BCN Calibration Simulation Results
Sample Window Experiment 2

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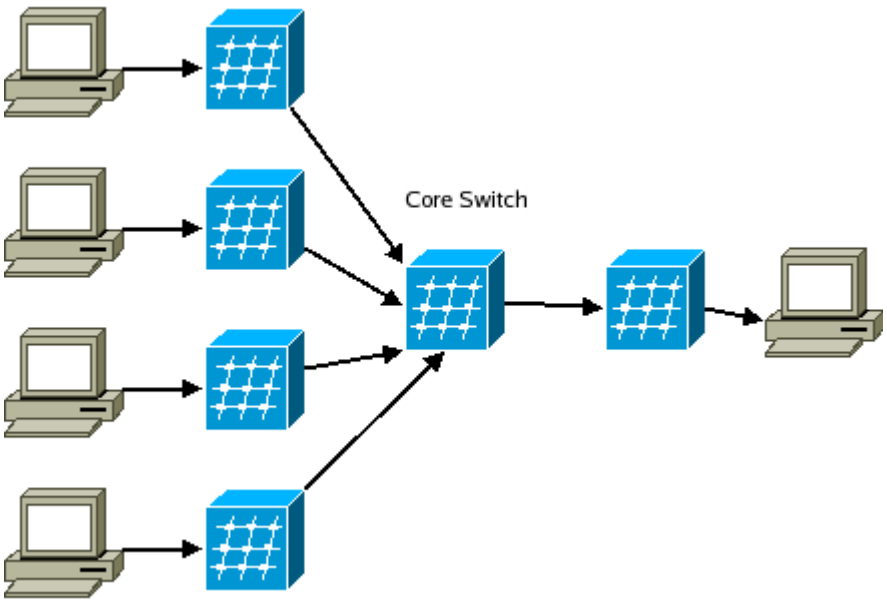
Workload

- **Traffic Type: 100% UDP (or raw Ethernet) Traffic**
- **Destination: EP0-EP3 sending to EP4**
- **Frame Size Distribution: 1500 byte fixed**
- **Arrival Distribution: Bernoulli temporal distribution**
- **Offered load at endpoint = 50%**

Topology



- Link capacity 10Gbps
- Core switch egress port buffer size infinite
- Rate limiter queue buffer size 150KB
- Switch latency (1 us)
- Link length (not modelled, 0 latency)
- Endpoint response time (not modelled, 0 latency)

BCN Parameters

- Qeq 375 * 64 byte pages
- Frame Sampling 150KB +- 5KB (random jitter)
- W = 2
- Gi = 5.3 x 10^-1
- Gd = 2.6 x 10^-4
- Ru = 1 Mbps

