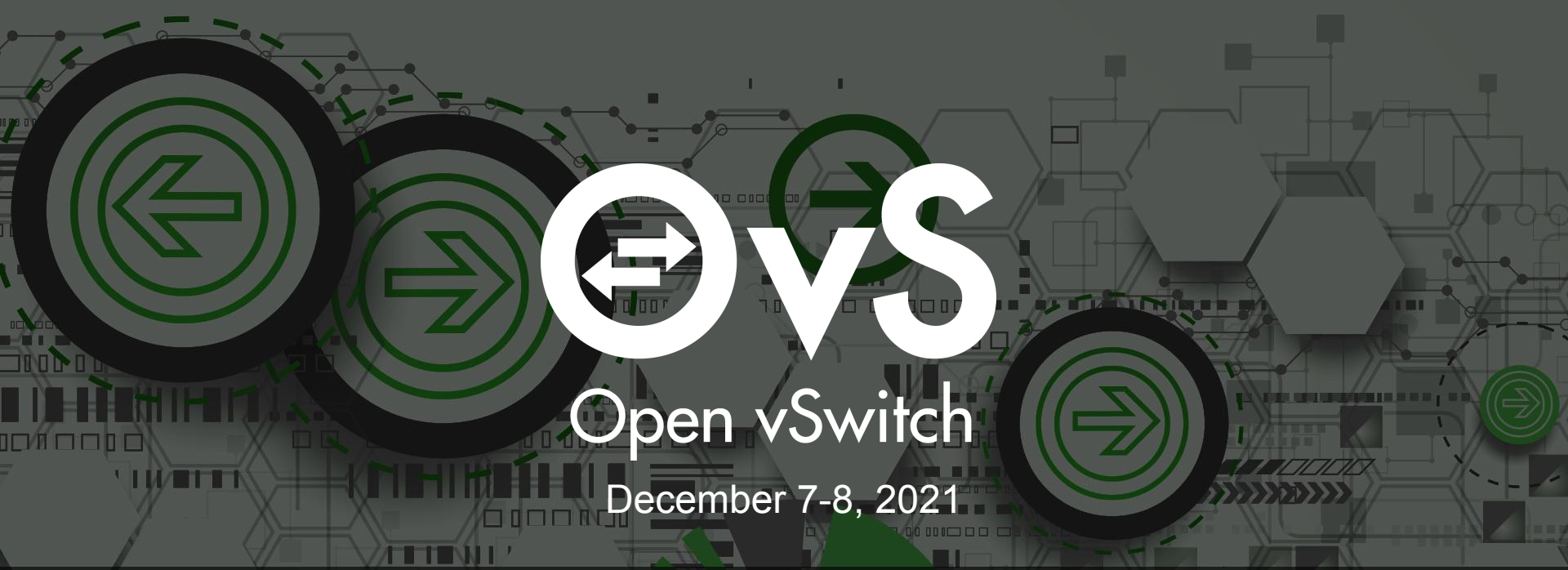
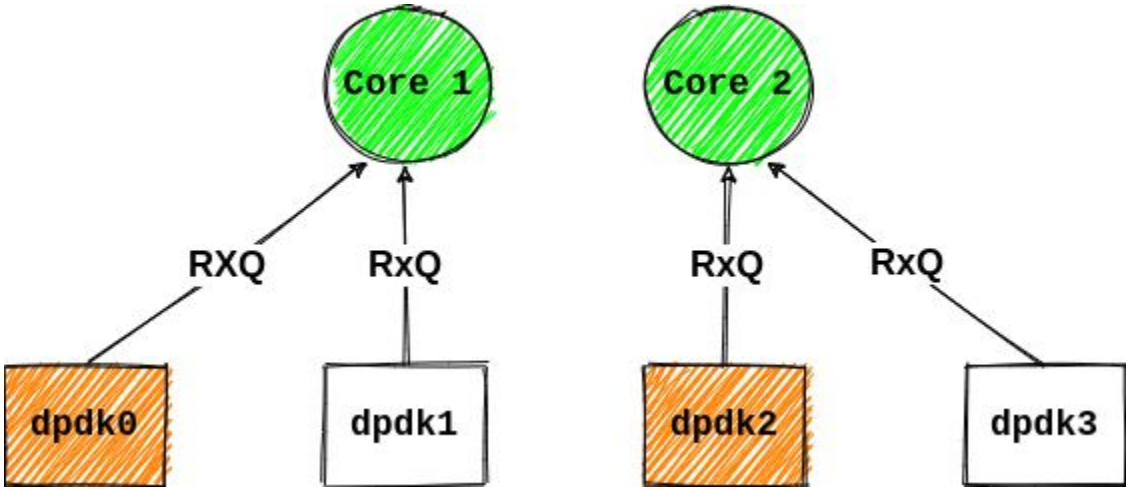


