

OVN WITH DYNAMIC ROUTING

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Outline

Why

What

How

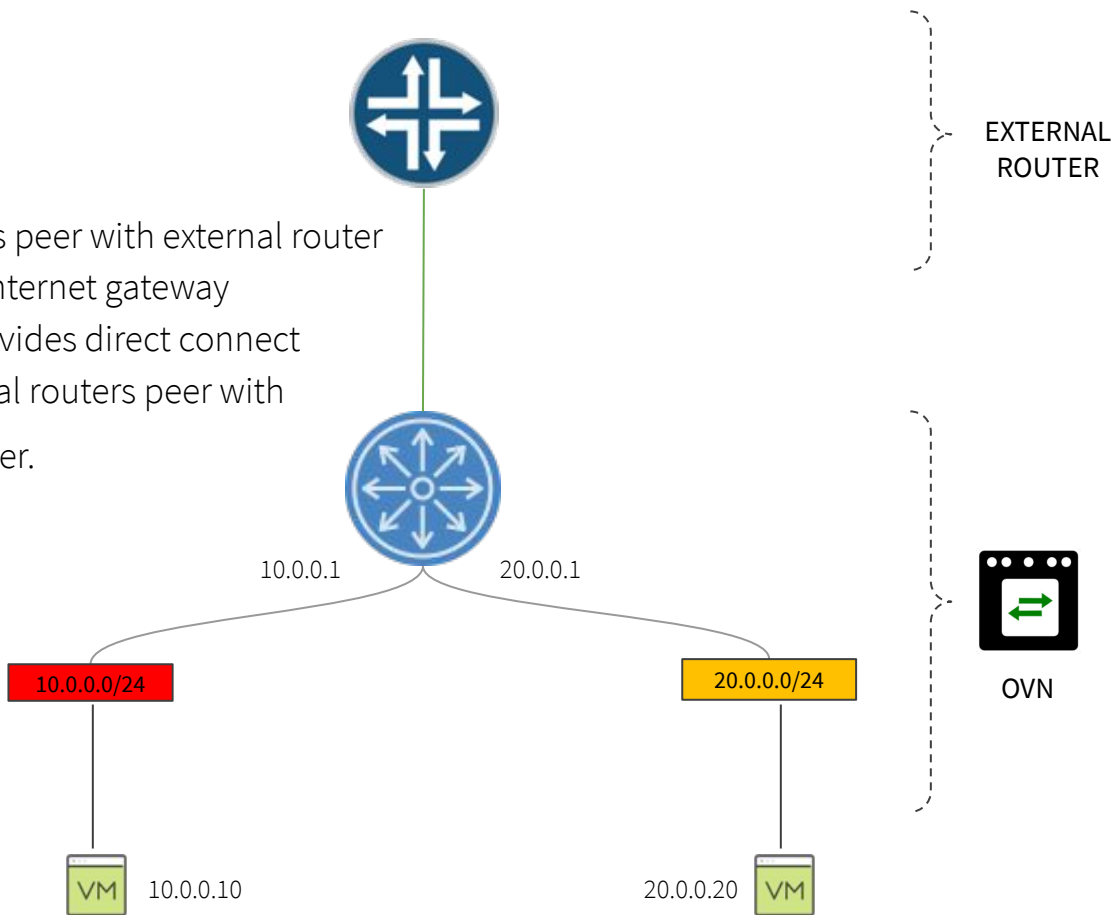
Why?



