Crossing the next bridge

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Current Bridge

- Ioctl, sysfs, netlink
- RSTP userspace
- Iptables and ebtables
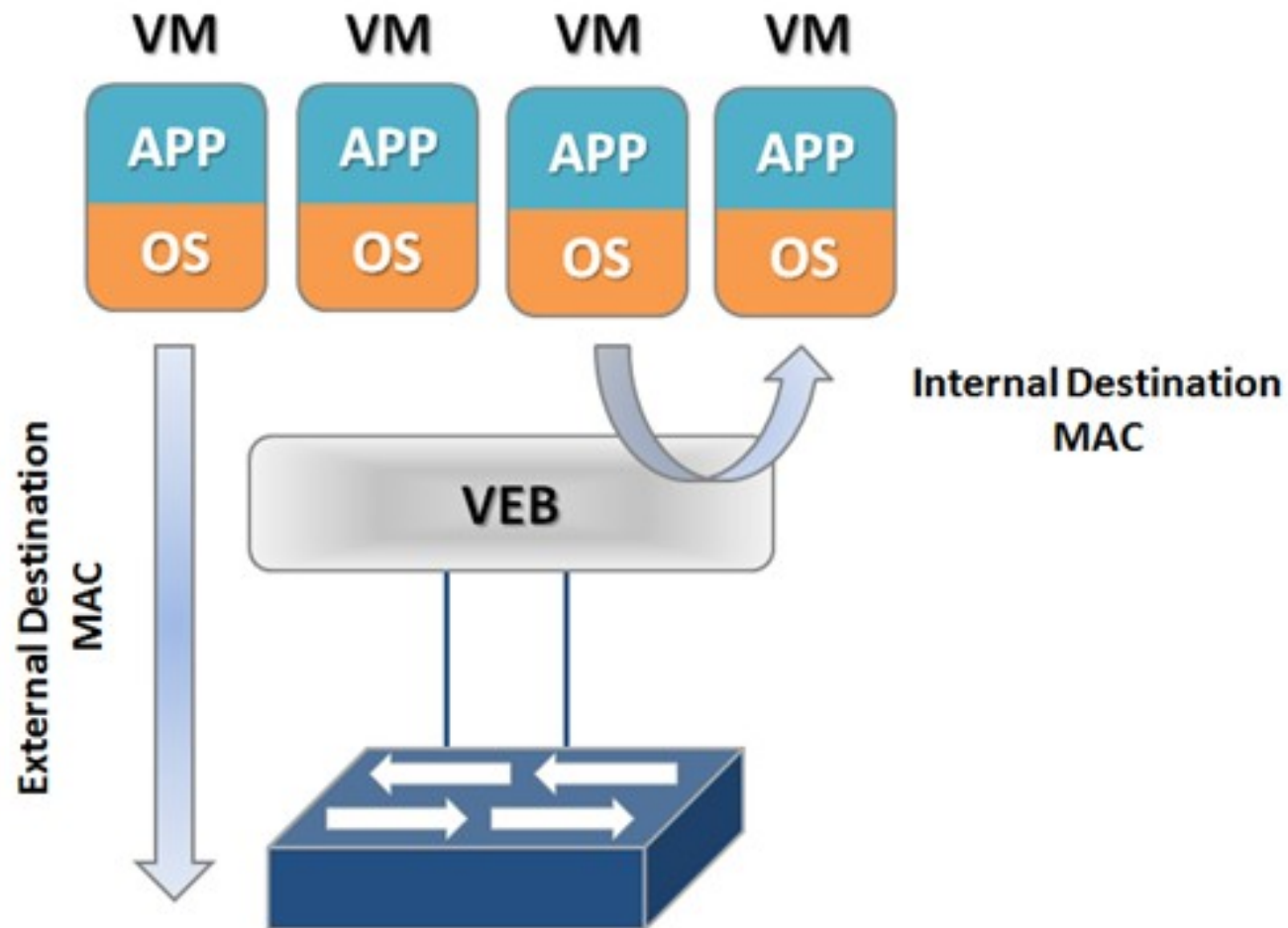- Ethernet only

