



Network Virtualization

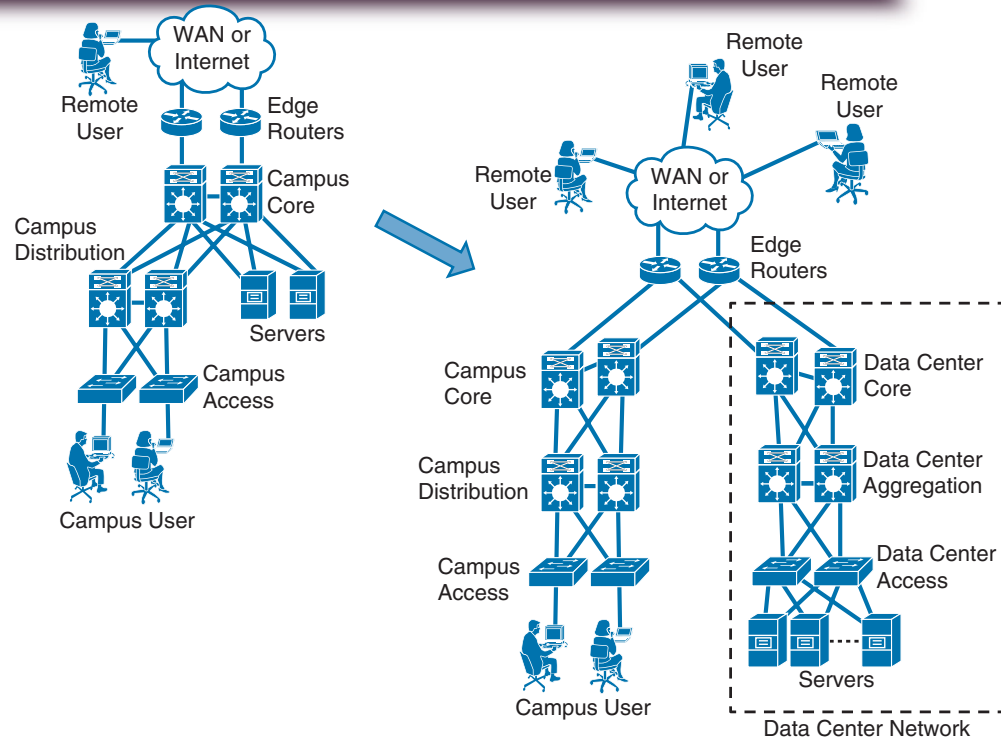
Kh. Rashedul Arefin

Outlines

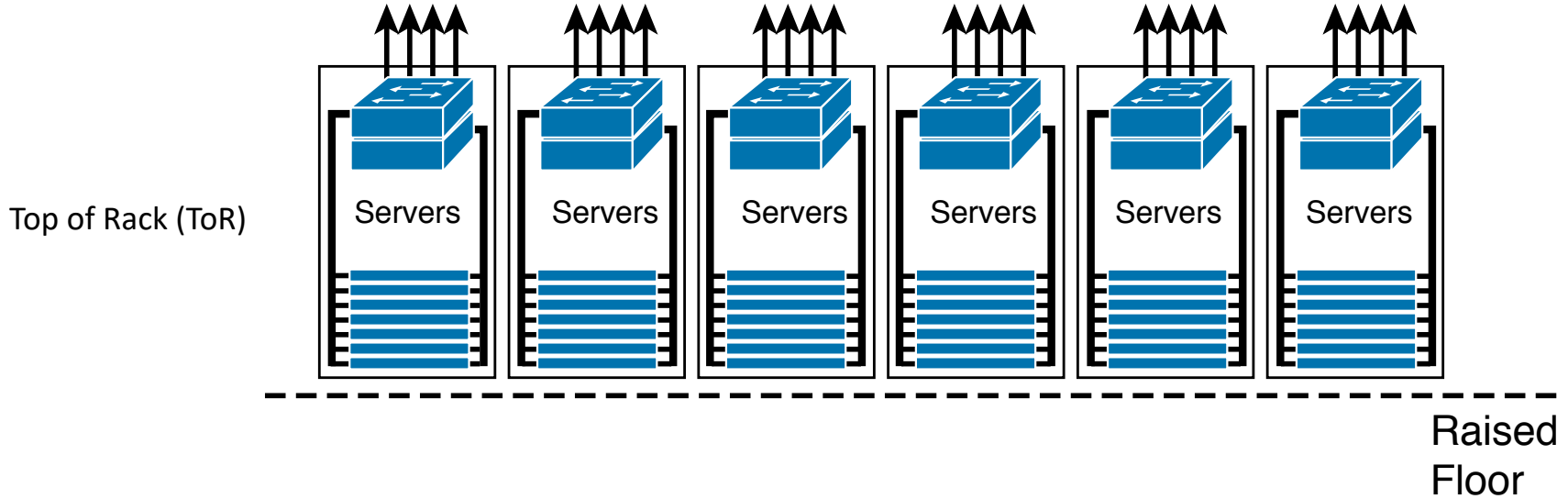
- Data Center Network Topology Evolution
- Physical Network Layout Consideration
- Network Virtualization
- Virtual Networking Services



