Switchdev – No More SDK

Elad Raz, Jiri Pirko

Netdev 1.1 | 2016

Mellanox TECHNOLOGIES

Connect. Accelerate. Outperform.™

Switchdev is here to stay

- What?

- Why?

- Where?

100G DEMO!

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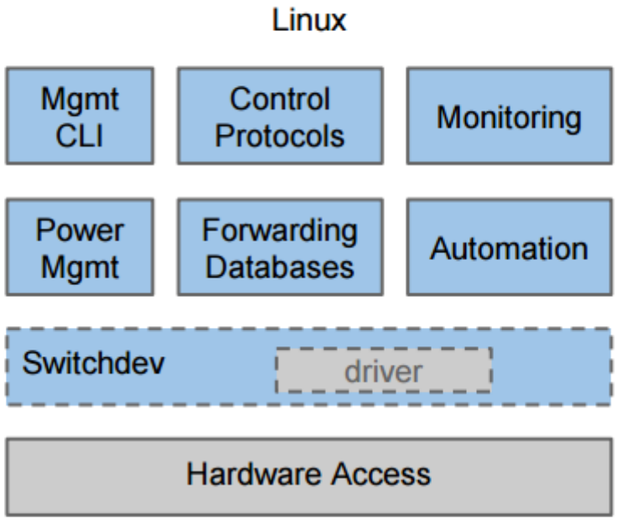
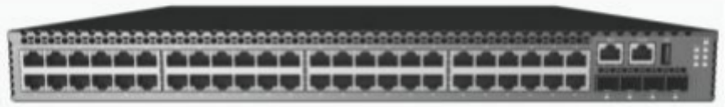
Switchdev is here to stay

- **What?**
- Why?
- Where?





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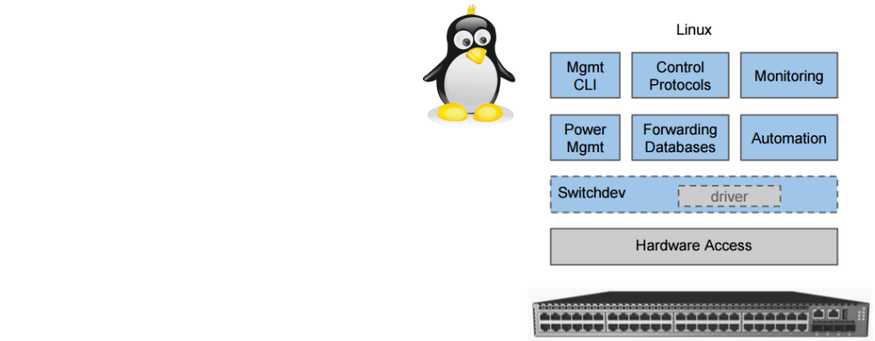
Switchdev is here to stay

- **What?**



64 net-devices

Doing skb rx/tx, ethtool, port state and ndo offload

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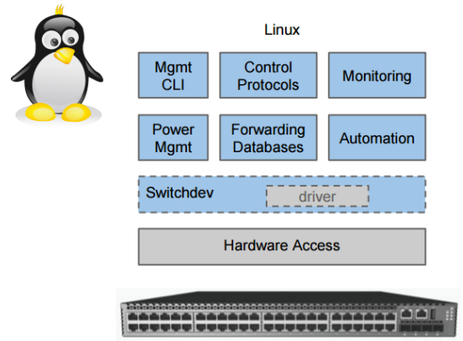
Switchdev is here to stay

- **What?**



switchdev_ops

.1D/.1Q Bridging – VLANs, PVID, FDB, IGMP…

Routing – FIB offload

and more

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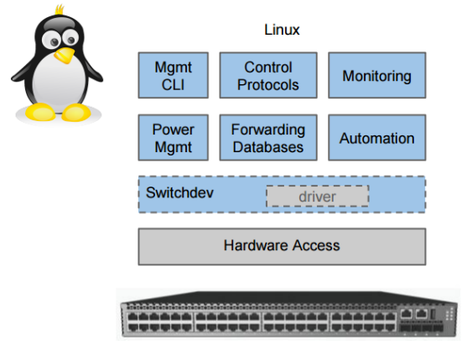
Switchdev is here to stay

- **What?**



In-kernel implementation

NO MORE SDK!

drivers/net/ethernet/mellanox/mlxsw

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Switchdev is here to stay

- What?
- **Why?**
- Where?

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Switchdev is here to stay

- **Why?**

Community based
Open-source
Standard behavior
Standard API

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Switchdev is here to stay

- What?

