
General Simulation Information

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Num Servers Per TOR:      4      Num Sender Hosts:      28      Load Factor:           %0.0
Num TORs:                 8      Num Receiver Hosts:    1      Start Time:            0s
Server Link Speed:       10Gb/s  Workload Type:         FACEBOOK  Stop Time:              9.5s
Fabric Link Speed:       40Gb/s  InterArrival Dist:     facebook_scaledWarmup Time: 0ms
Fabric Link Delay        0.0us   SW Turn-around Time:   0.5us   NIC Send ThinkTime:    0.5us
Edge Link Delay          0.0us   Switch Fix Delay:      0.25us  TransportScheme:       HomaTransport
    
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Receiver's Outstanding Bytes(@ packet arrivals) and Grants (@ new grants)

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In Flight Bytes          mean   stddev   min    median  75%ile  99%ile  max    count
                        (KB)   (KB)    (KB)   (KB)    (KB)    (KB)    (KB)
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Outstanding Grant Bytes:  5.10   3.15   0.08   4.45   9.00   9.38   9.40   573
Outstanding Total Bytes:  3.23   3.75   0.08   1.73   4.42   16.93  37.63  32644
    
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Homa Packets Traffic Rates

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Homa Packet Type        AvgRate   CumRate   MinRate   MaxRate
                        (Mb/s)    (Mb/s)    (Mb/s)    (Mb/s)
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SX NICs Req. SxRate:    261.60   7324.93   257.41    268.52
SX NICs Unsched. SxRate: 21.89    612.86    18.50     24.23
SX NICs Sched. SxRate:  1.07     30.10     0.25      4.53
RX NICs Grant SxRate:   1.51     1.51      1.51      1.51
    
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Traffic Characteristic (Rates, Bytes, and DutyCycle)

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Measurement Point      AvgRate   CumRate   MinRate   MaxRate   CumBytes   Avg Duty   Min Duty   Max Duty
                        (Gb/s)    (Gb/s)    (Gb/s)    (Gb/s)    (MB)       Cycle(%)  Cycle(%)  Cycle(%)
-----
SX Apps Send:         0.21     5.93     0.21     0.22     148.16
SX NICs Send:         0.28     7.97     0.28     0.29     199.20     2.94     2.89     3.03
All NICs Send:        0.25     7.97     0.00     0.29     199.24     2.57     0.00     3.03
TORs Down Recv:       0.25     7.97     0.00     0.29     199.24     2.57     0.00     3.03
TORs Up Send:         1.00     7.97     0.00     1.15     199.24     2.57     0.00     2.97
TORs Up Recv:         1.00     7.97     0.00     7.97     199.24     2.57     0.00     20.58
TORs Down Send:       0.25     7.97     0.00     7.97     199.24     2.57     0.00     82.31
ALL NICs Recv:        0.25     7.97     0.00     7.97     199.24     2.57     0.00     82.31
RX NICs Recv:         7.97     7.97     7.97     7.97     199.20     82.31    82.31    82.31
RX Apps Recv:         5.93     5.93     5.93     5.93     148.16
    
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Queue Length (Stats Collected At Pkt Arrivals)

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Queue Location         Mean     StdDev   Mean     StdDev   Empty   OnePkt   Min     Min     Max     Max
                        (Pkts)  (Pkts)  (KB)    (KB)    %       %       (Pkts) (KB)   (Pkts) (KB)
-----
SX Transports         0.00    0.04    0.01    0.29    nan     nan     0.00   0.00   1.00   57.27
SX NICs               0.08    0.37    0.07    0.43    94.22   4.55    0.00   0.00   10.00  11.91
All NICs              0.08    0.37    0.07    0.43    94.22   4.55    0.00   0.00   10.00  11.91
SX TORs Up            0.05    0.23    0.02    0.12    95.60   4.04    0.00   0.00   5.00   3.04
All TORs Up           0.05    0.23    0.02    0.12    95.60   4.03    0.00   0.00   5.00   3.04
RX TORs Down         7.56    8.05    3.06    4.07    13.40   10.88   0.00   0.00   97.00  44.51
All TORs Down        7.55    8.05    3.06    4.07    13.46   10.87   0.00   0.00   97.00  44.51
    