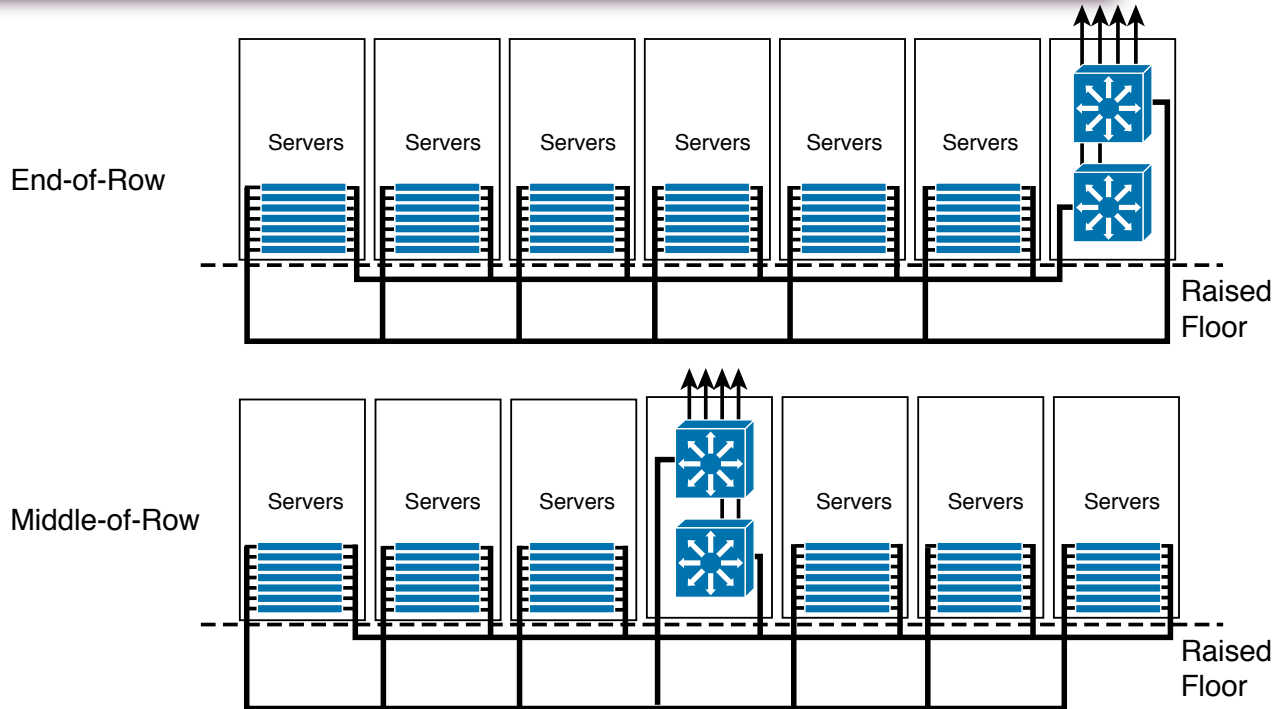
Data Center Network Topology Evolution



Physical Network Layout Consideration



Physical Network Layout Consideration

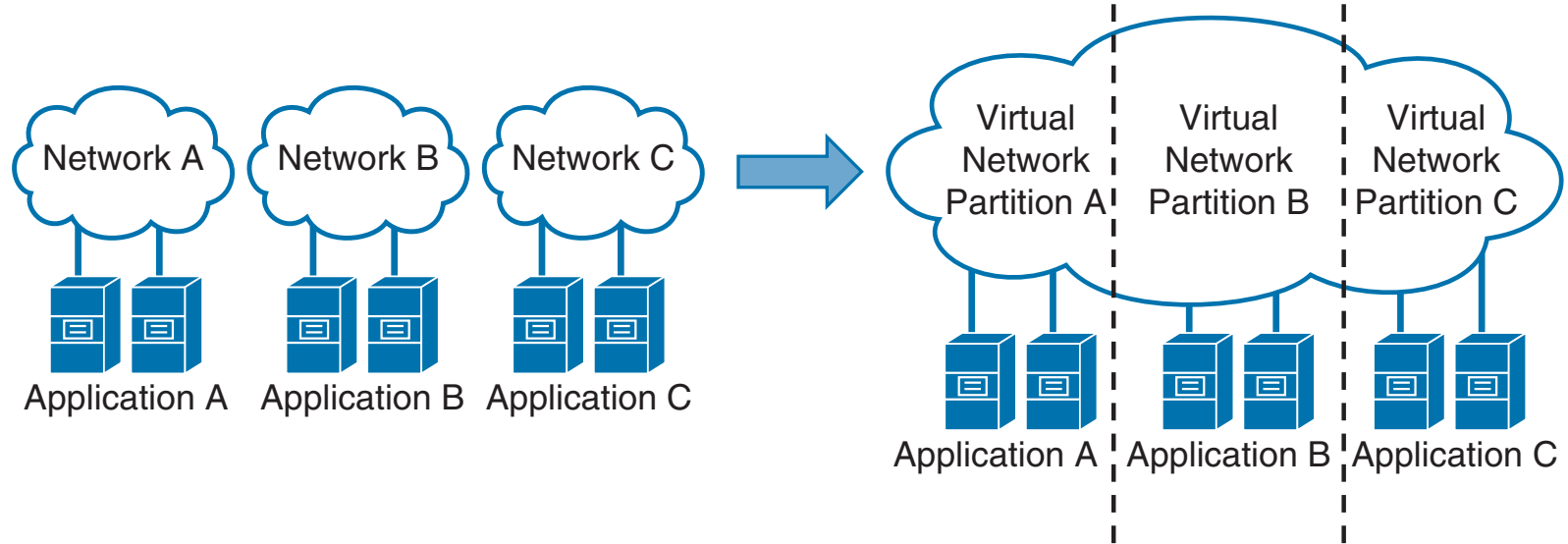


Network Virtualization

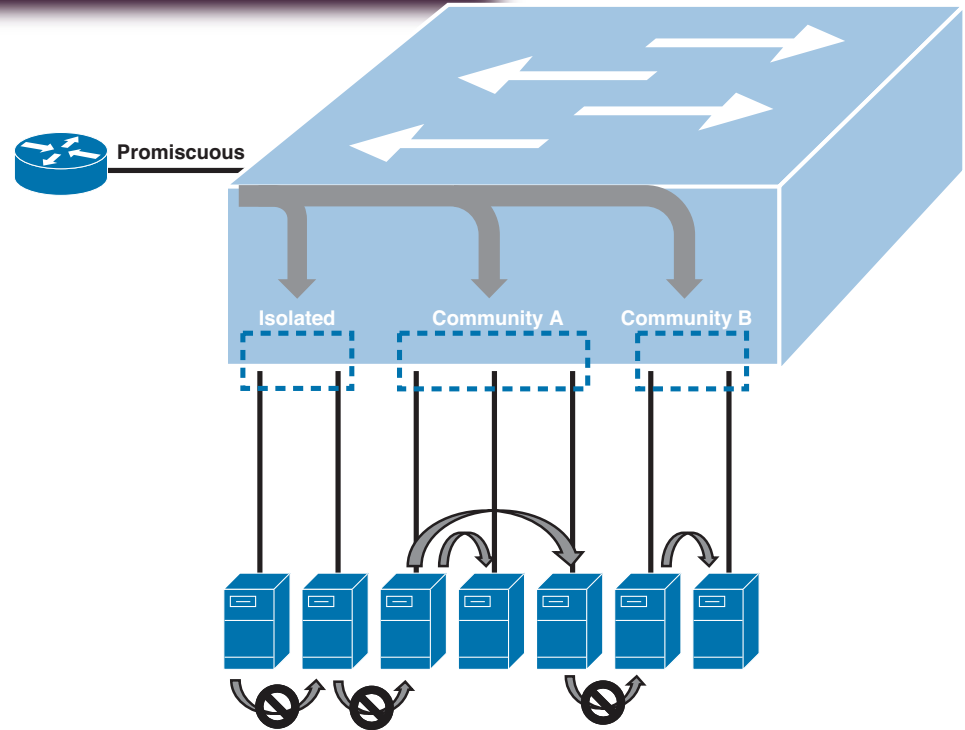
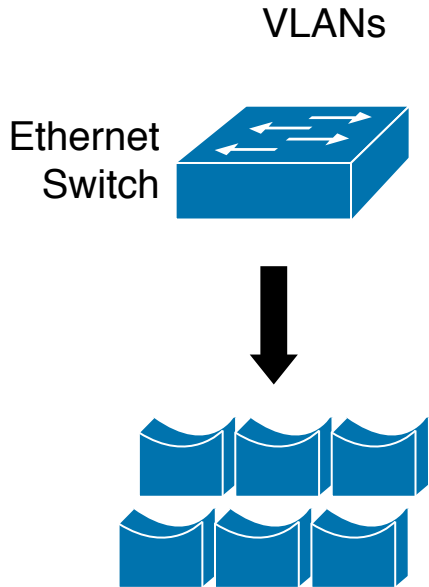
- Logical Partitioning
 - ❖ VLAN, VRF, VDC, Virtual Context etc.
- Network Simplification and Load Balancing
 - ❖ Etherchannel, vPC, Fabricpath
- Management Consolidation and Cabling Optimization
 - ❖ Fabric Extender
- Network Expansion
 - ❖ EoMPLS, VPLS, OTV
- Virtual Networking
 - ❖ vSwitch, VXLAN, VM-FEX
- Virtual Network Services
 - ❖ VSG, Edge Firewall, vWAAS, CSRv, V-Path



Network Virtualization



Network Virtualization

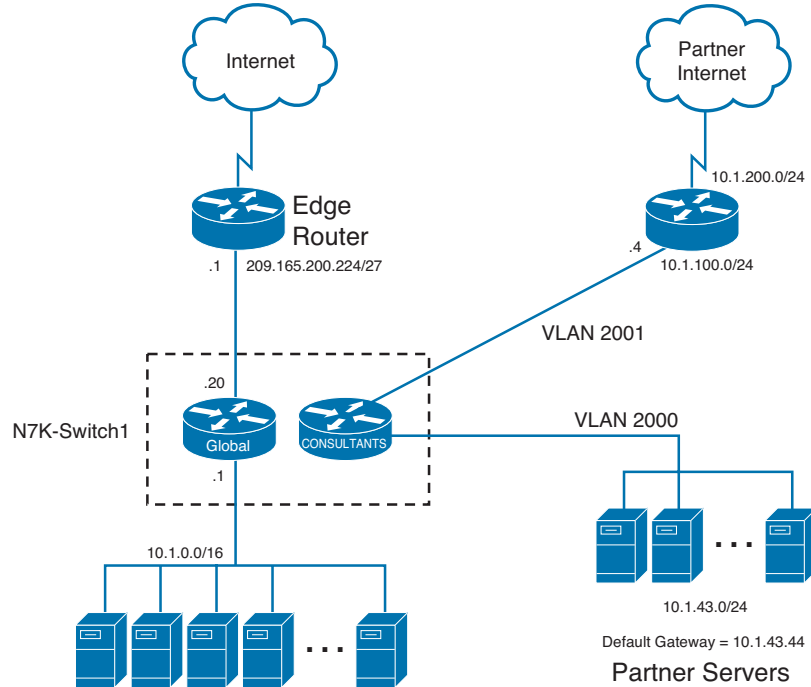
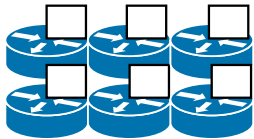


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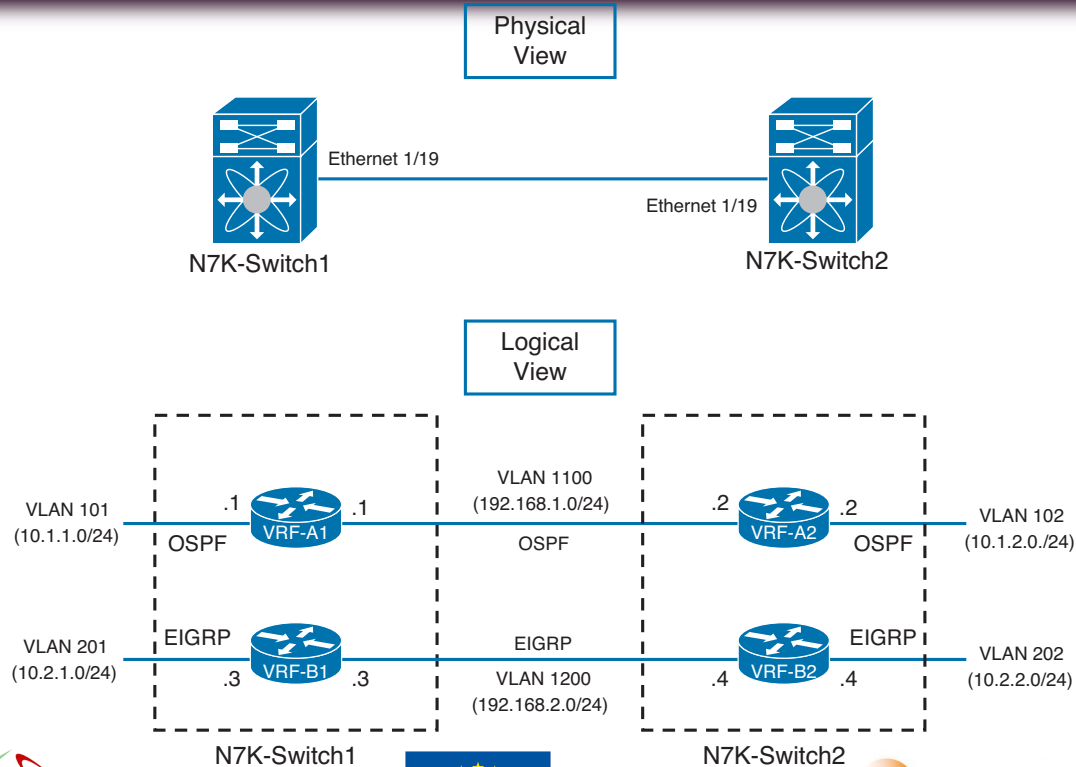
VRFs