- Why?

- **Where?**

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Devlink

`set port type, port splitter, shared buffers, etc.`

- **Where?**

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QoS

DCBNL interface implementation

- **Where?**

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L3 offload

fix the current switchdev model, include VRF support

- **Where?**

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Flows

`tc cls_flower + selected acts offload`

- **Where?**

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(e)BPF?

- **Where?**

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Tutorial outlook

- No more talking! 100G demo!
  - Netdevice
  - Bridging
  - 802.1Q bridge
  - 802.1D bridge
  - LAG

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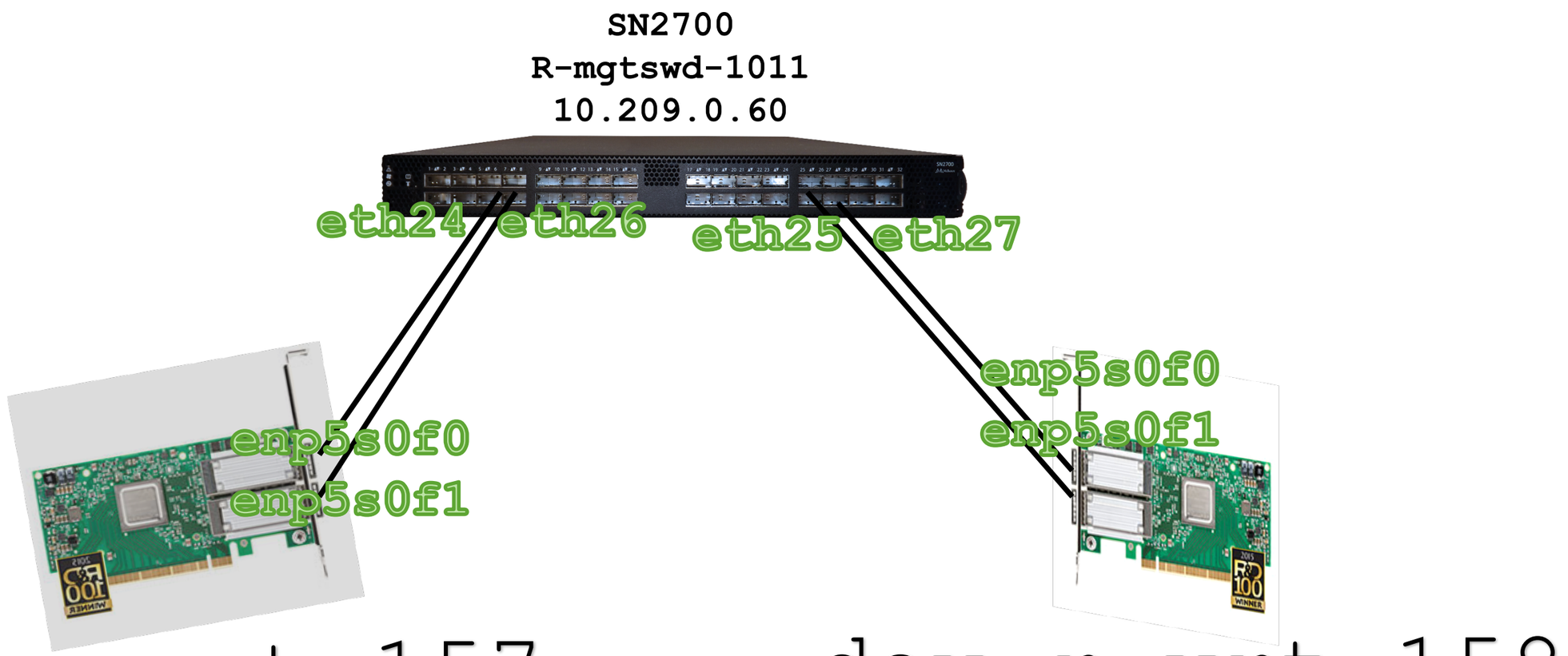
Topology


SN2700
R-mgtswd-1011
10.209.0.60
eth24
eth26
eth25
eth27
enp5s0f0
enp5s0f1
enp5s0f0
enp5s0f1
dev-r-vrt-157
dev-r-vrt-158

