Содержание

Load test result

Server: Bare metal server AMD EPYC 7713P 64-Core Processor.

Parameters:

- number of packets (pkts),
- number of bytes,
- number of dropped packets (pkts dropped).

Load: Synthetic, from DPI. Steady at 99,999.55 Mbit/sec and 41,586,771.00 pkt/sec for 4 hours.

Test Process: Only 25 cores were used (39 cores in reserve). The service divided all traffic into 4 streams of 25 Gbps each, balanced by subscriber IP address.

Result:

- no packet loss,
- no drops,
- no queue overflow.

Conclusion: The load balancer maintains a stable 100 Gbps load without losses over an extended period. On this equipment, a multiple increase in traffic volumes is possible.

Description of core types:
`sys` — system core
`rx-dispatch` — incoming data processing
`slave` — worker cores
`ajb` — adjacent job buffer, processing of adjacent tasks or data buffering
`service` — service core

Log output:

```
Cluster #0 : IF 01-00.1 (01:00.1):
                Absolute Stats Rcvd: [657270914547 pkts][198658920844108
bytes][0 pkts dropped]
                               Send: [0 pkts][0 bytes]
                               Esnd: [0 err_pkts][0.00 %]
                               Drop: [0 pkts][0 bytes]
                               Pthr: [0 pkts][0 bytes]
                               Emit: [0 pkts][0 bytes]
                               Eemt: [0 err_pkts][0.00 %]
                Actual   Stats Rcvd: [187532174378 bytes][99'999.55
Mbit/sec]
                                     [623911402 pkts ][41'586'771.00
pkt/sec]
                               Send: [0 bytes][0.00 Mbit/sec]
                                     [0 pkts ][0.00 pkt/sec]
                               Esnd: [0 err_pkts][0.00 %]
                               Drop: [0 bytes][0.00 %]
```

```
                                    [0 pkts ][0.00 %]
                                Pthr: [0 bytes][0.00 %]
                                    [0 pkts ][0.00 %]
                                Emit: [0 bytes][0.00 Mbit/sec]
                                    [0 pkts ][0.00 pkt/sec]
                                Eemt: [0 err_pkts][0.00 %]

Cluster #0 : Aggregated Actual stats: [Captured 41'586'722.00
pkt/sec][Processed 41'586'771.00 pkt/sec][Send 40'437'860.00 pkt/sec]
[STAT    ][2024/03/07-15:40:13:399780] [HAL] DPDK device statistics:
        dev 01-00.1 (01:00.1)
             RX pkt/bytes abs (delta):    657270943275/182884426835603
(623909890/172557878812)
             TX pkt/bytes abs (delta):               0/0               (0/0)
                Error pkts, abs/delta: rx_queue_full=0/0, bad_pkt=0/0,
tx_fail=0/0, rx_nombuf=0/0
        dev 02-00.0 (02:00.0)
             RX pkt/bytes abs (delta):               0/0               (0/0)
             TX pkt/bytes abs (delta):    163787533082/45735517163600
(154976039/43163791968)
                Error pkts, abs/delta: rx_queue_full=0/0, bad_pkt=0/0,
tx_fail=0/0, rx_nombuf=0/0
        dev 02-00.1 (02:00.1)
             RX pkt/bytes abs (delta):               0/0               (0/0)
             TX pkt/bytes abs (delta):    154564344204/42548802405897
(151743847/41137045740)
                Error pkts, abs/delta: rx_queue_full=0/0, bad_pkt=0/0,
tx_fail=0/0, rx_nombuf=0/0
        dev 81-00.0 (81:00.0)
             RX pkt/bytes abs (delta):            1876/313426          (0/0)
             TX pkt/bytes abs (delta):    154368163953/42943523213410
(145732466/40284951420)
                Error pkts, abs/delta: rx_queue_full=0/0, bad_pkt=0/0,
tx_fail=0/0, rx_nombuf=0/0
        dev 81-00.1 (81:00.1)
             RX pkt/bytes abs (delta):            1876/313426          (0/0)
             TX pkt/bytes abs (delta):    163376617733/45745452965240
(154221335/43181972960)
                Error pkts, abs/delta: rx_queue_full=0/0, bad_pkt=0/0,
tx_fail=0/0, rx_nombuf=0/0
[STAT    ][2024/03/07-15:40:13:400323]  [HAL][DPDK] Dispatcher statistics
abs/delta:
                                      drop (worker queue full)           |