WHY



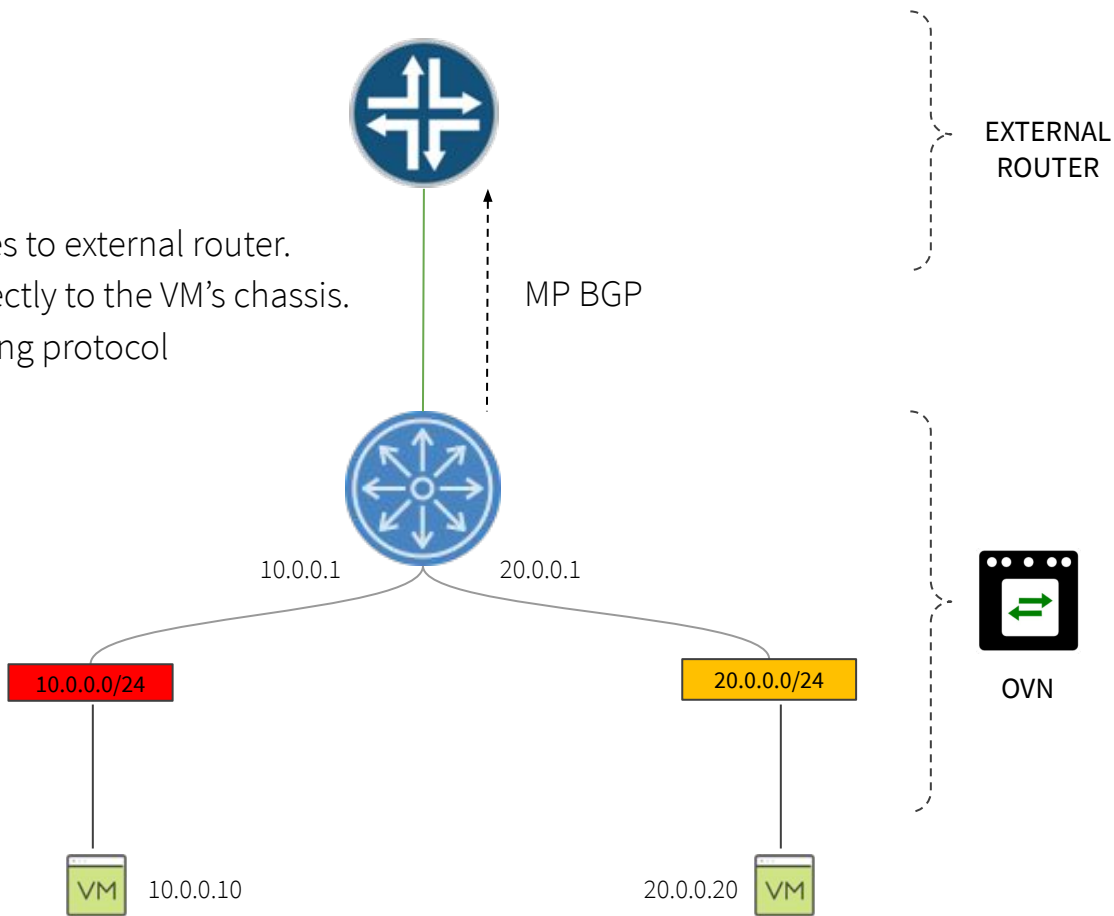
- OVN logical routers peer with external router
- External router is internet gateway
- External router provides direct connect
- Multiple OVN logical routers peer with same external router.



