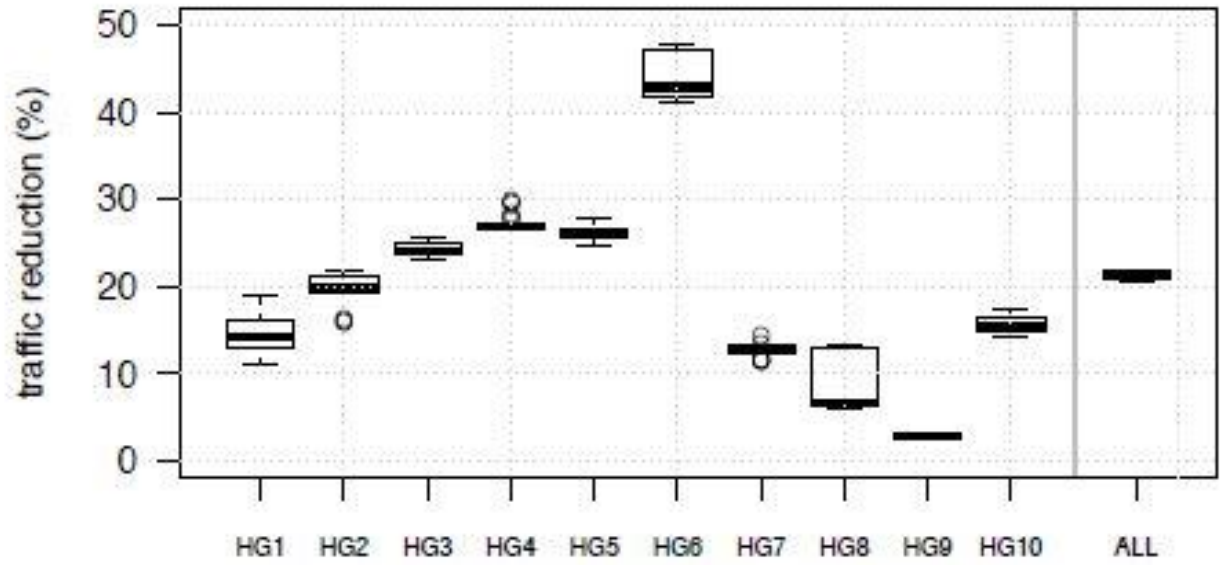

Figure 17: Quartile boxplot for the ratio of traffic under optimal mapping conditions vs. observed traffic.

QUELLEN

- Enric Pujol, Ingmar Poese, Johannes Zerwas, Georgios Smaragdakis, Anja Feldmann (2019) Steering hyper-giants' traffic at scale