Screens

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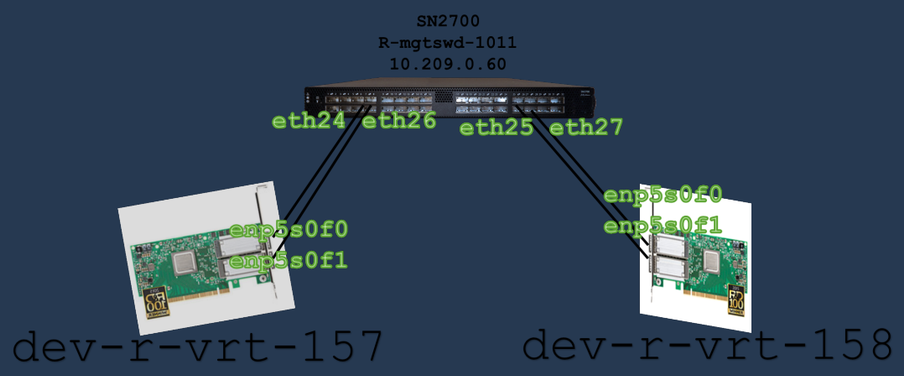
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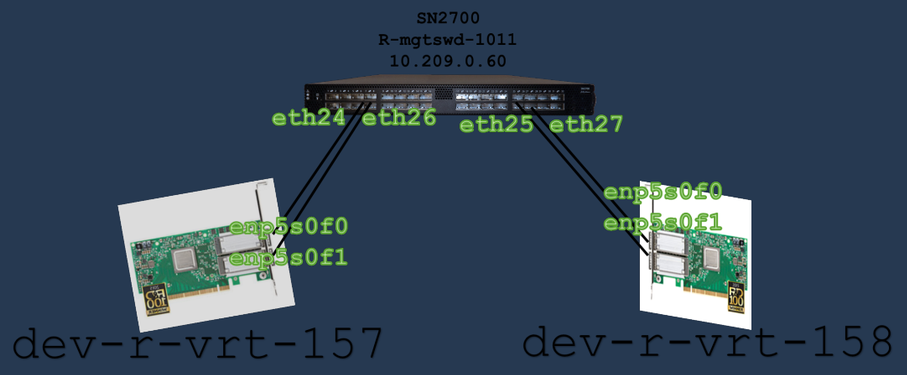
netdev

SN2700
100g switch
server 157
+ConnectX-4
SW counters
server 158
+ConnectX-4
HW counters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.1Q bridge

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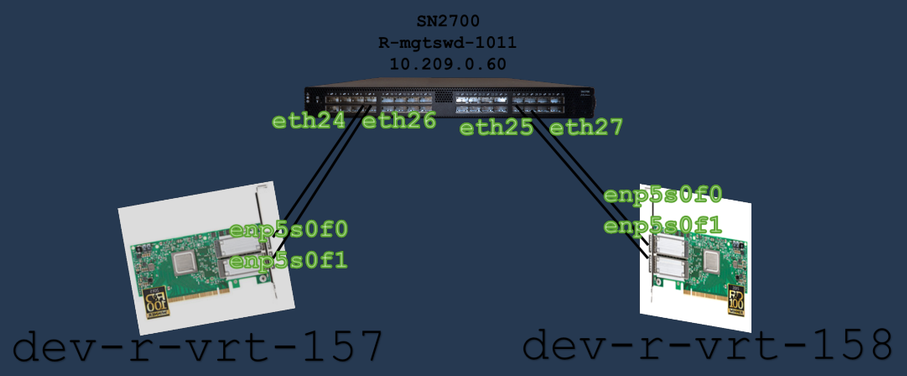
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.1D bridge

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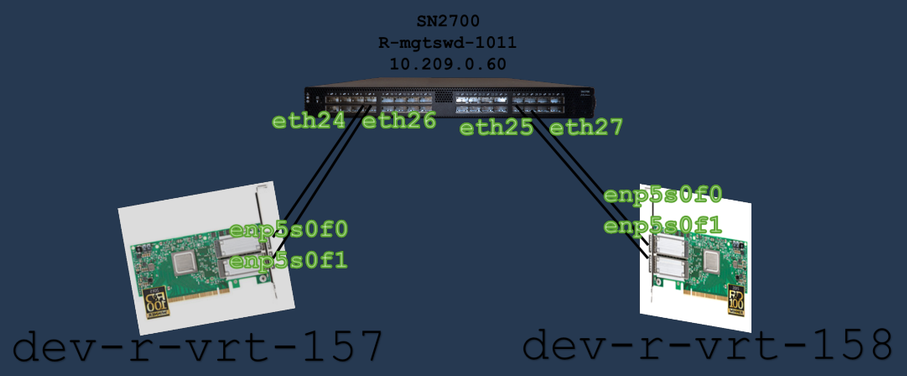

LAG

team and bond

Thank You

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