December 7-8, 2021

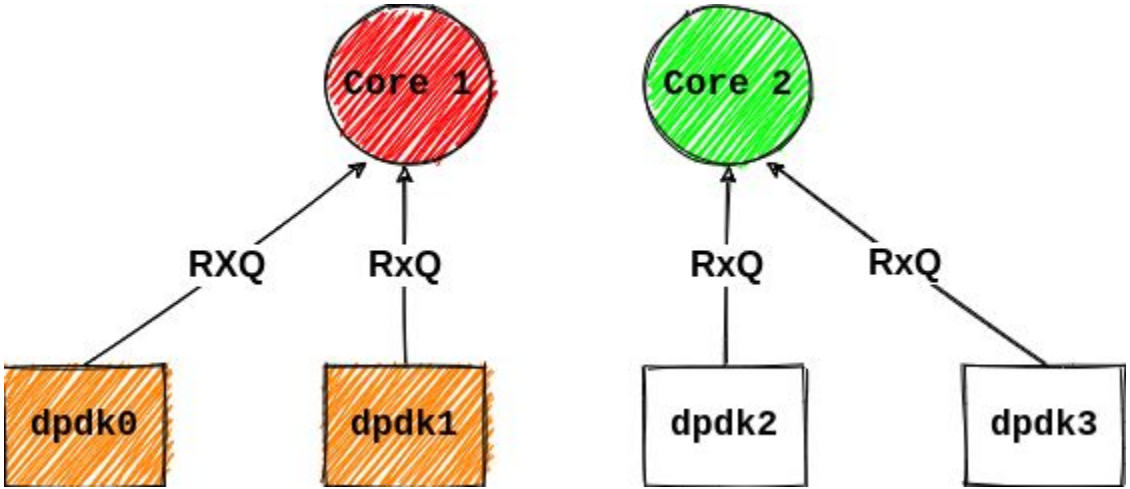
Multi-core Scaling: PMD auto load balance improvements.