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Queue Wait Time Stats

Packet Type: Request

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Queue Location         mean     mean     stddev   min     median   75%ile   99%ile   max     count
                        (us)    (%)     (us)    (us)    (us)    (us)    (us)    (us)
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Host NICs:            0.01    0.78    0.07    0.00    0.00    0.00    0.30    2.18   801628
TORs upward NICs:    0.00    0.26    0.02    0.00    0.00    0.00    0.11    0.53   801628
Aggr Switch NICs:    0.02    1.30    0.05    0.00    0.00    0.00    0.24    0.87   801628
TORs downward NICs:  1.13    97.65   1.30    0.00    0.64    1.60    5.75    16.31  801628
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Total:                1.16    100.00
    
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Packet Type: Unsched. Data

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Queue Location         mean     mean     stddev   min     median   75%ile   99%ile   max     count
    
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	(us)	(%)	(us)	(us)	(us)	(us)	(us)	(us)	(us)
Host NICs:	1.86	8.32	1.22	0.00	1.21	2.10	6.51	9.89	18535
TORs upward NICs:	0.03	0.16	0.07	0.00	0.00	0.01	0.22	0.74	18535
Aggr Switch NICs:	0.05	0.20	0.11	0.00	0.00	0.00	0.51	1.73	18535
TORs downward NICs:	20.46	91.33	23.20	0.00	8.14	24.43	97.72	223.05	18535
Total	22.41	100.00							

Packet Type: Grant

Queue Location	mean (us)	mean (%)	stddev (us)	min (us)	median (us)	75%ile (us)	99%ile (us)	max (us)	count
Host NICs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	573
TORs upward NICs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	573
Aggr Switch NICs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	573
TORs downward NICs:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	573
Total:	0.00	0.00							

Packet Type: Sched. Data

Queue Location	mean (us)	mean (%)	stddev (us)	min (us)	median (us)	75%ile (us)	99%ile (us)	max (us)	count
Host NICs:	0.06	0.14	0.17	0.00	0.00	0.02	0.78	3.17	573
TORs upward NICs:	0.01	0.01	0.03	0.00	0.00	0.00	0.16	0.30	573
Aggr Switch NICs:	0.02	0.05	0.07	0.00	0.00	0.00	0.25	0.93	573
TORs downward NICs:	40.30	99.80	34.93	0.00	14.58	43.74	160.37	218.68	573
Total	40.38	100.00							

packet Type: All Pkts

Queue Location	mean (us)	mean (%)	stddev (us)	min (us)	median (us)	75%ile (us)	99%ile (us)	max (us)	count
SX Host NICs:	0.05	3.06	0.34	0.00	0.00	0.00	1.09	9.89	820764
SX TORs UP NICs:	0.00	0.23	0.02	0.00	0.00	0.00	0.14	0.74	820743
Aggr Switch NICs:	0.02	0.95	0.05	0.00	0.00	0.00	0.24	1.73	821345
RX TORs Down NICs:	1.60	95.77	4.89	0.00	0.00	0.00	14.56	223.05	820737
Total	1.67	100.00							

|End To End Message Latency For Different Ranges of Message Sizes|

Msg Size Range	mean (us)	stddev (us)	min (us)	median (us)	75%ile (us)	99%ile (us)	max (us)	count	count (%)
(0, 5]	3.55	1.32	2.37	3.09	3.70	8.02	18.73	243237	30.34
(5, 10]	3.56	1.33	2.38	2.66	3.99	7.98	17.99	19042	2.38
(10, 15]	3.56	1.32	2.39	3.06	3.68	7.97	18.03	115889	14.46
(15, 100]	3.63	1.32	2.40	2.67	4.00	8.00	17.91	131219	16.37
(100, 1448]	4.13	1.39	2.53	3.39	4.07	8.82	20.02	278705	34.77
(1448, 10000]	24.83	23.01	4.79	8.74	26.22	104.86	276.47	13422	1.67
(10000, 100000]	110.14	68.80	25.37	61.18	122.37	275.33	458.88	114	0.01
(100000, Huge]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00

|Total Queue Delay (ie. real_e2e_latency - ideal_e2e_latency) For Different Ranges of Message Sizes|

Msg Size Range	mean (us)	stddev (us)	min (us)	median (us)	75%ile (us)	99%ile (us)	max (us)	count	count (%)
(0, 5]	1.16	1.32	-0.01	0.46	1.37	5.50	16.35	243237	30.34
(5, 10]	1.18	1.33	-0.00	0.51	1.52	5.56	15.61	19042	2.38
(10, 15]	1.18	1.32	0.00	0.45	1.36	5.90	15.64	115889	14.46
(15, 100]	1.18	1.32	0.01	0.50	1.51	5.52	15.44	131219	16.37

