Sync-ing simulations: A brief update

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Overview

- After the Los Gatos meeting, Berk set out to find what differences caused his simulations of QCN to be different from that of Bruce Kwan

- The reasons are
  - QCN Parameters
  - Source traffic distribution
  - Loop latencies

QCN Parameters

- W = 2.0
- Q_EQ = 26 Kbytes (33 Kbytes in our case)
- Gd = 1/128 = 0.0078125
- Base marking: once every 150kbytes
- Jitter on marking: 30%
- MIN_RATE = 10Mb/s
- BC_LIMIT = 150kbytes
- TIMER_PERIOD = 15ms
- R_AI = 5Mbps
- R_HAI = 50Mbps
- FAST_RECOVERY_TH = 5
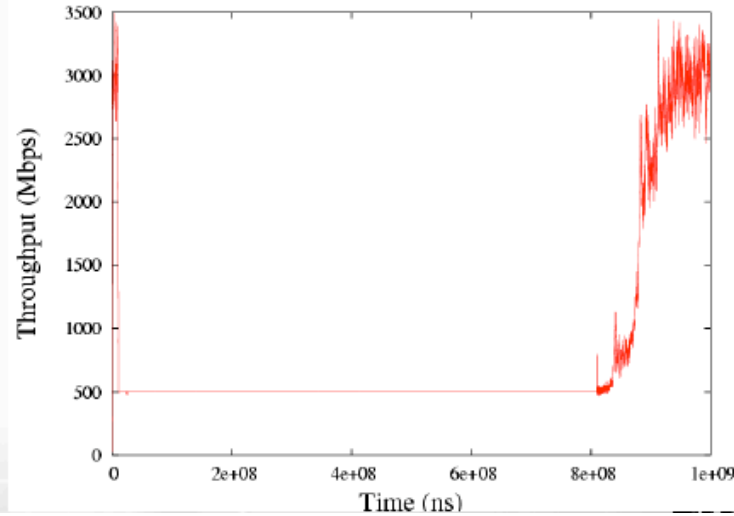- Quantized_Fb: 6 bits
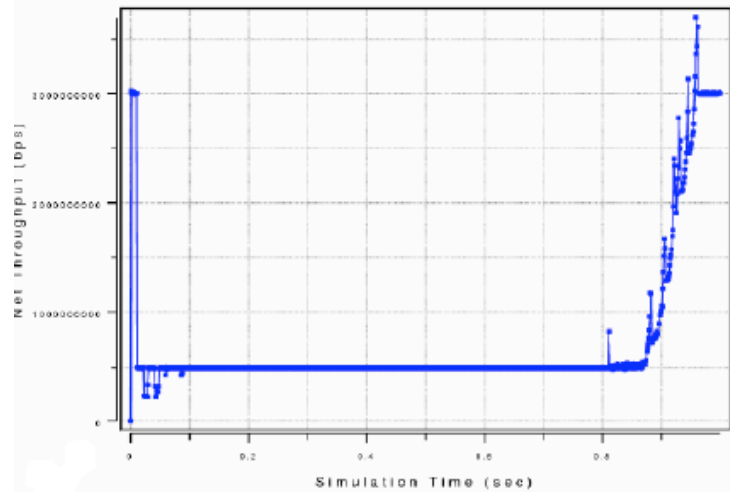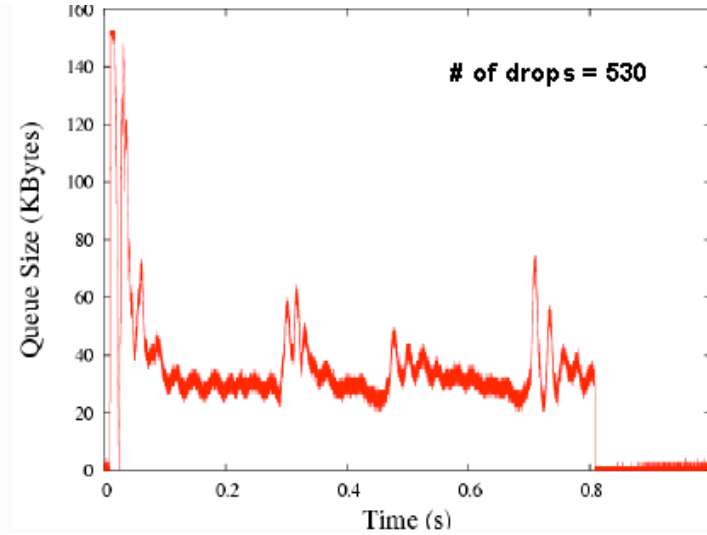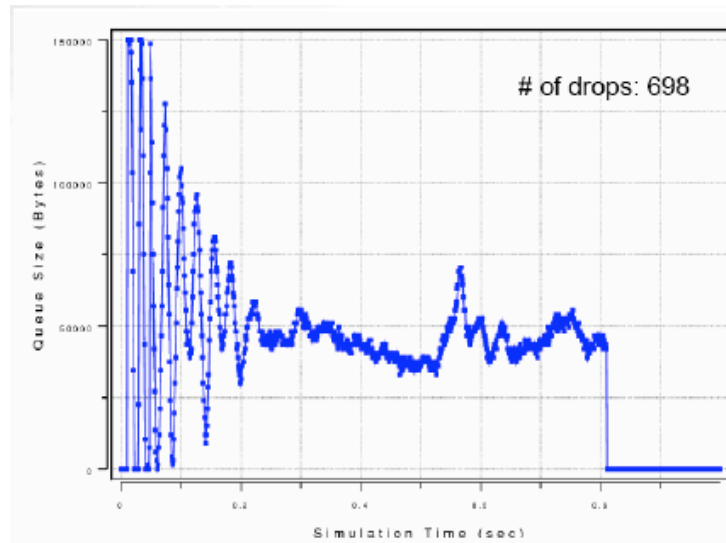- Jitter at RP: 30% (byte counter and timer)

