ARISTA

Redefining Data Center Switching

UK Network Operators Group

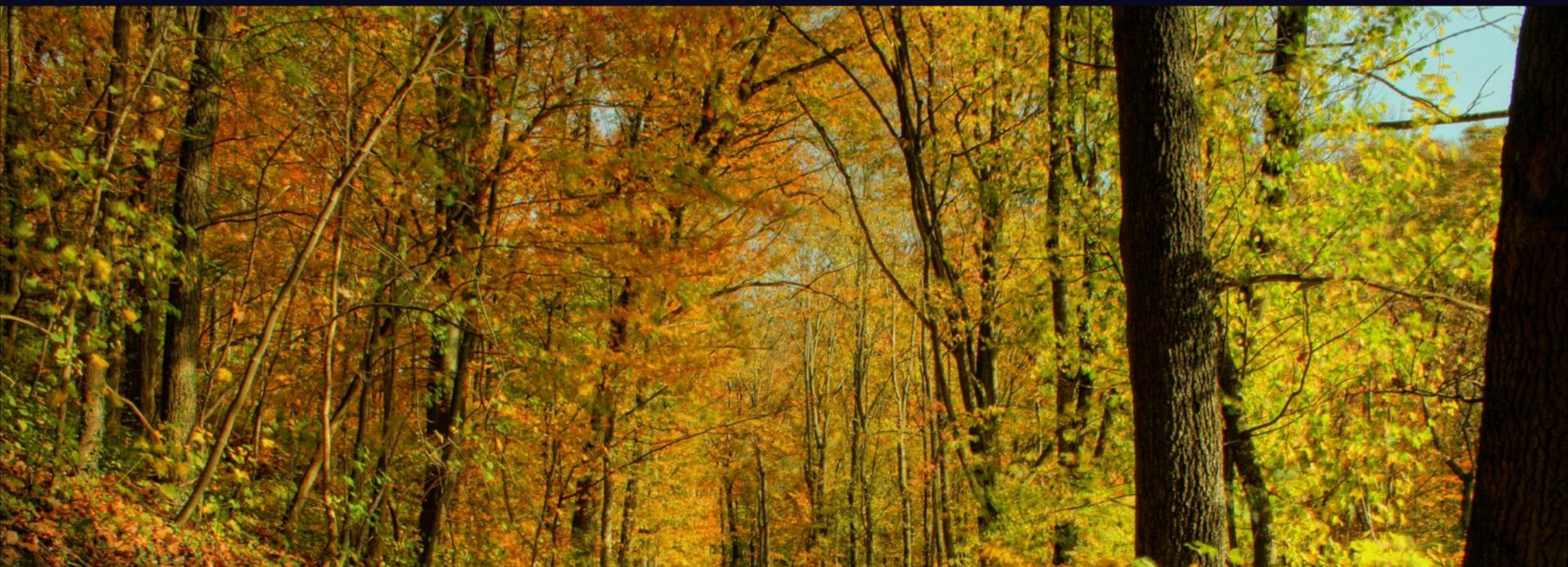
A bit about Arista Networks

10GbE Switches for the Virtualized Datacenter, but a software company at the core

>1200 Customers
>300 Employees
Profitable, self-funded, pre-IPO network infrastructure provider
Open Linux-based OS
Fully automated testing, and SW development

“Just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness.”

--Sun Tzu, The Art of War



Where to Use Arista Switches

Where your create competitive advantage through both infrastructure and applications

Sample Applications

- Hadoop Data Mining
- VM Farms/ Consolidation
- Private Clouds for developers
- VM Farms for Customer Service
- Equities Trading
- Risk Analysis
- Exploratory Geophysics
- Signals Intelligence

How is EOS Different?

- Lessons from Unix
- Lessons from IT
- Lessons from The Cloud
- Lessons from Competitors

How is EOS Different?

