QCN: Benchmark Simulations
- Scenario 4

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Simulation Parameters

- **Traffic**
  - i.i.d. Bernoulli arrivals
  - Uniform destination distribution (to all nodes except self)
  - Fixed frame size = 1500 B

- **Switch**
  - VOQ with 2.4MB shared mem
  - Partitioned memory per input, shared among all outputs
  - No limit on per-output memory usage

- **Adapter**
  - RLT: VOQ and single; RR service
  - One rate limiter per destination
  - Egress buffer size = 1500 KB,
  - Ingress buffer size = Unlimited

- **QCN**
  - W = 2.0
  - Q_EQ = 33 KB
  - GD = 0.0078125
  - Base marking: once every 150 KB
  - Margin of randomness: 30%
  - R_unit = 1 Mb/s
  - MIN_RATE = 10 Mb/s
  - BC_LIMIT = 150 KB
  - TIMER_PERIOD = 15 ms
  - R_AI = 5 Mbps
  - R_HAI = 50 Mbps
  - FAST_RECOVERY_TH = 5
  - Quantized_Fb: 6 bits
4. Multi-Hop Single HS Large Network

Workload:
- Load: H1.1 -- H4.n $\lambda = 85\%$, Skewed Uniform
  - H1.1 is targeted with $2\lambda$
  - All other nodes with $\lambda (N-2)/(N-1)$
- Congestion Point:
  - Node H1.1
  - HS degree = N
  - HS severity = 1.7 : 1

Large BW link (not aggregated)
Link Throughput
- The Congested Link (n = 4)
- Congested Queue Size (n = 4)

# of drops: 245
- Individual Flow Rates (n = 4, N = 15)
Individual Flow Rates (n = 4, N = 15)
- extended time to show fairness
Link Throughput
- The Congested Link (n = 16)
- Congested Queue Size (n = 16)

# of drops: 1441
Link Throughput
- The Congested Link (n = 32)
- Congested Queue Size (n = 32)

# of drops: 3764
Link Throughput
- The Congested Link (n = 64)
- Congested Queue Size (n = 64)

# of drops: 8245