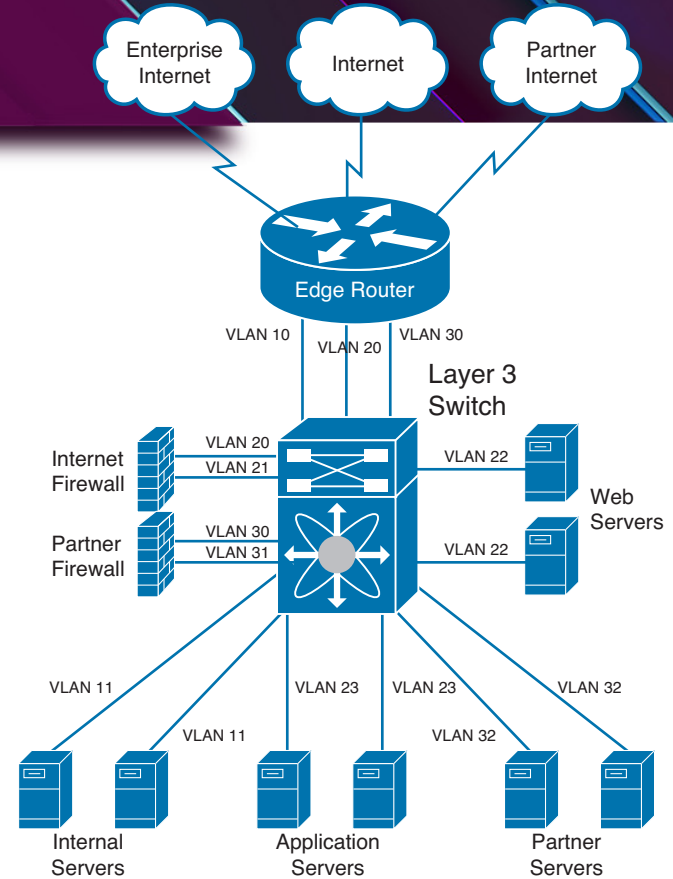
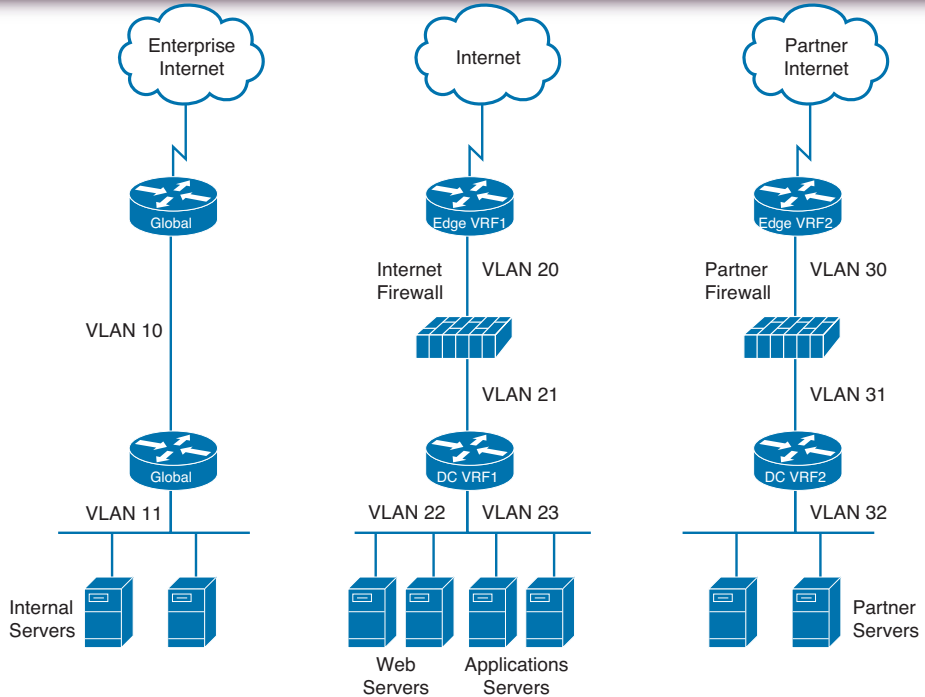
Routing and Forwarding Table



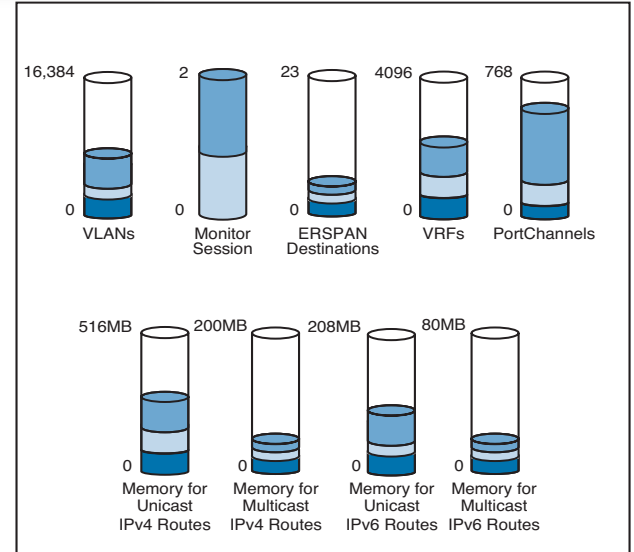
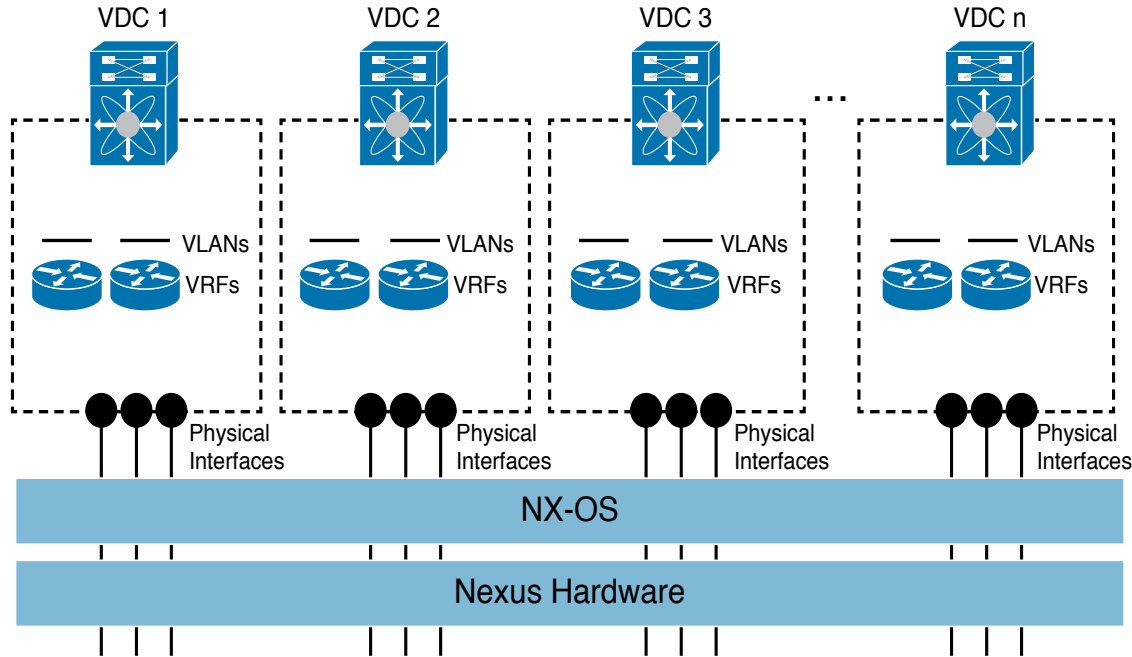
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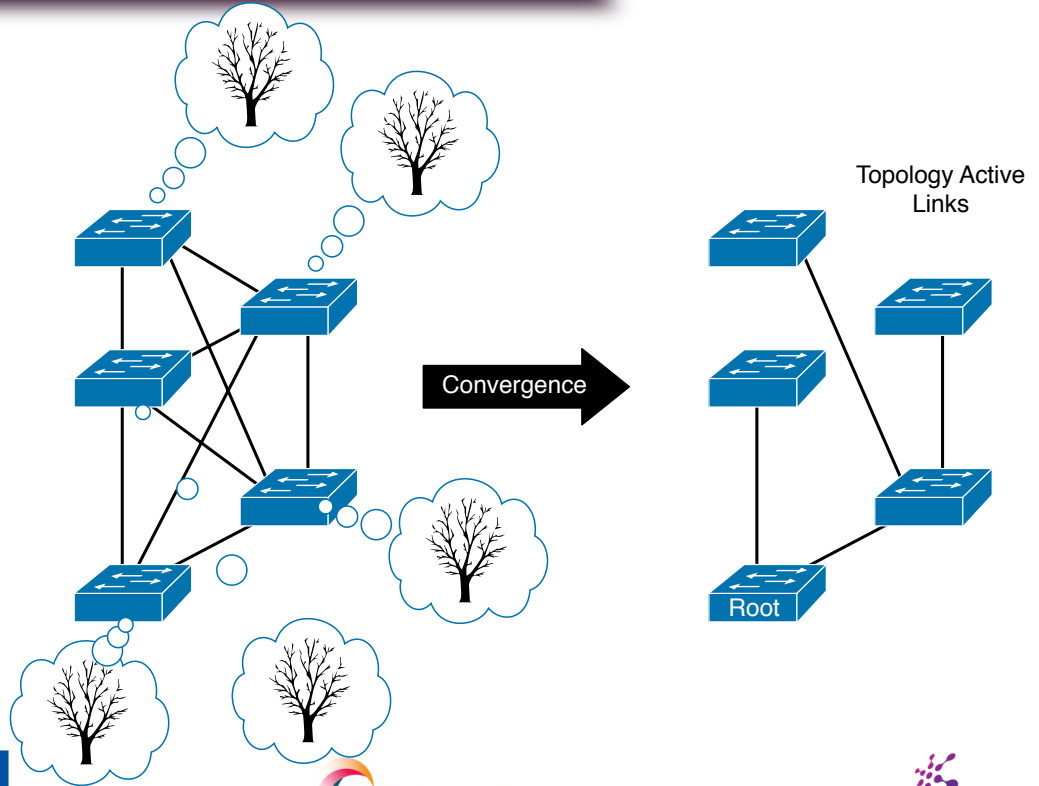
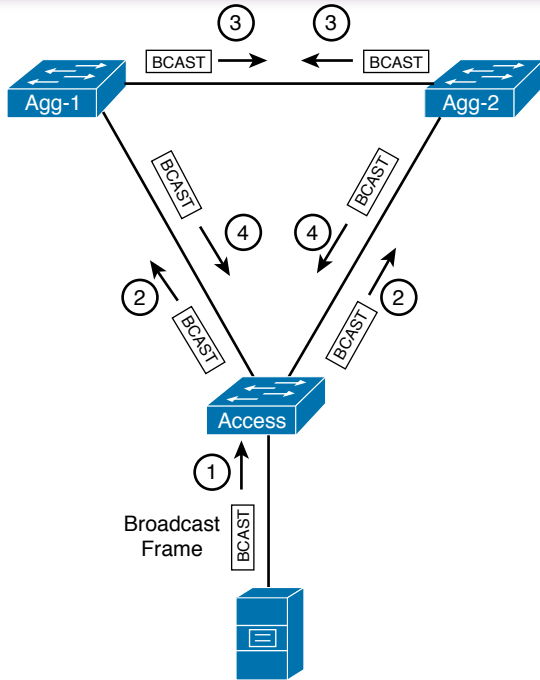
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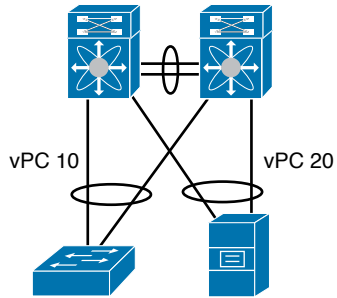