Kevin Traynor
ktraynor@redhat.com

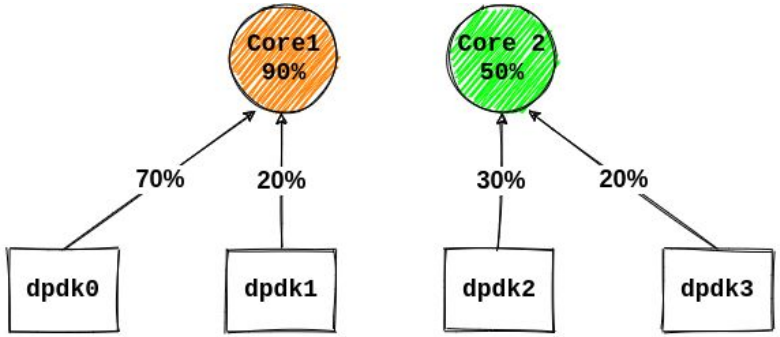
OVS-DPDK: PMD-RxQ Assignment

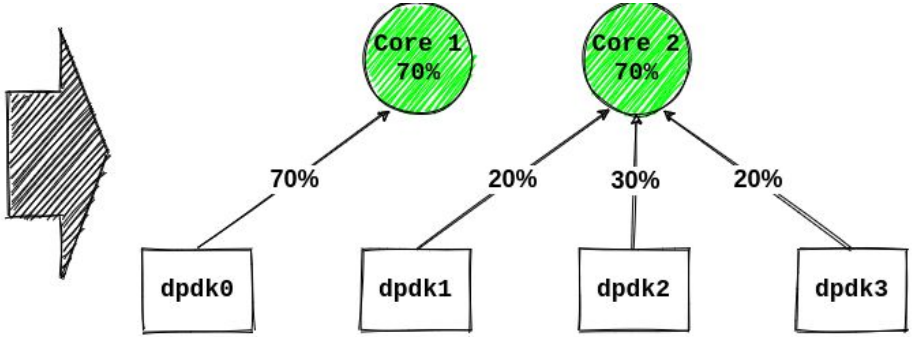


OVS-DPDK: PMD Auto Load Balance



OVS 2.16: 'group' assignment

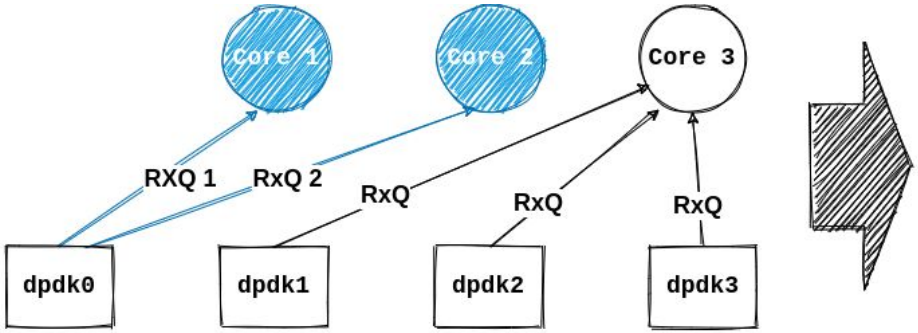


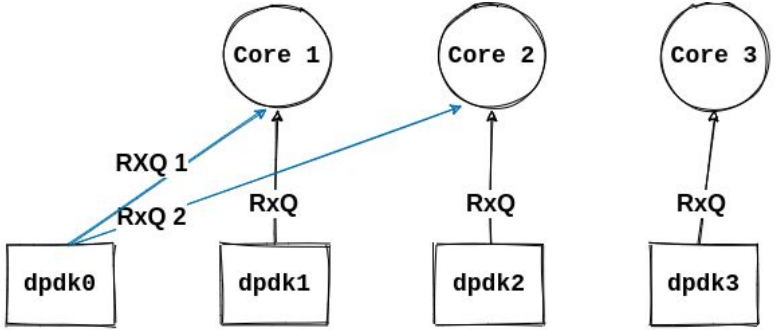


`ovs-vsctl set Open_vSwitch . other_config:pmd-rxq-assign=cycles`
(Default)

`ovs-vsctl set Open_vSwitch . other_config:pmd-rxq-assign=group`

OVS 2.16: Pin & non-isolate



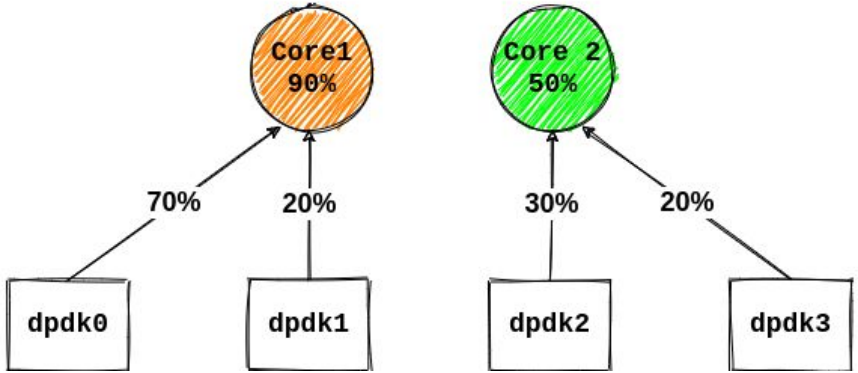


`ovs-vsctl set Open_vSwitch . other_config:pmd-rxq-isolate=true`
(Default)