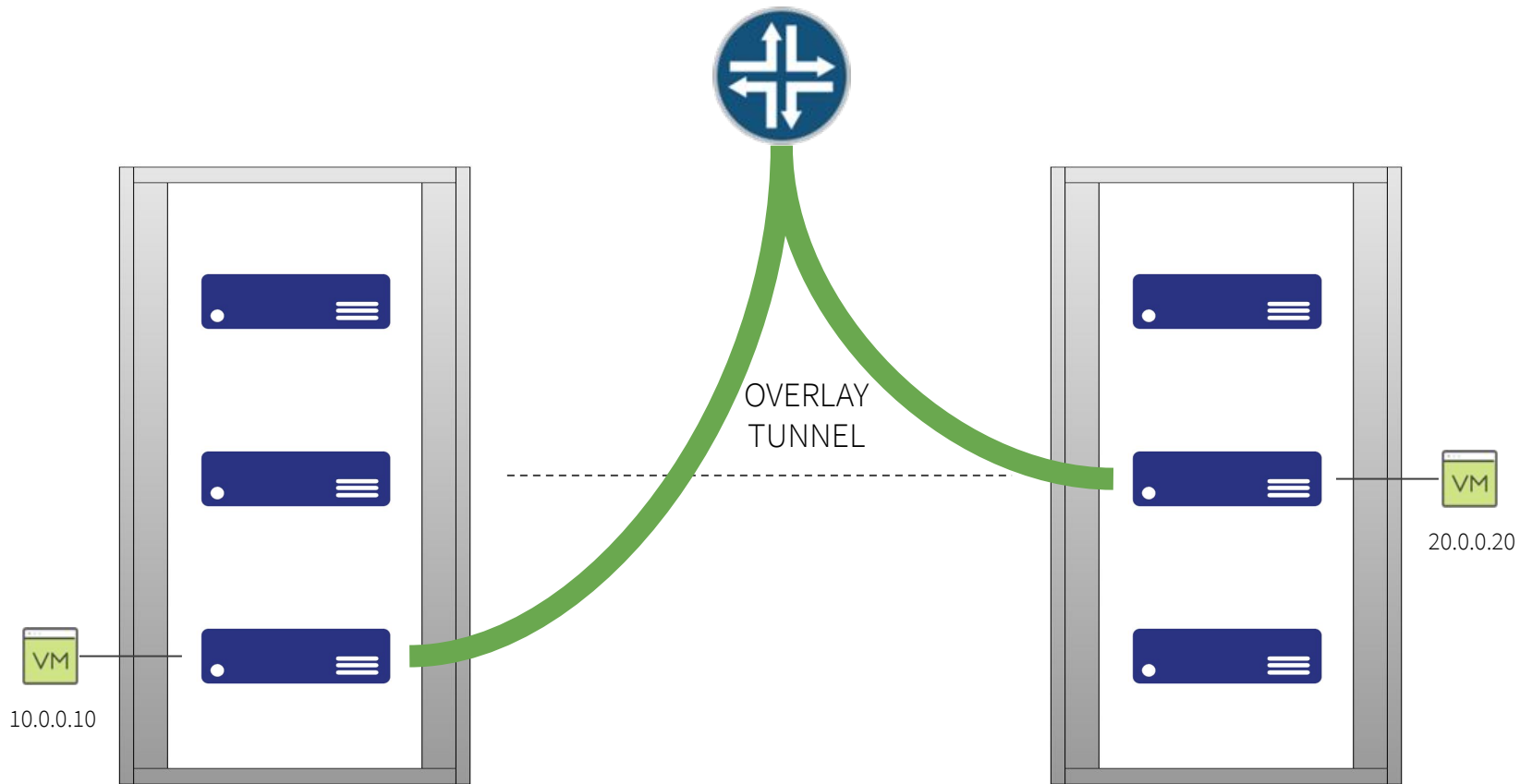
WHY



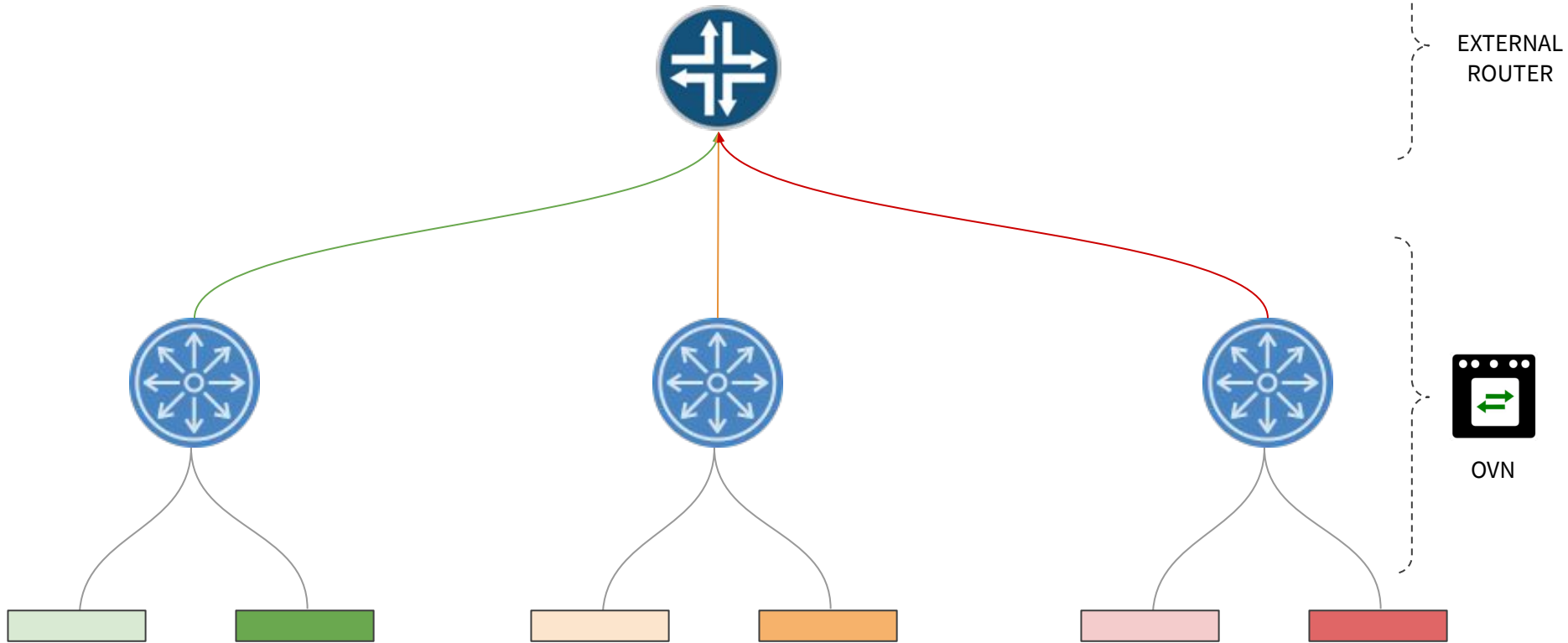
- Advertise /32 routes to external router.
- Forward traffic directly to the VM's chassis.
- Use standard routing protocol



WHY



WHY





OVN DYNAMIC ROUTING

- OVN does not have native dynamic routing support.
 - Difficult to adopt in non openstack environments.
 - Management plane has to write its own adaptor.
-
- Add native dynamic routing support.
 - Makes it “batteries included” with OVN.

What?