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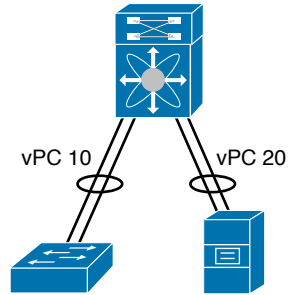


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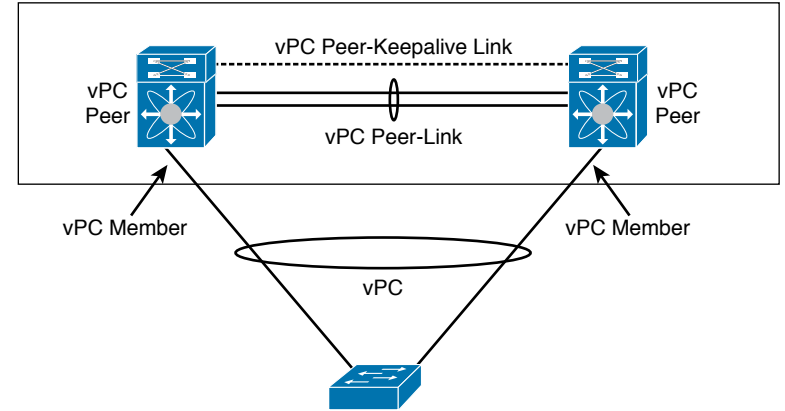
Physical Topology



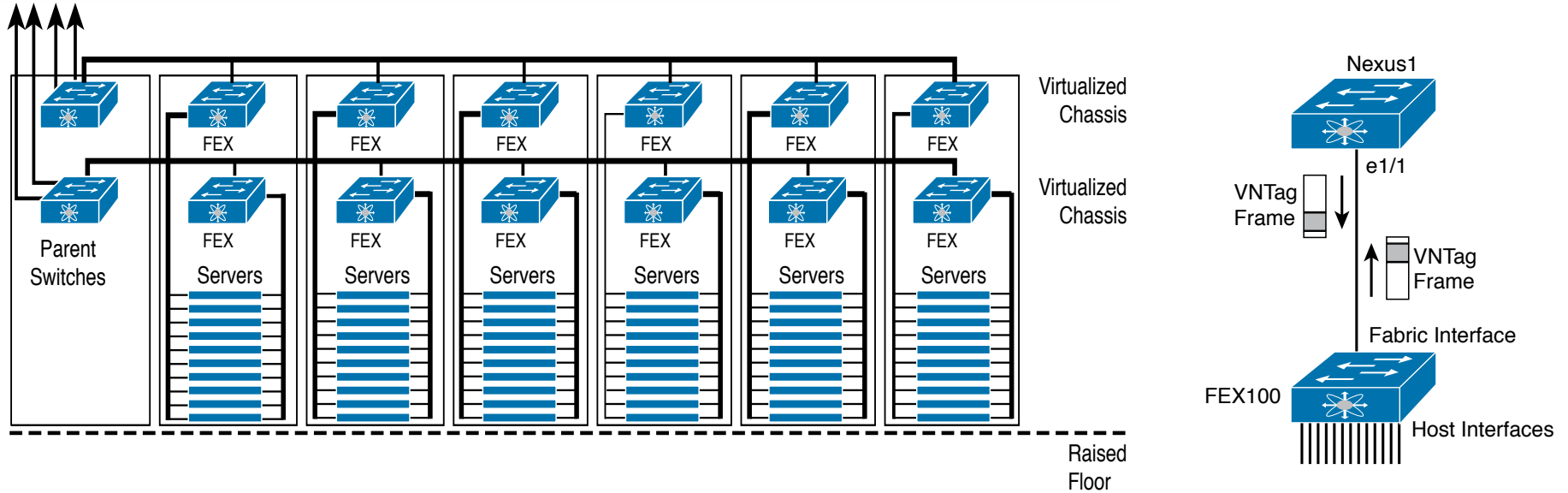
Logical Topology



vPC Domain

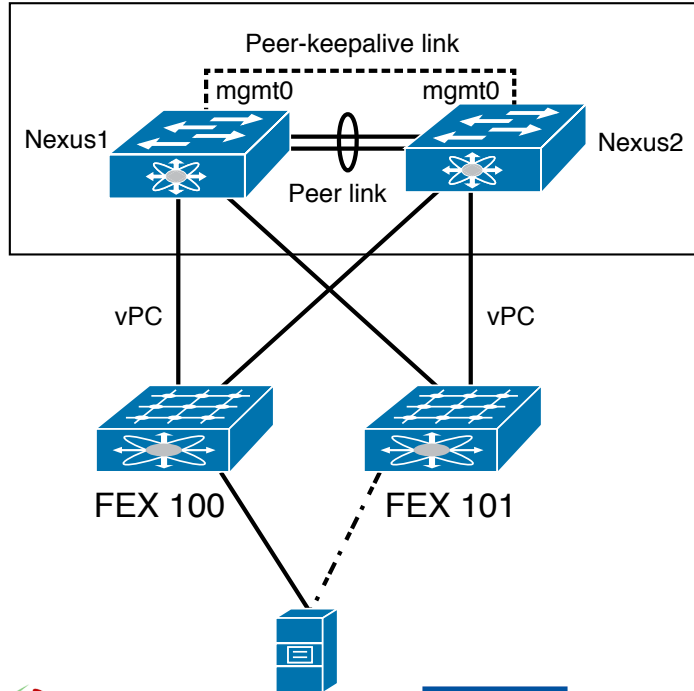


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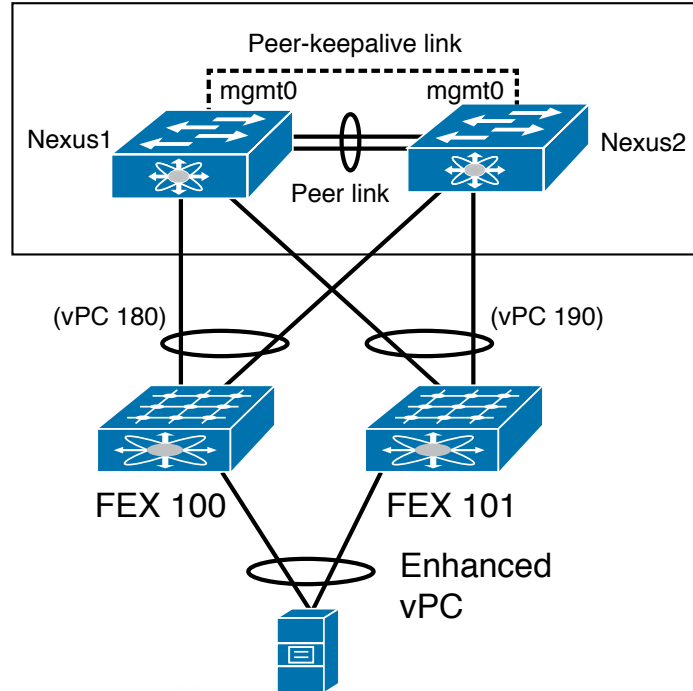