Benchmark Test
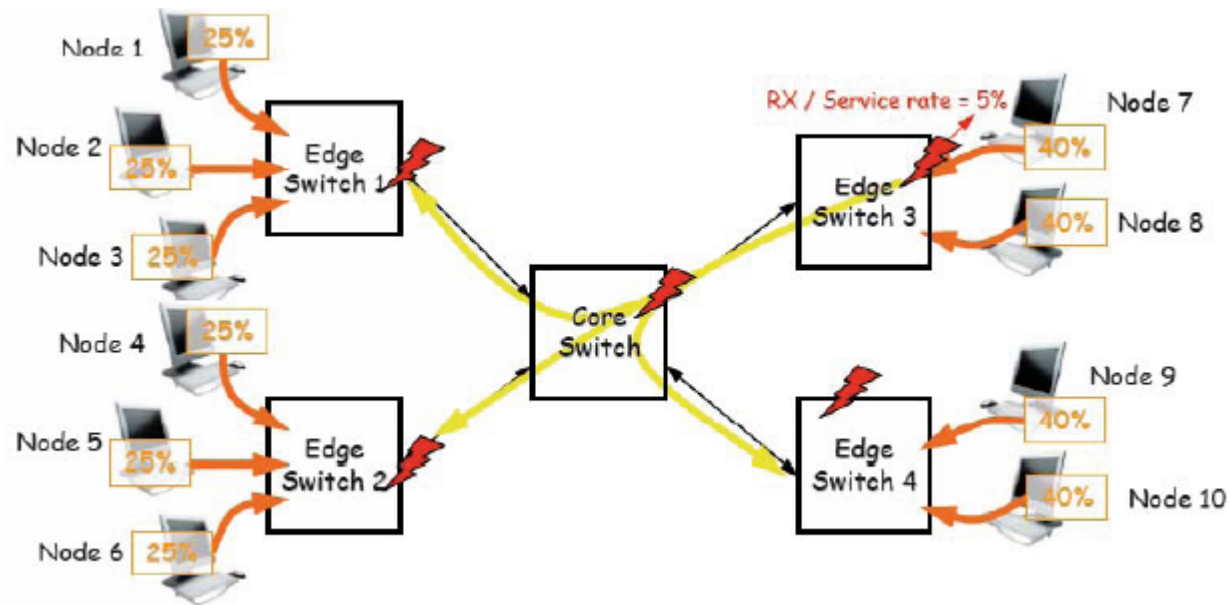
- Multi-stage Output-Generated Hotspot Scenario
- Link Speed = 10Gbps for all links
- Loop Latency = 16us (100us in our case)
- Traffic Pattern
- 100% UDP (or Raw Ethernet) Traffic
- Destination Distribution: Uniform distribution to all nodes (Bernoulli for Bruce vs. Deterministic for us)
- Frame Size Distribution: Fixed length (1500bytes) frames

- Offered Load
- Nodes 1-6 = 25% (2.5Gbps)
- Nodes 7-10 = 40% (4Gbps)
- Congestion Scenario
- Node 7 temporary reduce its service rate from 10Gbps to 500Mbps between [10ms, 810ms]
- PAUSE Disabled

# of drops: 698

# of drops = 530

Equivalent Parameters

6