WHY

WHAT

- Integrate with non OVN VTEPs
 - Switches
 - Routers

- Use standard protocols
 - EVPN



WHY

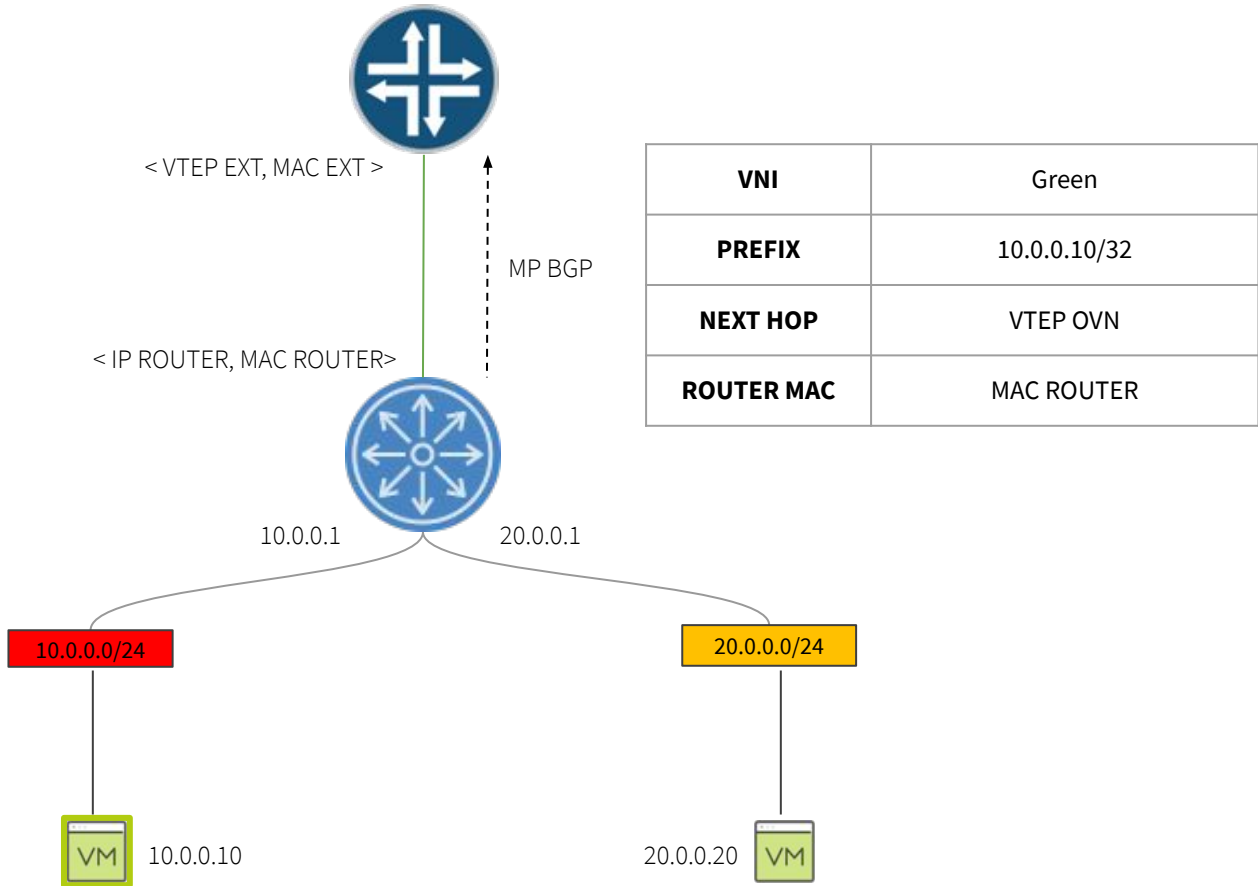
WHAT

EVPN (RFC 7432)

- MAC reachability in control plane
- Works with multiple underlay technologies
 - VXLAN, GENEVE, GRE etc.
- Multi tenant BGP-based