empty NIC RX |       RX packets          |   % traffic
        Cluster #0 subs->inet #0:               0/0           0.0%/  0.0% |
67.5%/ 74.2% |    130791268405/122072801 |  19.9%/ 19.6%
        Cluster #0 inet->subs #0:               0/0           0.0%/  0.0% |
100.0%/100.0% |            3752/0         | 100.0%/  0.0%
        Cluster #0 subs->inet #1:               0/0           0.0%/  0.0% |
58.5%/ 51.8% |    133751288341/129906028 |  20.3%/ 20.8%
        Cluster #0 subs->inet #2:               0/0           0.0%/  0.0% |
```

```
52.6%/ 40.0% |    132355288832/127299328 |  20.1%/ 20.4%
        Cluster #0 subs->inet #3:               0/0           0.0%/  0.0% |
63.7%/ 65.1% |    130906688761/123809037 |  19.9%/ 19.8%
        Cluster #0 subs->inet #4:               0/0           0.0%/  0.0% |
71.5%/ 77.8% |    129466431568/120822209 |  19.7%/ 19.4%
        Total:                                  0/0           0.0%/  0.0% |
70.3%/ 72.6% |    657270969659/623909403

Involved:
[INFO    ][2024/03/07-11:13:03:380825][0x7faef6308c00]  lcore 0 [ on]:
socket_id=0 hw_core_id=0 role:sys
[INFO    ][2024/03/07-11:13:03:380827][0x7faef6308c00]  lcore 1 [ on]:
socket_id=0 hw_core_id=1 role:rx-dispatch
[INFO    ][2024/03/07-11:13:03:380829][0x7faef6308c00]  lcore 2 [ on]:
socket_id=0 hw_core_id=2 role:rx-dispatch
[INFO    ][2024/03/07-11:13:03:380831][0x7faef6308c00]  lcore 3 [ on]:
socket_id=0 hw_core_id=3 role:rx-dispatch
[INFO    ][2024/03/07-11:13:03:380833][0x7faef6308c00]  lcore 4 [ on]:
socket_id=0 hw_core_id=4 role:rx-dispatch
[INFO    ][2024/03/07-11:13:03:380834][0x7faef6308c00]  lcore 5 [ on]:
socket_id=0 hw_core_id=5 role:rx-dispatch
[INFO    ][2024/03/07-11:13:03:380836][0x7faef6308c00]  lcore 6 [ on]:
socket_id=0 hw_core_id=6 role:rx-dispatch
[INFO    ][2024/03/07-11:13:03:380838][0x7faef6308c00]  lcore 7 [ on]:
socket_id=0 hw_core_id=7 role:slave
[INFO    ][2024/03/07-11:13:03:380845][0x7faef6308c00]  lcore 8 [ on]:
socket_id=0 hw_core_id=8 role:slave
[INFO    ][2024/03/07-11:13:03:380846][0x7faef6308c00]  lcore 9 [ on]:
socket_id=0 hw_core_id=9 role:slave
[INFO    ][2024/03/07-11:13:03:380848][0x7faef6308c00]  lcore 10 [ on]:
socket_id=0 hw_core_id=10 role:slave
[INFO    ][2024/03/07-11:13:03:380850][0x7faef6308c00]  lcore 11 [ on]:
socket_id=0 hw_core_id=11 role:slave
[INFO    ][2024/03/07-11:13:03:380851][0x7faef6308c00]  lcore 12 [ on]:
socket_id=0 hw_core_id=12 role:slave
[INFO    ][2024/03/07-11:13:03:380853][0x7faef6308c00]  lcore 13 [ on]:
socket_id=0 hw_core_id=13 role:slave
[INFO    ][2024/03/07-11:13:03:380855][0x7faef6308c00]  lcore 14 [ on]:
socket_id=0 hw_core_id=14 role:slave
[INFO    ][2024/03/07-11:13:03:380856][0x7faef6308c00]  lcore 15 [ on]:
socket_id=0 hw_core_id=15 role:slave
[INFO    ][2024/03/07-11:13:03:380858][0x7faef6308c00]  lcore 16 [ on]:
socket_id=0 hw_core_id=16 role:slave
[INFO    ][2024/03/07-11:13:03:380860][0x7faef6308c00]  lcore 17 [ on]:
socket_id=0 hw_core_id=17 role:slave
[INFO    ][2024/03/07-11:13:03:380861][0x7faef6308c00]  lcore 18 [ on]:
socket_id=0 hw_core_id=18 role:slave
[INFO    ][2024/03/07-11:13:03:380863][0x7faef6308c00]  lcore 19 [ on]:
socket_id=0 hw_core_id=19 role:slave
[INFO    ][2024/03/07-11:13:03:380865][0x7faef6308c00]  lcore 20 [ on]:
socket_id=0 hw_core_id=20 role:slave
```

```
[INFO    ][2024/03/07-11:13:03:380866][0x7faef6308c00]  lcore 21 [ on]:
socket_id=0 hw_core_id=21 role:slave
[INFO    ][2024/03/07-11:13:03:380868][0x7faef6308c00]  lcore 22 [ on]:
socket_id=0 hw_core_id=22 role:slave
[INFO    ][2024/03/07-11:13:03:380870][0x7faef6308c00]  lcore 23 [ on]:
socket_id=0 hw_core_id=23 role:ajb
[INFO    ][2024/03/07-11:13:03:380872][0x7faef6308c00]  lcore 24 [ on]:
socket_id=0 hw_core_id=24 role:service

25 cores.
AMD EPYC 7713P 64-Core Processor
CPU MHz:             2000.000
```

On request it is possible to perform testing on customer equipment, please contact technical support for this purpose.