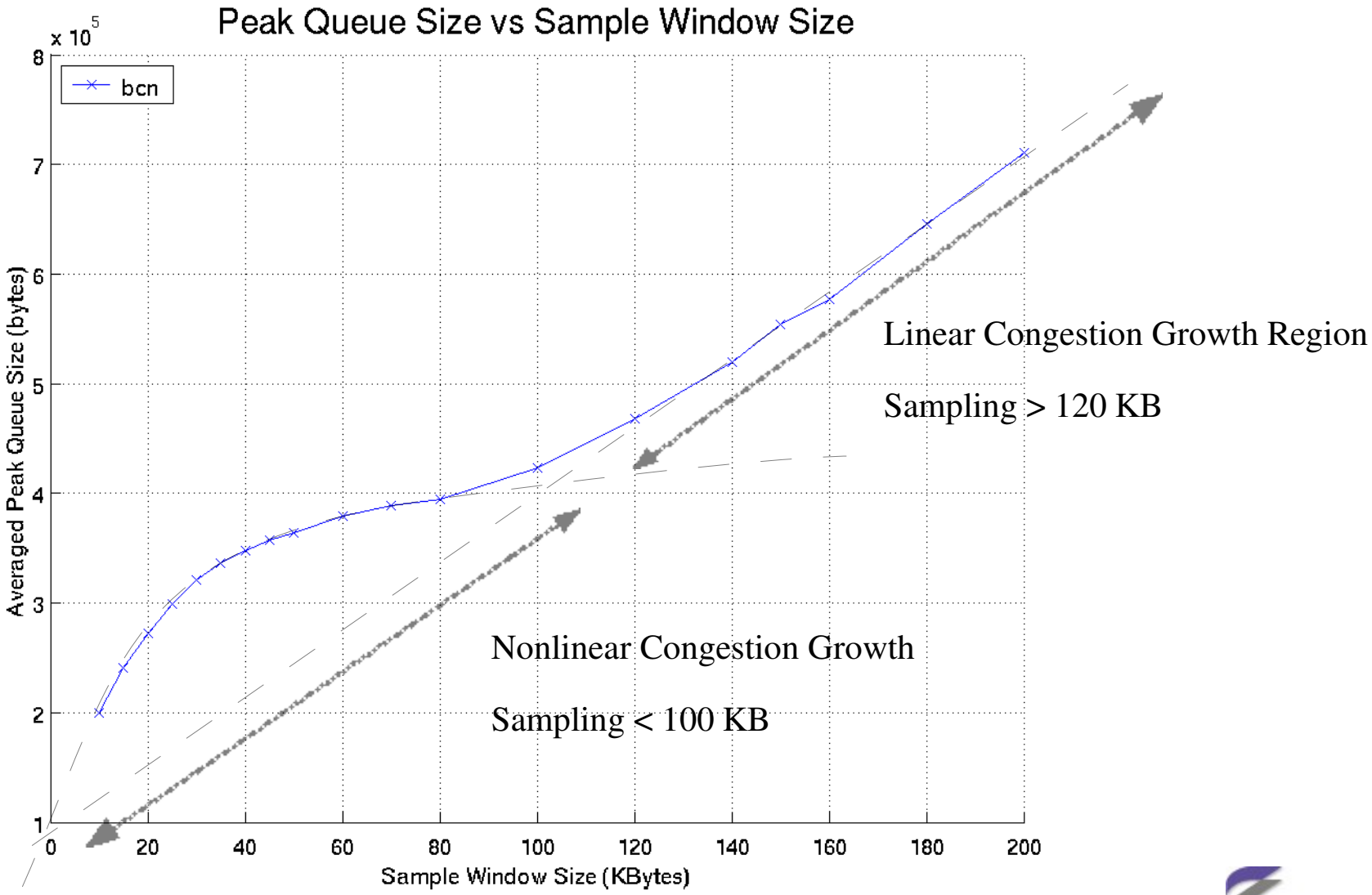
Simulations

- **Parameters**
  - No limits on max queue length at congestion point
  - Data sets
    - Sample Window Sweep for normal BCN

Sweep Over Sample Window Length

- **Simulation datasets**
  - Window sizes 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 100, 120, 140, 150, 160, 180, 200 KB
  - Random jitter +- 5KB for all window sizes
  - 25 runs per datapoint
- **Results**
  - Plot peak queue size vs sample window
  - Plot fairness index vs sample window
    - Fairness measured over t = 20 – 80 ms

Averaged Peak Queue Size



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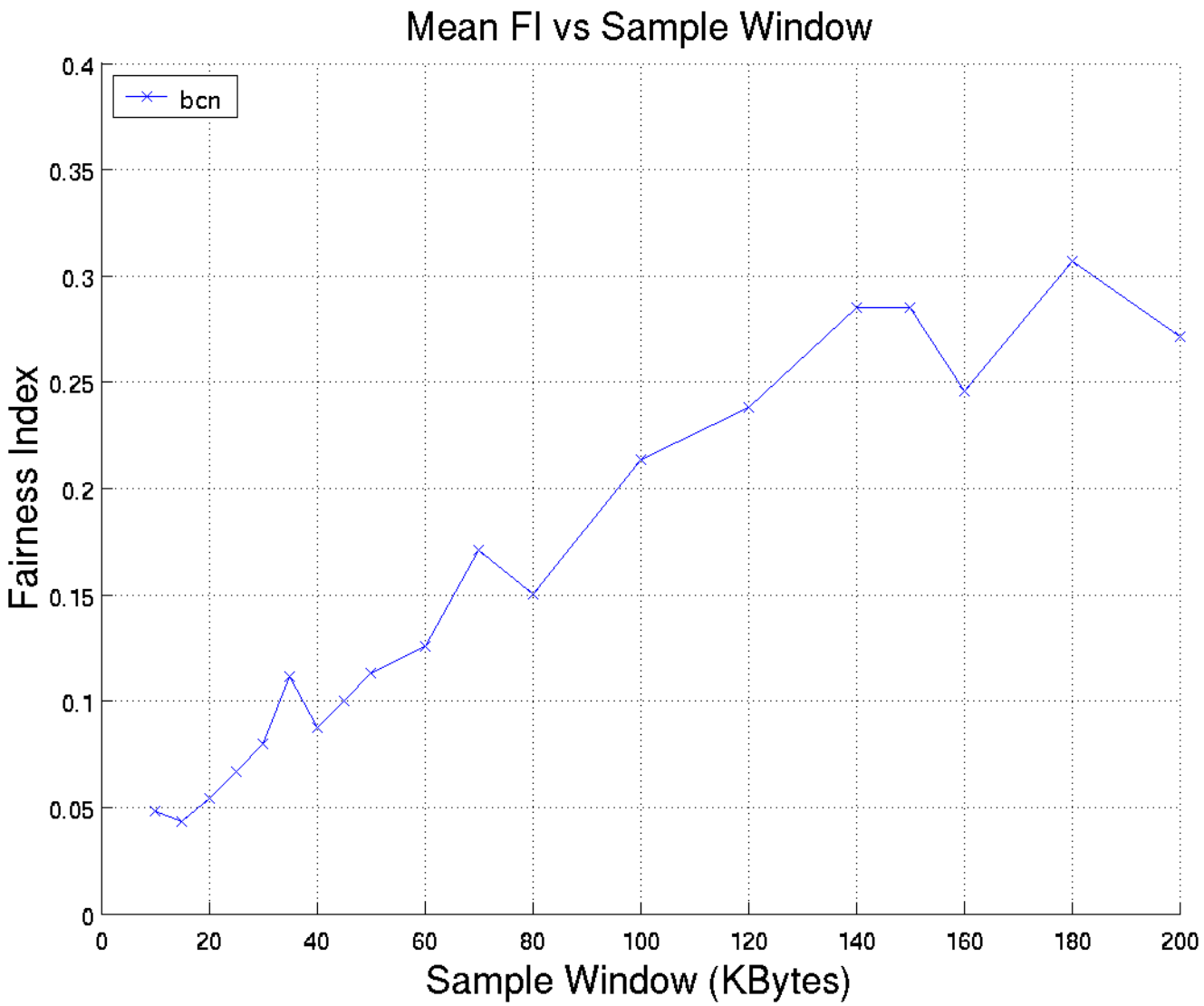
Fairness Index