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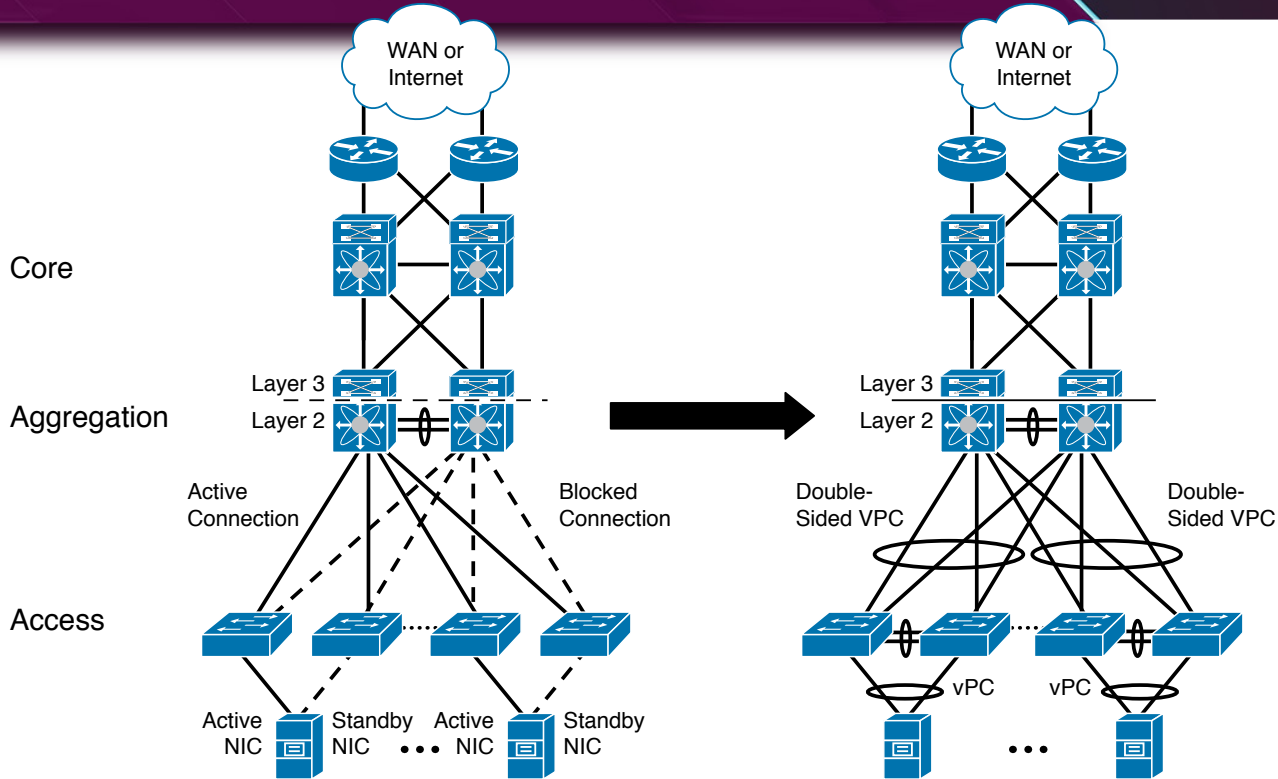
vPC Domain



vPC Domain



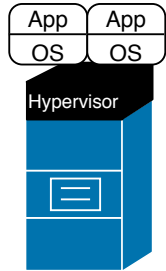
Network Virtualization



Network Virtualization

Server Vision

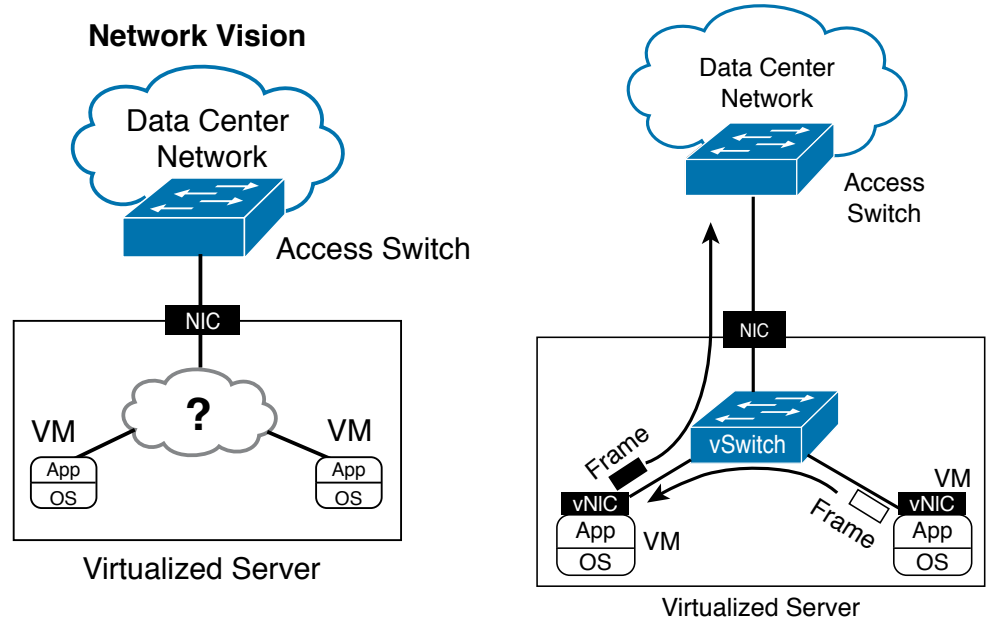
Virtual Machines



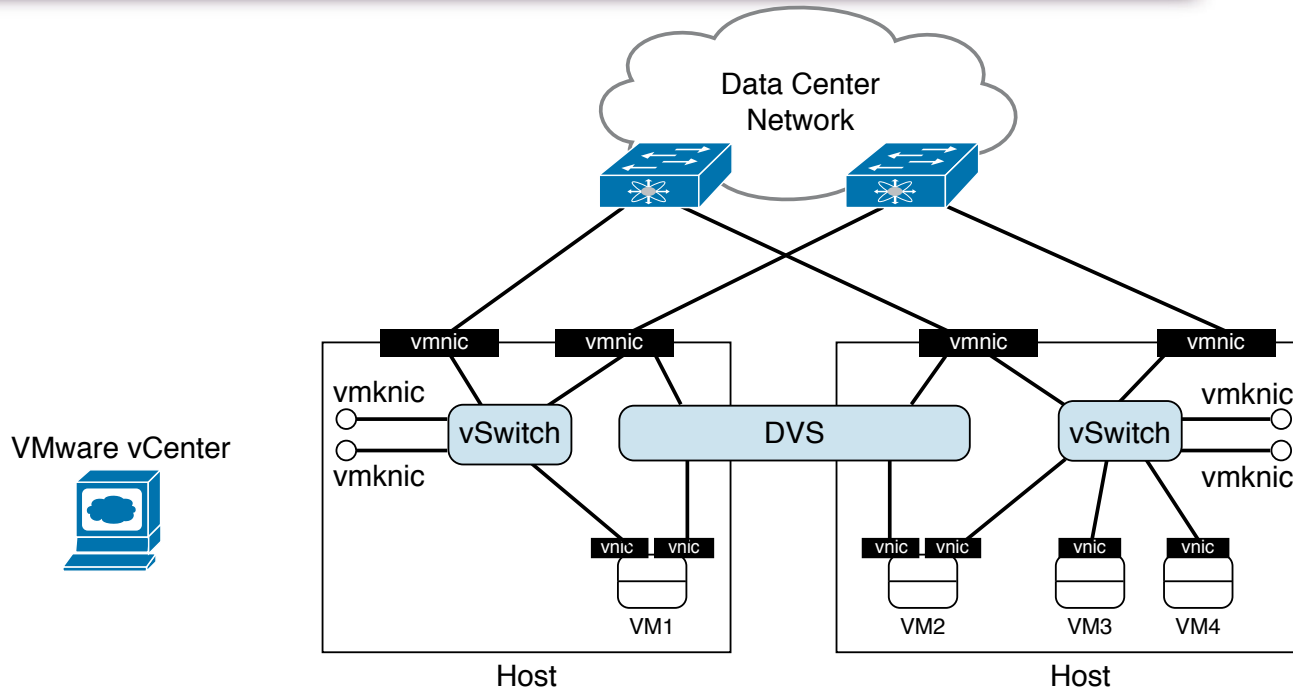
Virtualized Server

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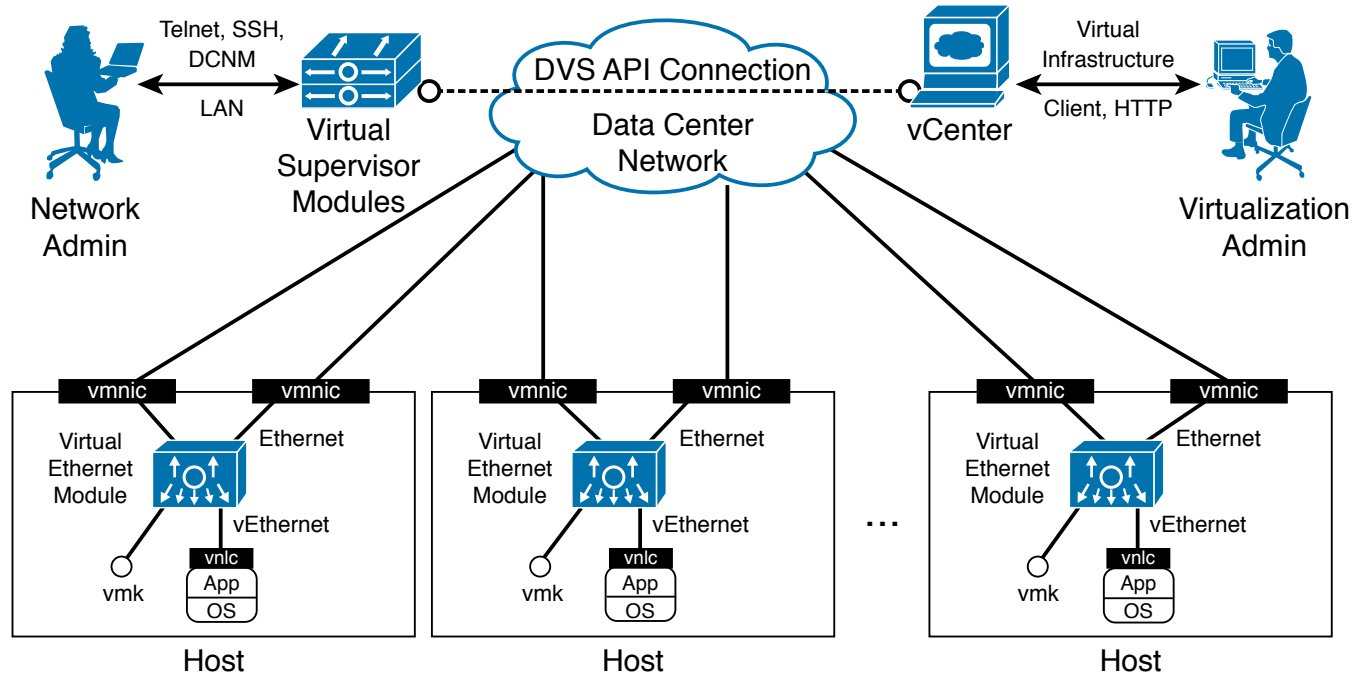
Network Vision



