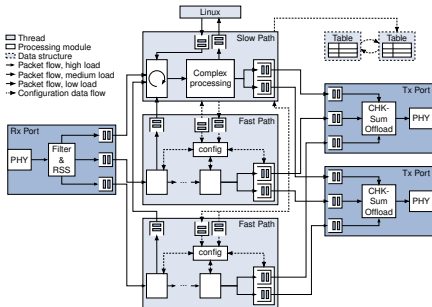
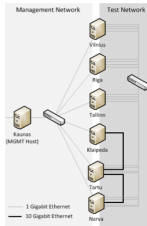


## Topics

- Network measurements
  - High-performance packet processing
  - Internet-scale infrastructure properties
  - Reproducibility
- Network architecture
  - Network programming (SDN, NFV, P4)
  - High-performance software router
  - Low-latency communication
  - Low-power: 6TiSCH, 802.15.4e TSCH, CoAP
- Network security (Firewalls, IPsec, TLS)
- Privacy-preservation (metadata protection)

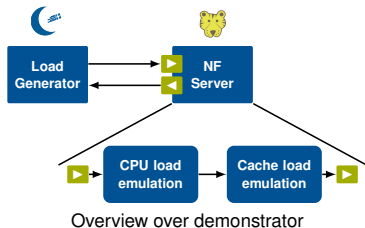
## Methods

- Automated performance measurements
- Large-scale distributed measurements
- Formal methods for network security

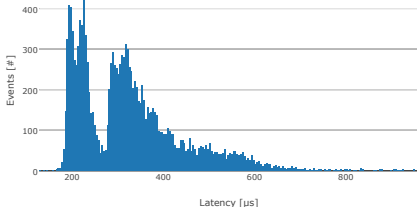


# Demo: MoonGen Performance Experiments

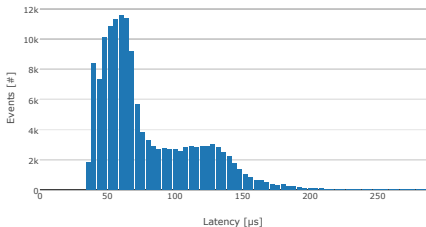
- Measurement of network function chains
  - **MoonGen** as measurement tool
  - NFV written in Lua (Snabb)
- Utilizing synthetic network functions:
  - Emulating CPU processing time
  - Emulating CPU cache/ memory load
  - Replication of real NFs with known CPU load profile, e.g., routing, VPN, firewall



- Visit our demo to see **live performance measurements**



Latency distribution of firewall NF



Latency distribution of router NF