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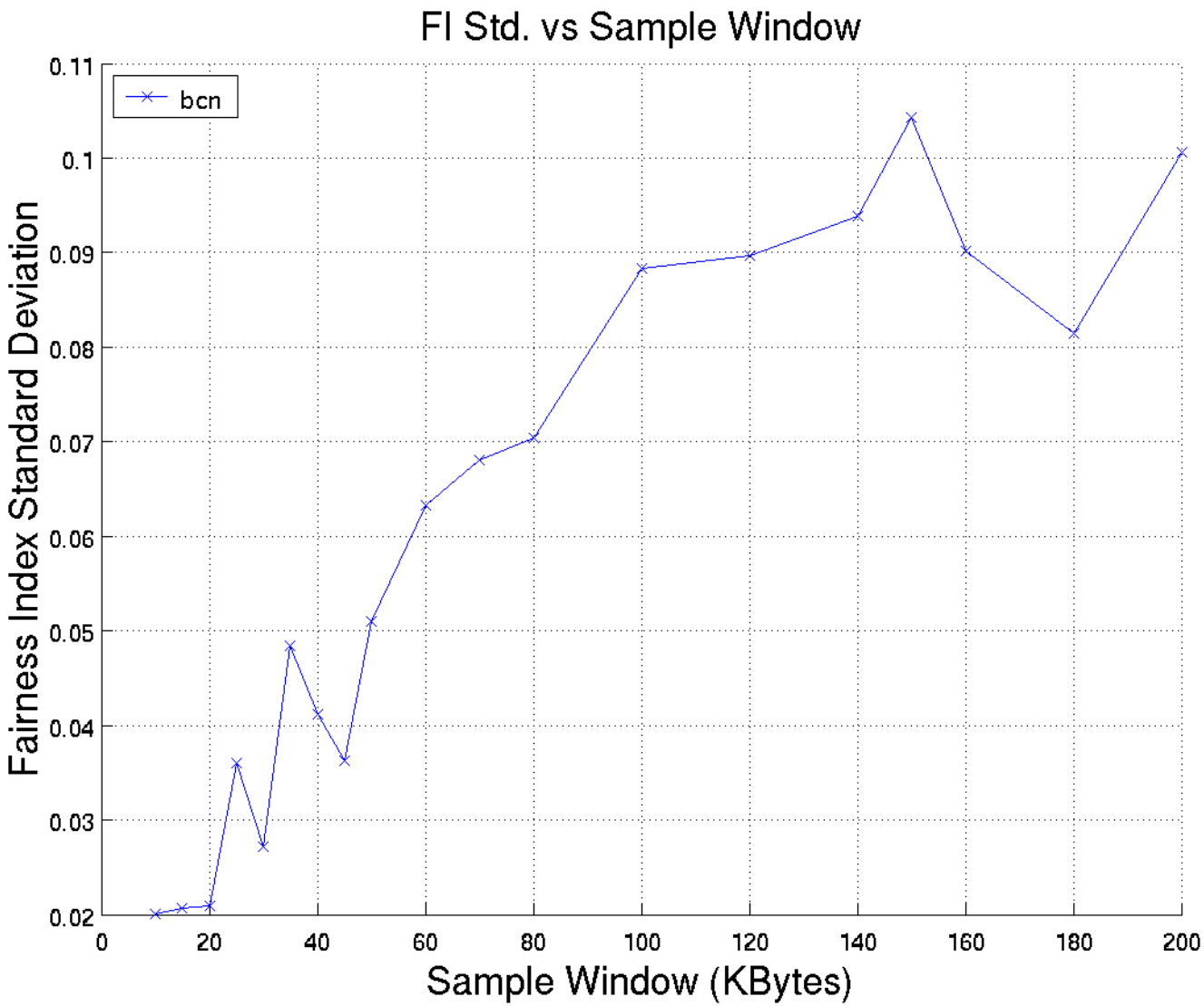
Standard Deviation in Fairness Index



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