The competition

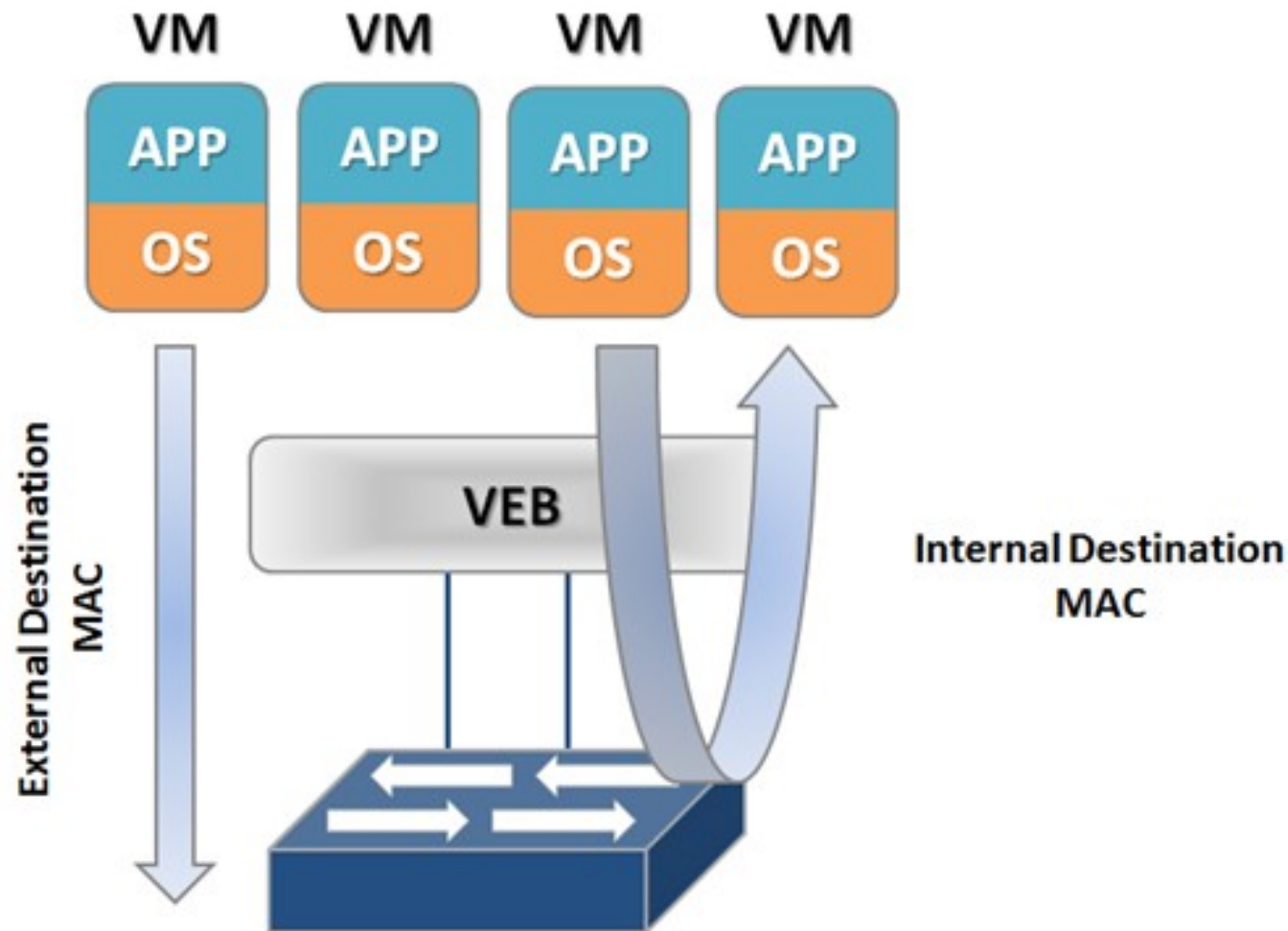- Converged networking
    - Vmware Vswitch
    - Cisco Nexus

Virtual Edge Bridge

Virtual Ethernet Port Aggregator

VEPA VEB Operation

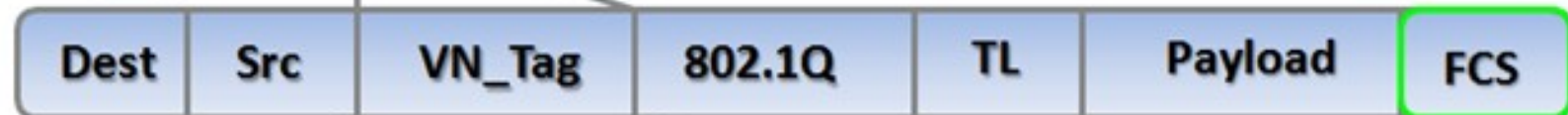# VN tag

Original Frame:

Dest	Src	802.1Q	TL	Payload	FCS

VN_Tagged:

Dest	Src	VN_Tag	802.1Q	TL	Payload	FCS

VN_Tag:

Ethertype	D	P	DVIF_ID	L	R	VER	SVIF_ID

New architectures

- Userspace control plane– Openflow

- Hardware dataplane – Bridge offloading

Features

- API
  - RSTP in kernel
  - Per port control of STP – portfast, bpdufilter
  - Sysctl & netlink
- Security
  - Port mirroring
  - Transmit filtering
  - Keep iptables, ebtables for special case

Wishlist

- Netlink ↔ Openflow controller
- VNTag
- PVST
- TRILL