`ovs-vsctl set Open_vSwitch . other_config:pmd-rxq-isolate=false`

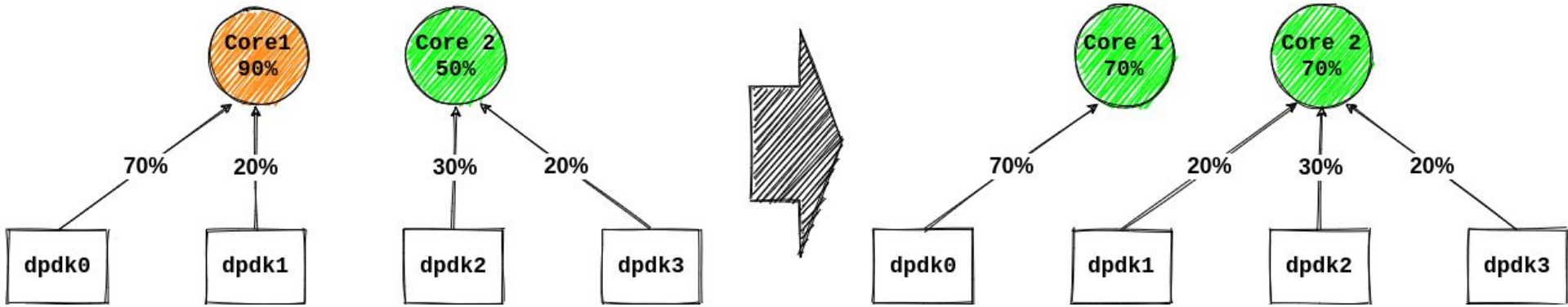
OVS 2.15: PMD Auto Load Balance params

```
ovs-vsctl set open_vSwitch . other_config:pmd-auto-lb="false"
```



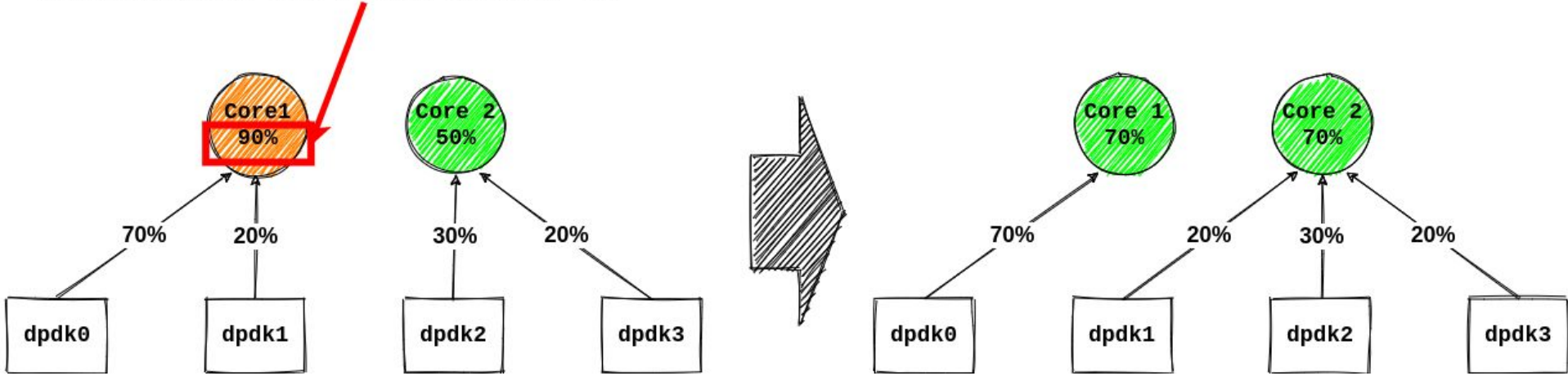
OVS 2.15: PMD Auto Load Balance params

```
ovs-vsctl set open_vSwitch . other_config:pmd-auto-lb="true"
```



OVS 2.15: PMD Auto Load Balance params

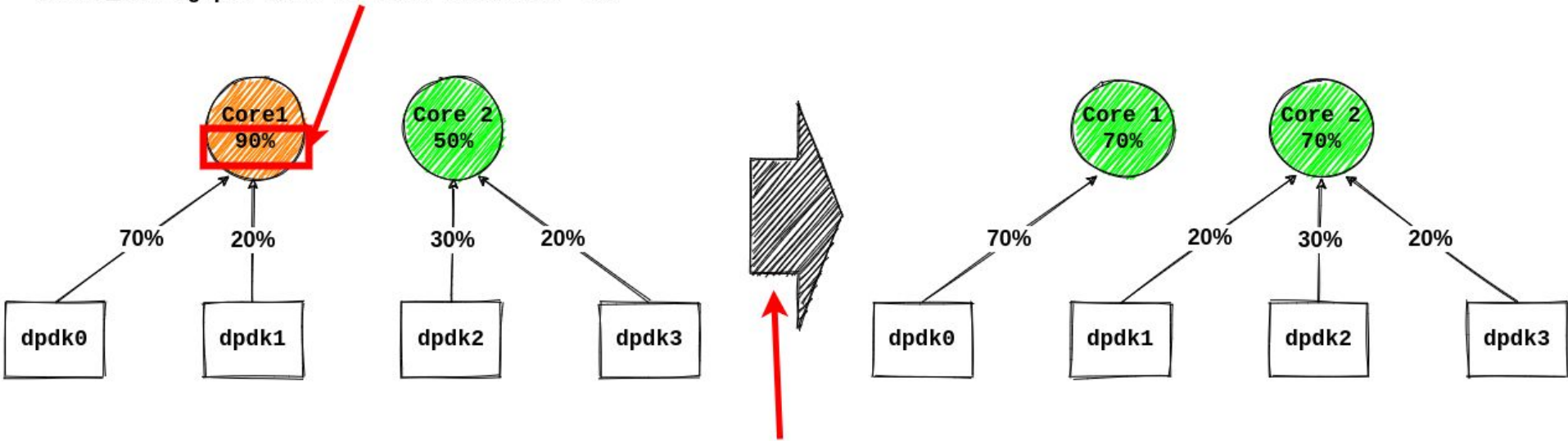
```
ovs-vsctl set open_vSwitch . other_config:pmd-auto-lb="true"

other_config:pmd-auto-lb-load-threshold="90"
```