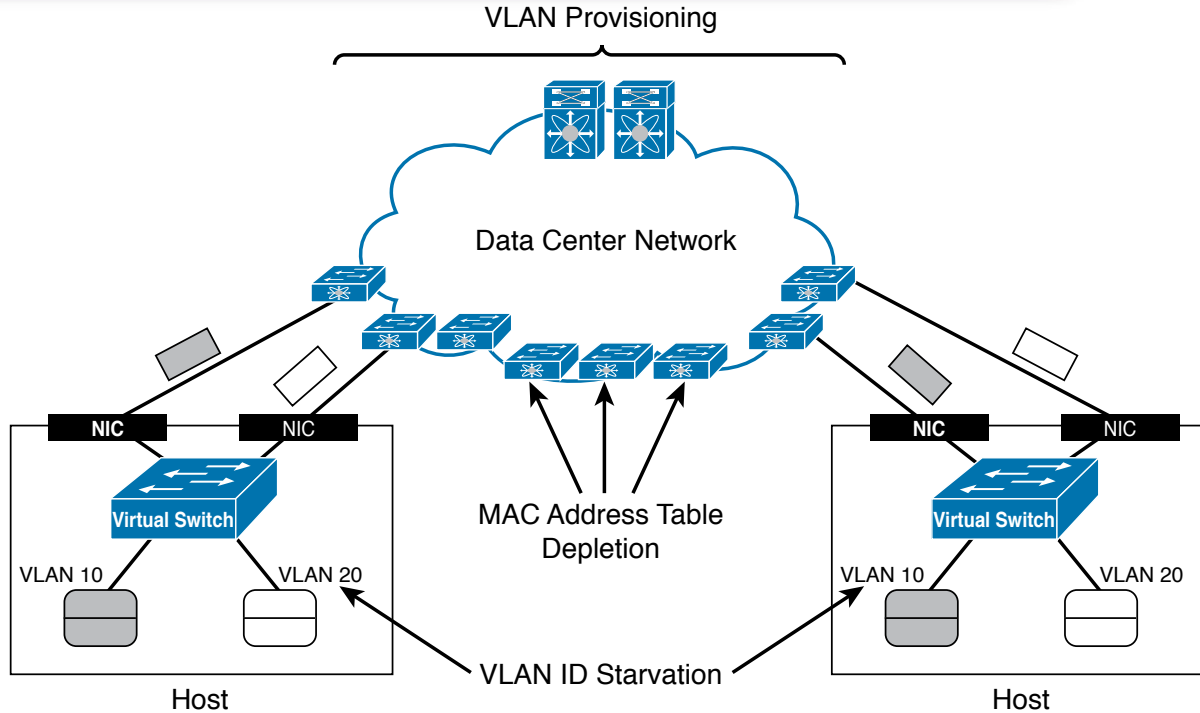
Network Virtualization



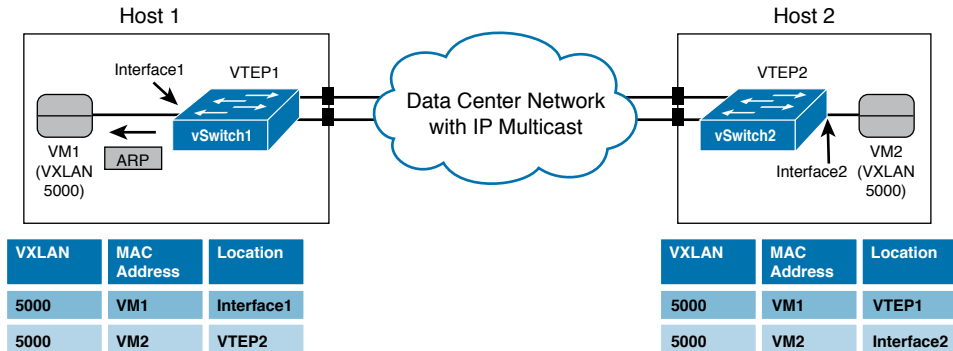
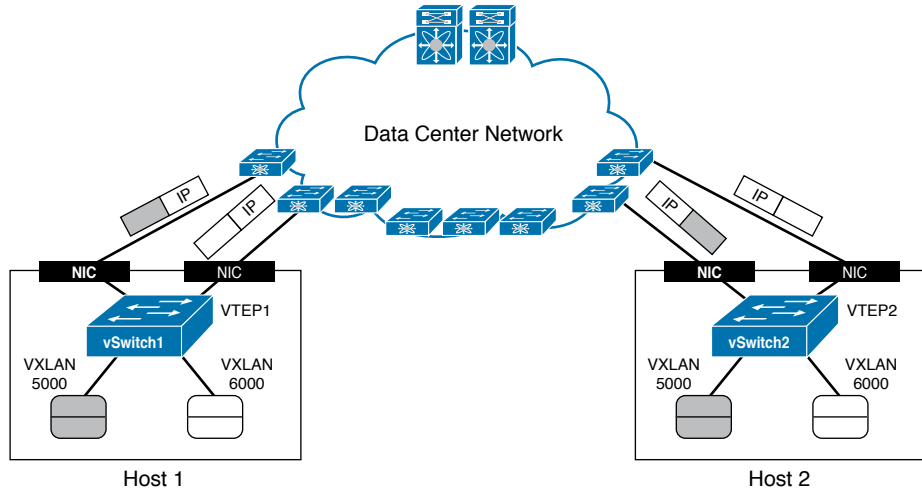
Network Virtualization



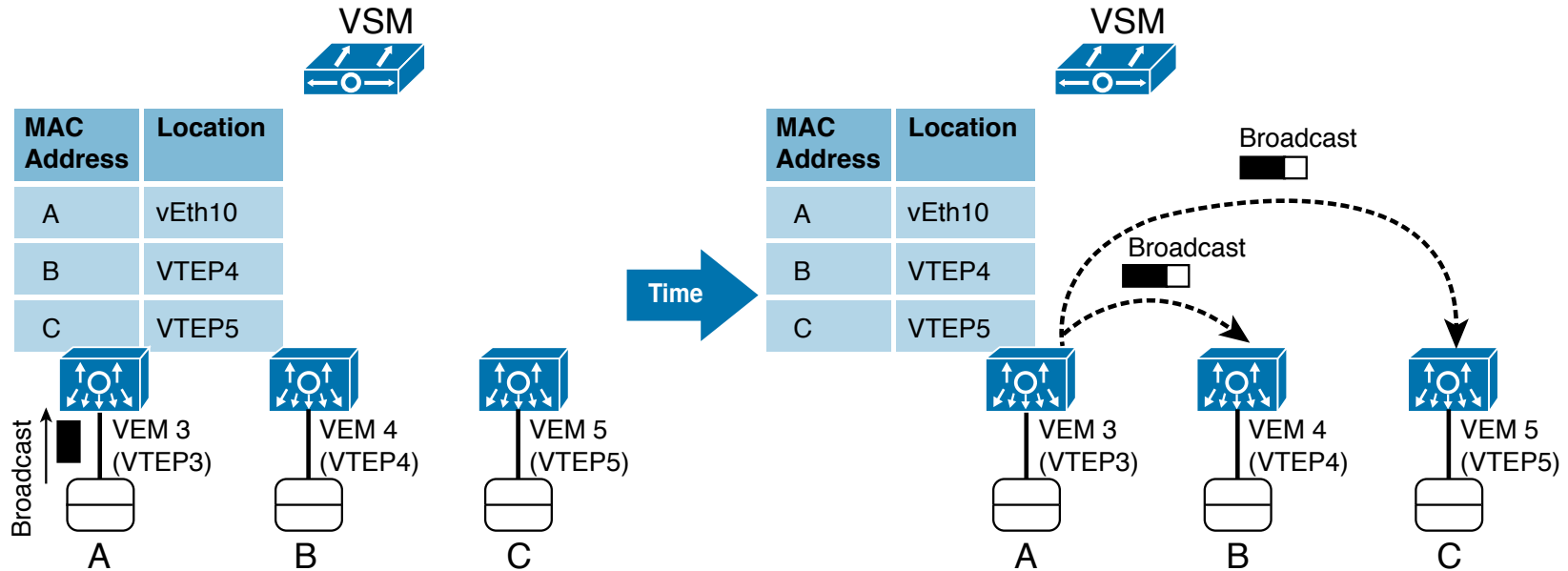
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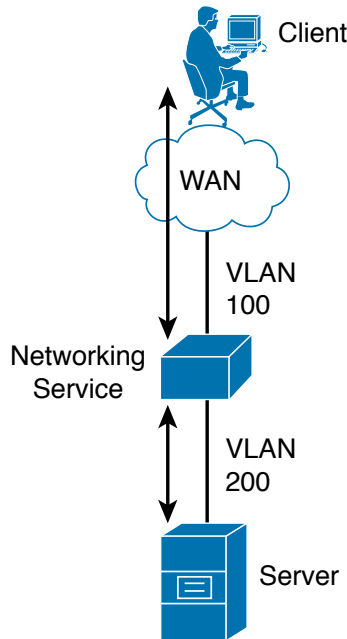


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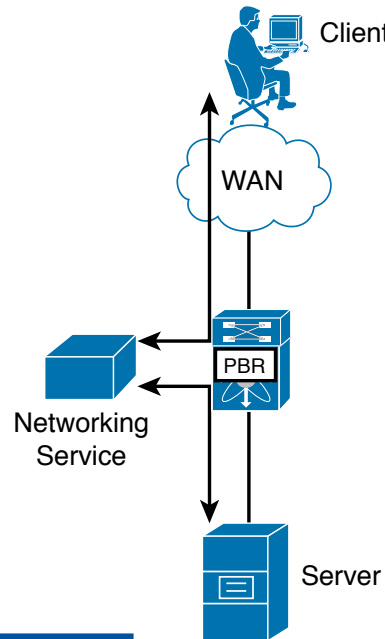