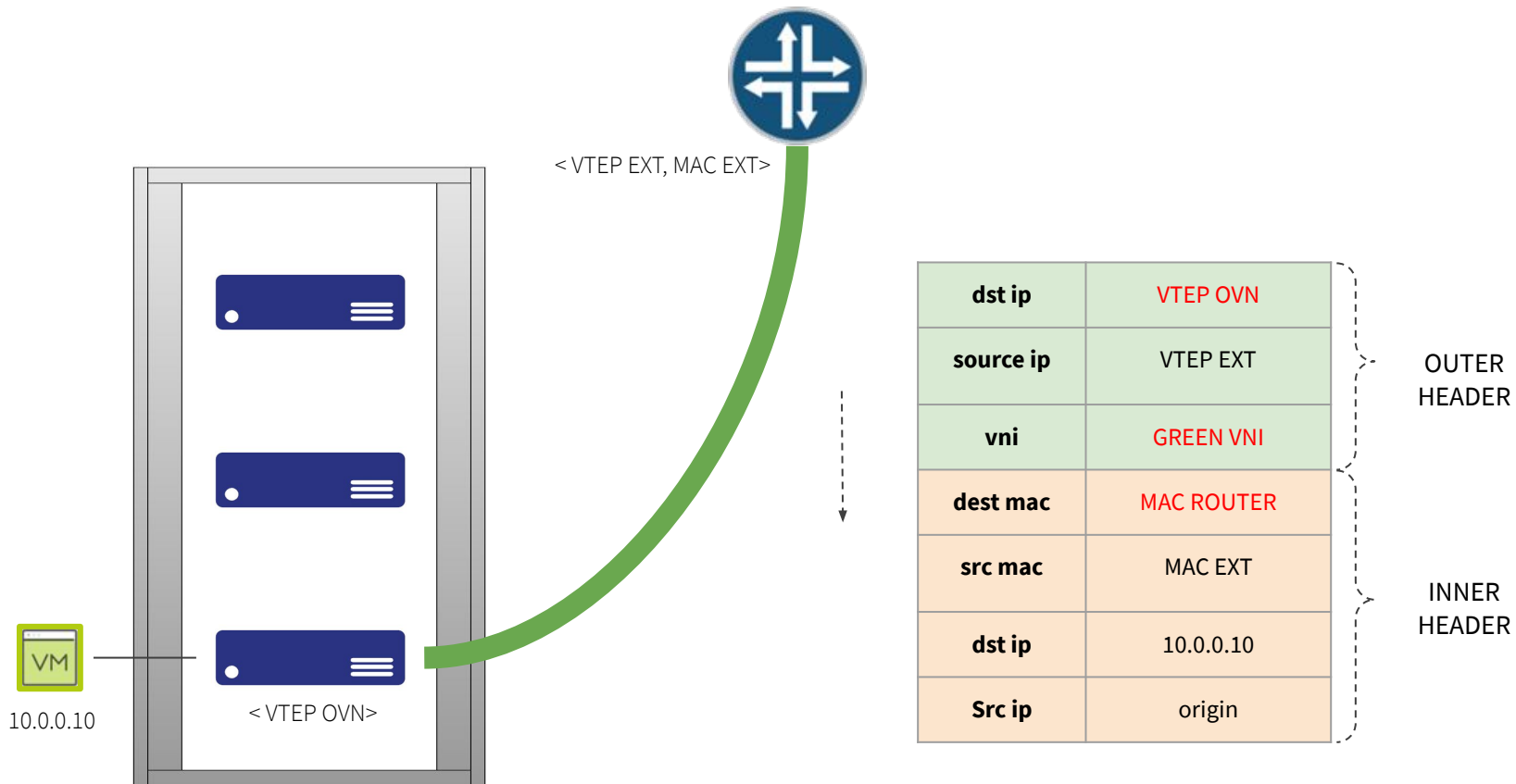
WHY

WHAT



WHY

WHAT





WHY

WHAT

OVN DYNAMIC ROUTING

- Add dynamic routing capability in OVN.
- Use FRR as the protocol stack.
 - **Catching up as standard protocol stack**
 - **Modular architecture**
- Read OVN DB and advertise using MP BGP.

How?



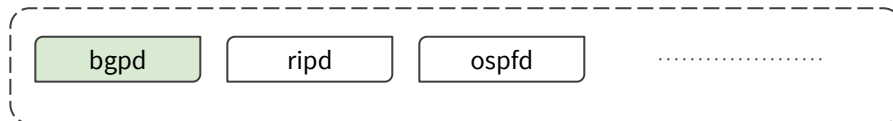
WHY

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FRR (Free Range Routing)

- Open source IP routing suite
- Supports BGP EVPN
- Forked from Quagga
- Modular architecture
 - Each routing protocol has its own code.
 - Easy to add new protocols.
 - Easy to integrate individual protocols.