OVS 2.15: PMD Auto Load Balance params

```
ovs-vsctl set open_vSwitch . other_config:pmd-auto-lb="true"
```

```
other_config:pmd-auto-lb-load-threshold="90"
```



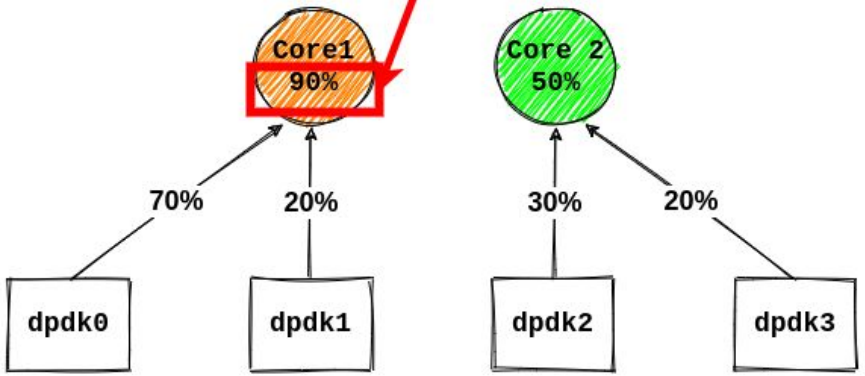

```
other_config:pmd-auto-lb-rebal-interval="1"
```

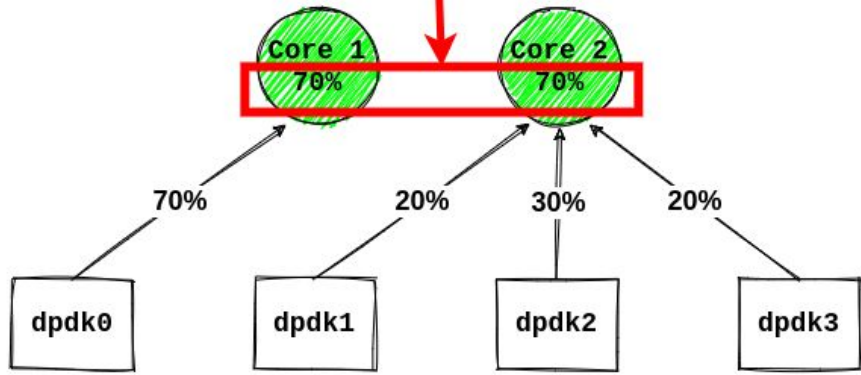
OVS 2.15: PMD Auto Load Balance params

```
ovs-vsctl set open_vSwitch . other_config:pmd-auto-lb="true"
```

```
other_config:pmd-auto-lb-load-threshold="90"
```

```
other_config:pmd-auto-lb-improvement-threshold="50"
```






```
other_config:pmd-auto-lb-rebal-interval="1"
```

More info

- OVS documentation
  - https://docs.openvswitch.org/en/latest/topics/dpdk/pmd/

- Articles/blogs
  - Automatic load balancing for PMD threads in Open vSwitch with DPDK
    - https://developers.redhat.com/blog/2021/04/29/automatic-load-balancing-for-pmd-threads-in-open-vswitch-with-dpdk
  - Improve multicorescaling in Open vSwitch DPDK
    - https://developers.redhat.com/articles/2021/11/19/improve-multicore-scaling-open-vswitch-dpdk