Virtual Networking Services

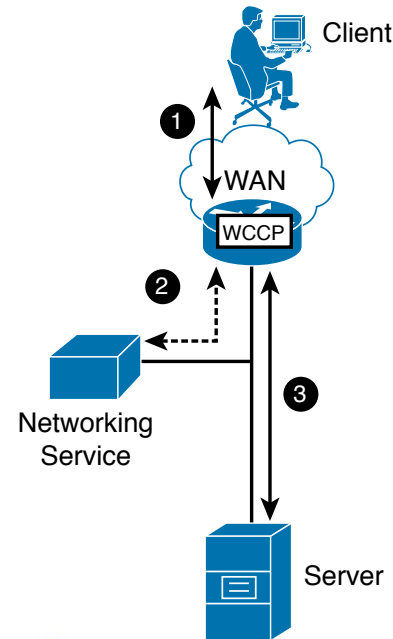
VLAN Manipulation



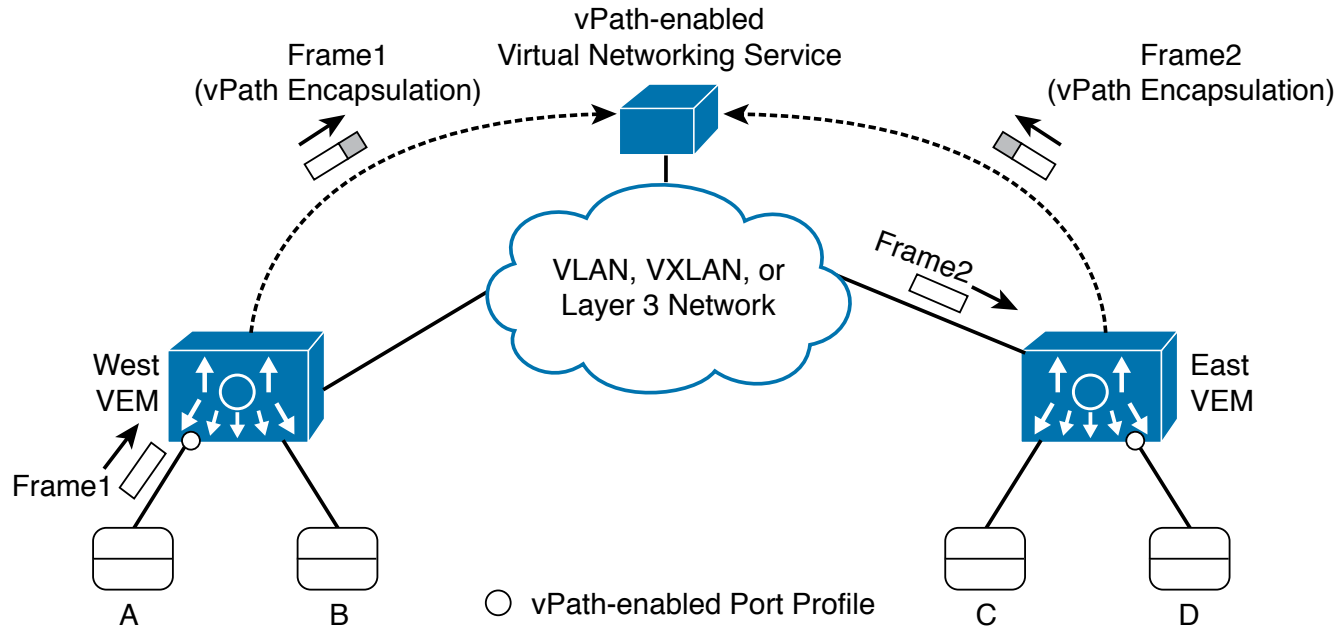
Policy-Based Router (PBR)