OVN-ROUTING

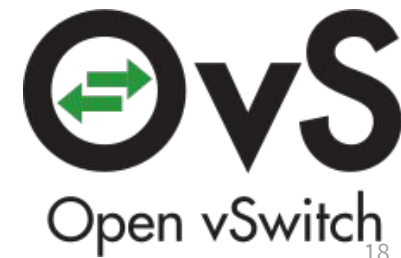
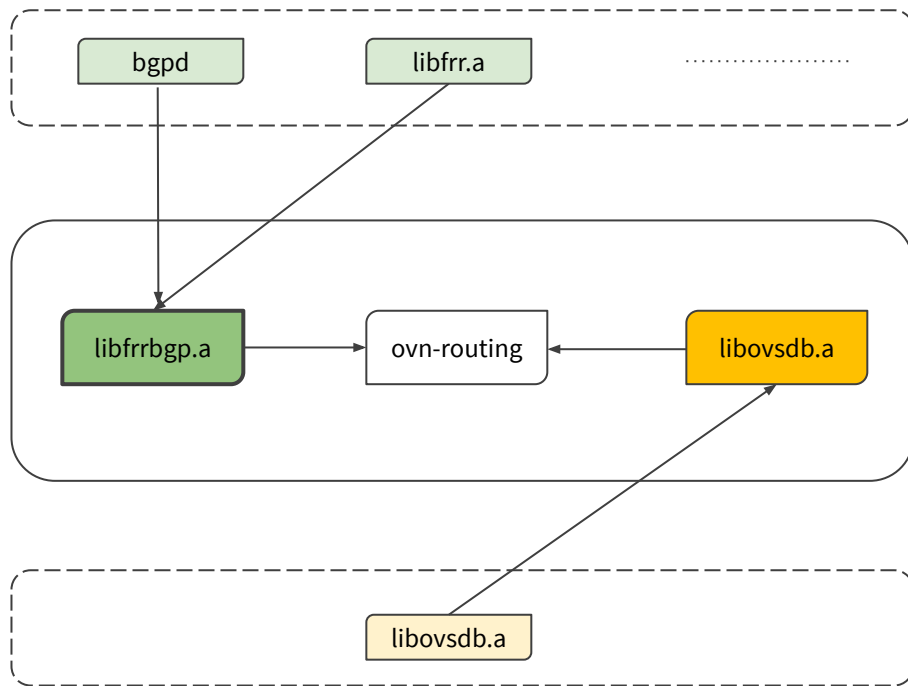
- Centralized daemon
- Links with BGP module of FRR.
 - **More protocols can be linked on need basis.**
- Reads config from OVN DBs
- Uses FRR BGP for route advertisements.

WHY

WHAT

HOW

OVN-ROUTING

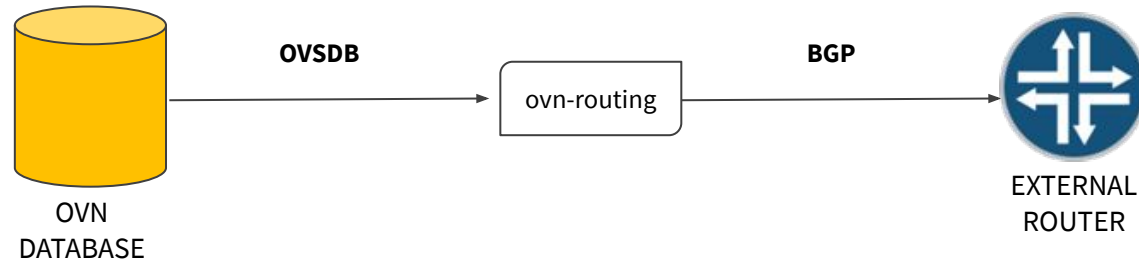


WHY

WHAT

HOW

OVN-ROUTING



Open Items?





- Configuration mechanism
 - Rely on OVN Northbound DB or introduce a new one.
- Avoid reading from southbound DB ?
 - Natural to have a top down approach for vm location.
 - Enhance Northbound to add VM location?

Questions

