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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 %]

```

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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:

```

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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_nobuf=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_nobuf=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_nobuf=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_nobuf=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_nobuf=0/0

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[STAT  ][2024/03/07-15:40:13:400323] [HAL][DPDK] Dispatcher statistics
abs/delta:

```

| empty NIC RX | RX packets | drop (worker queue full) | % 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

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[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.