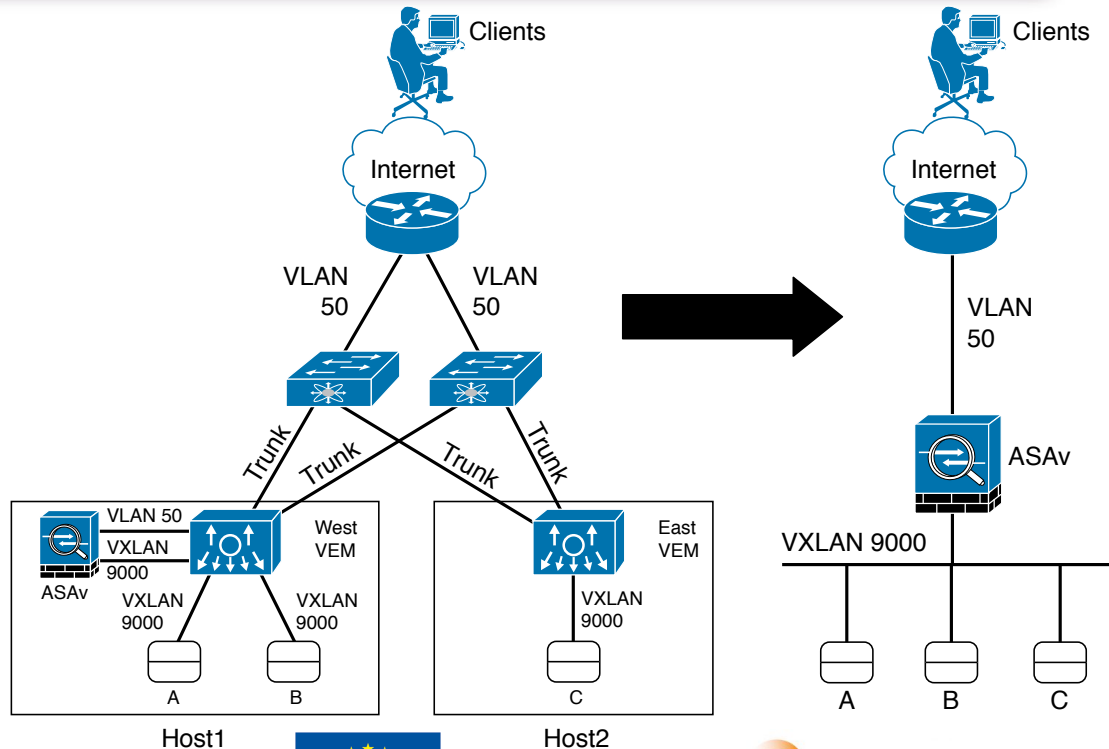
WCCP Reverse-Proxy



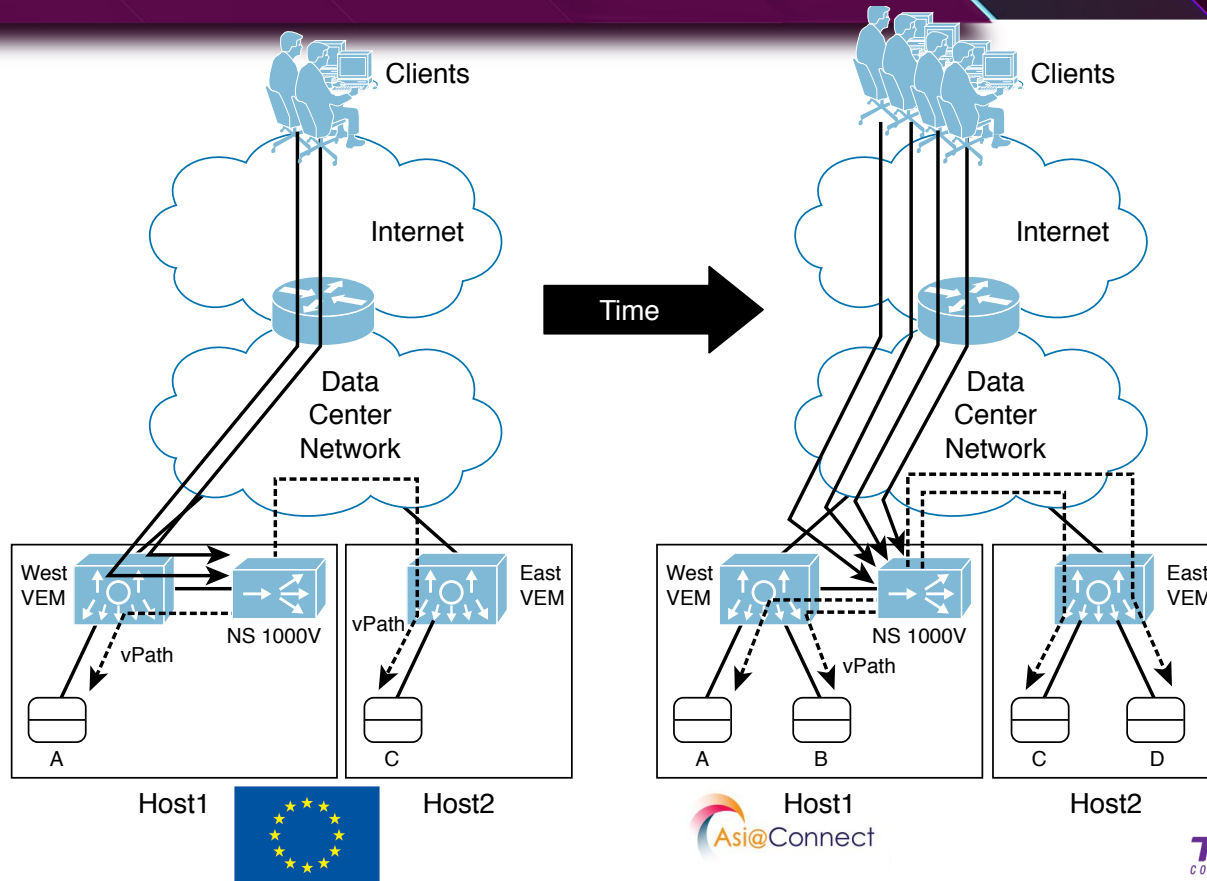
Virtual Networking Services



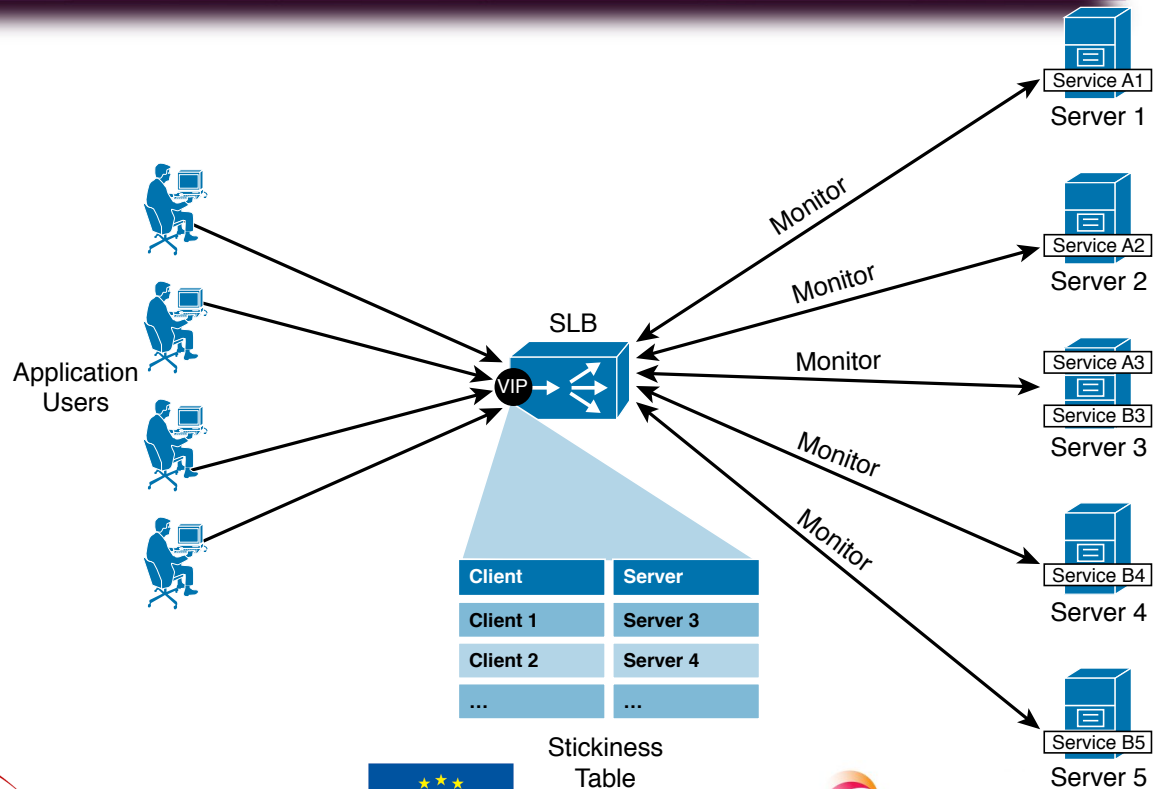
Virtual Networking Services



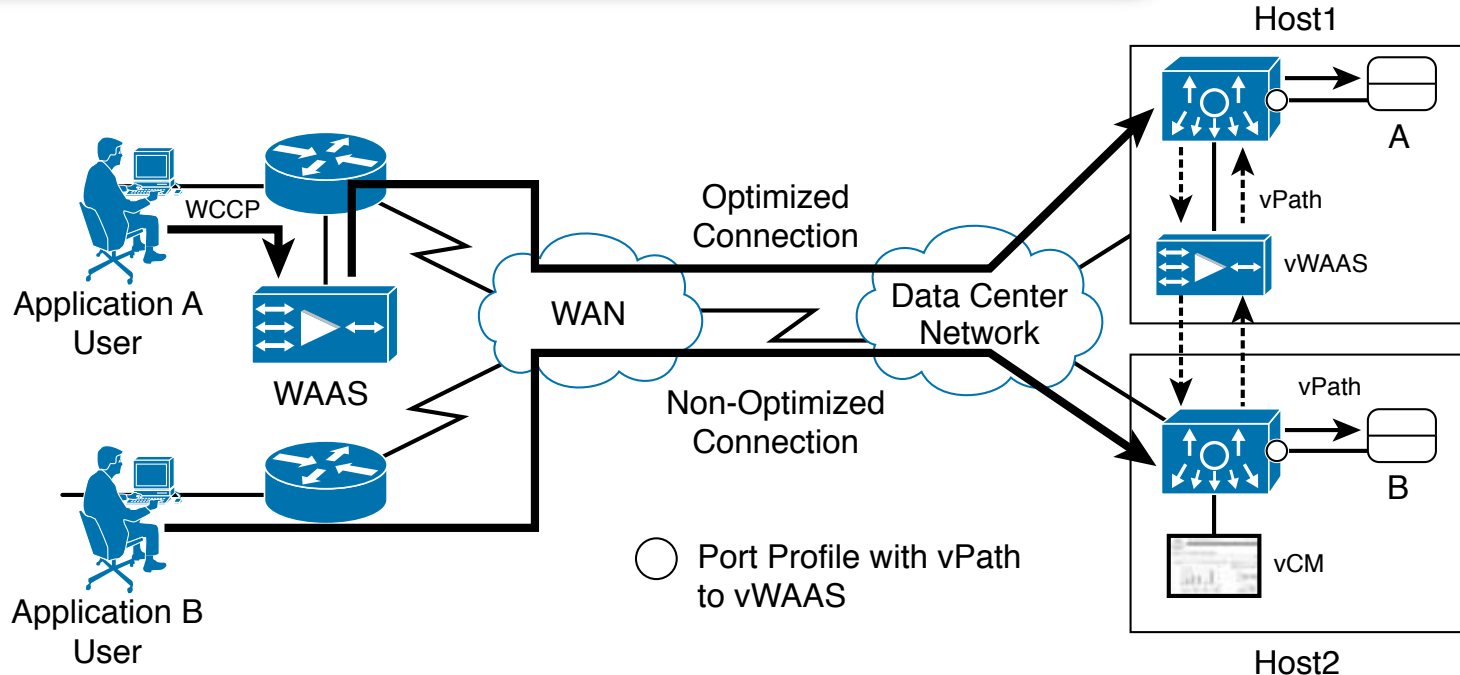
Virtual Networking Services



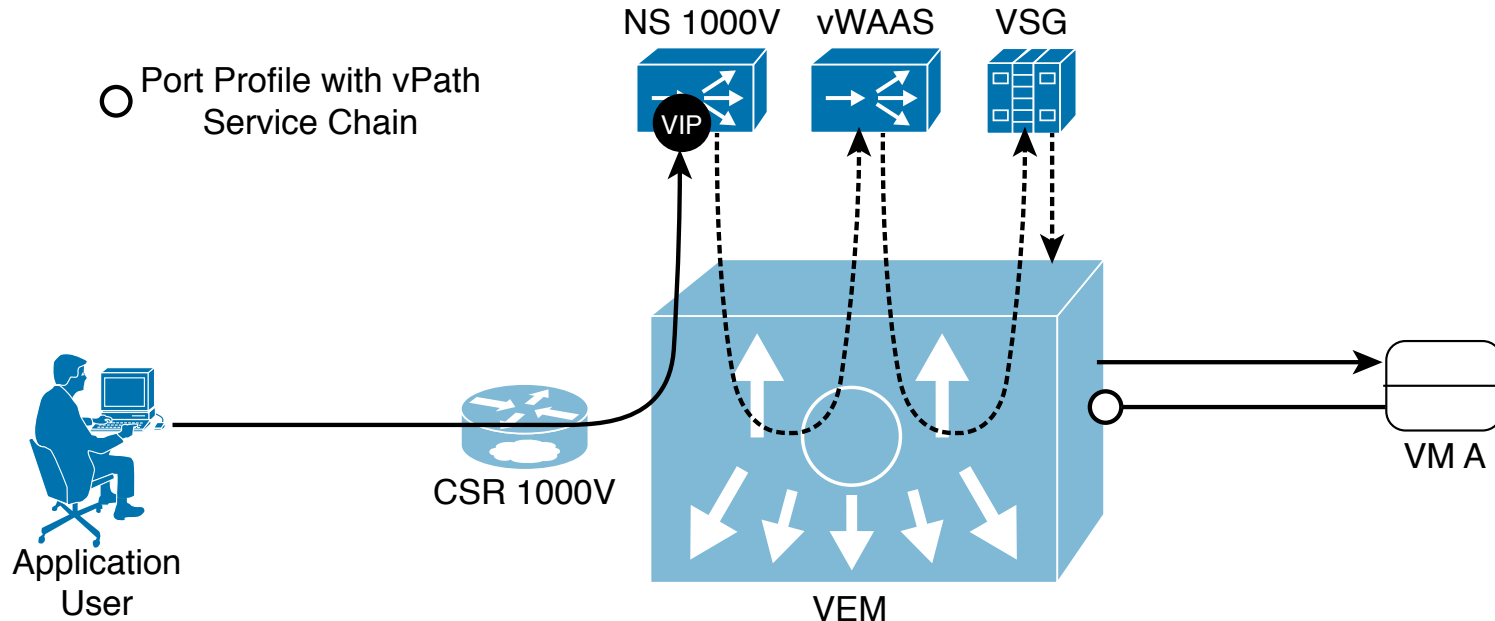
Virtual Networking Services



Virtual Networking Services



Virtual Networking Services



Virtual Networking Services