No Kernel Modifications

Truly Open Development Environment

Separation of State from Processing - more stable and self-healing architecture

Automate SW Builds, Testing, Interprocess Communications

Single Binary Image on all platforms

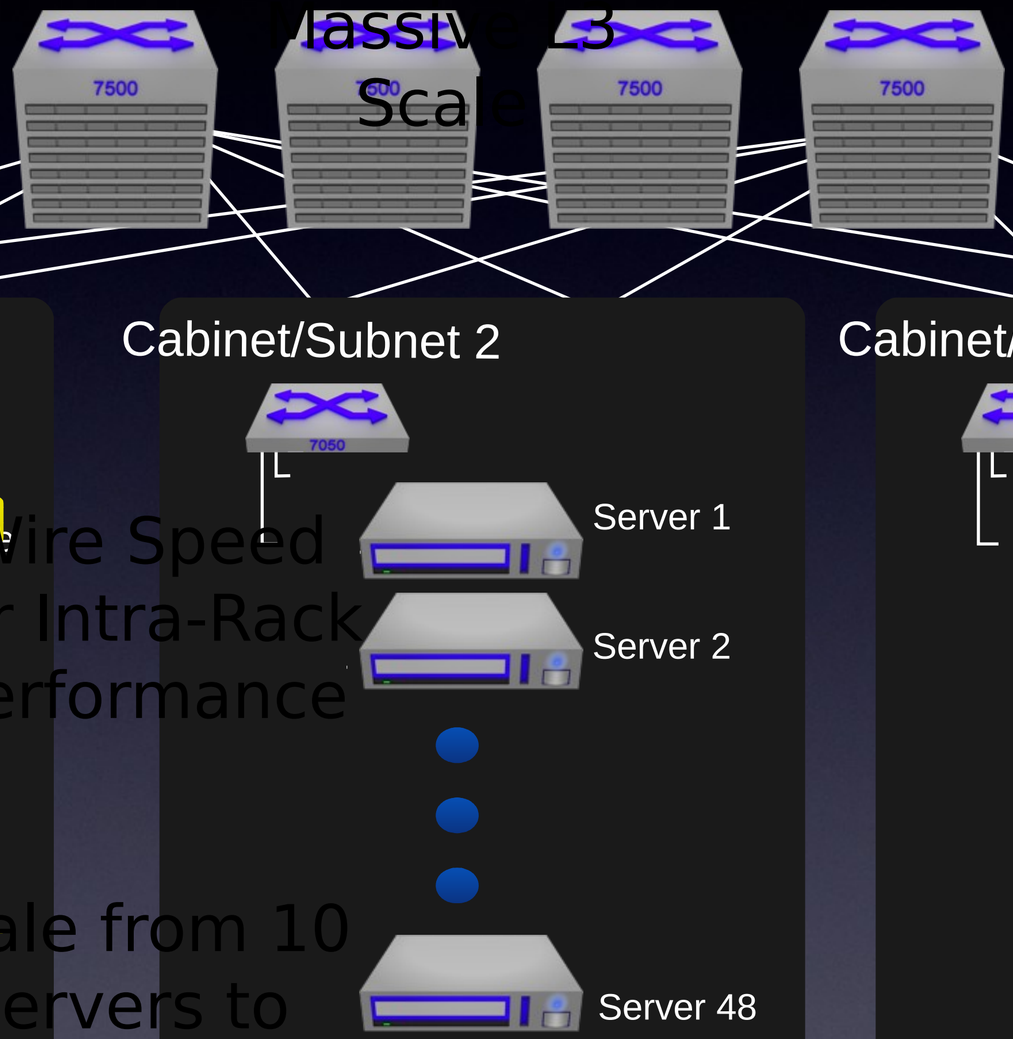
Focus on Simplifying Operations

What do Cloud Networks Look Like?

Active

Massive L3 Scale

Congestion Management



New Cabinets can be deployed with Zero Touch

VMware Integration

Wire Speed for Intra-Rack Performance

Servers can be bare-metal provisioned from network

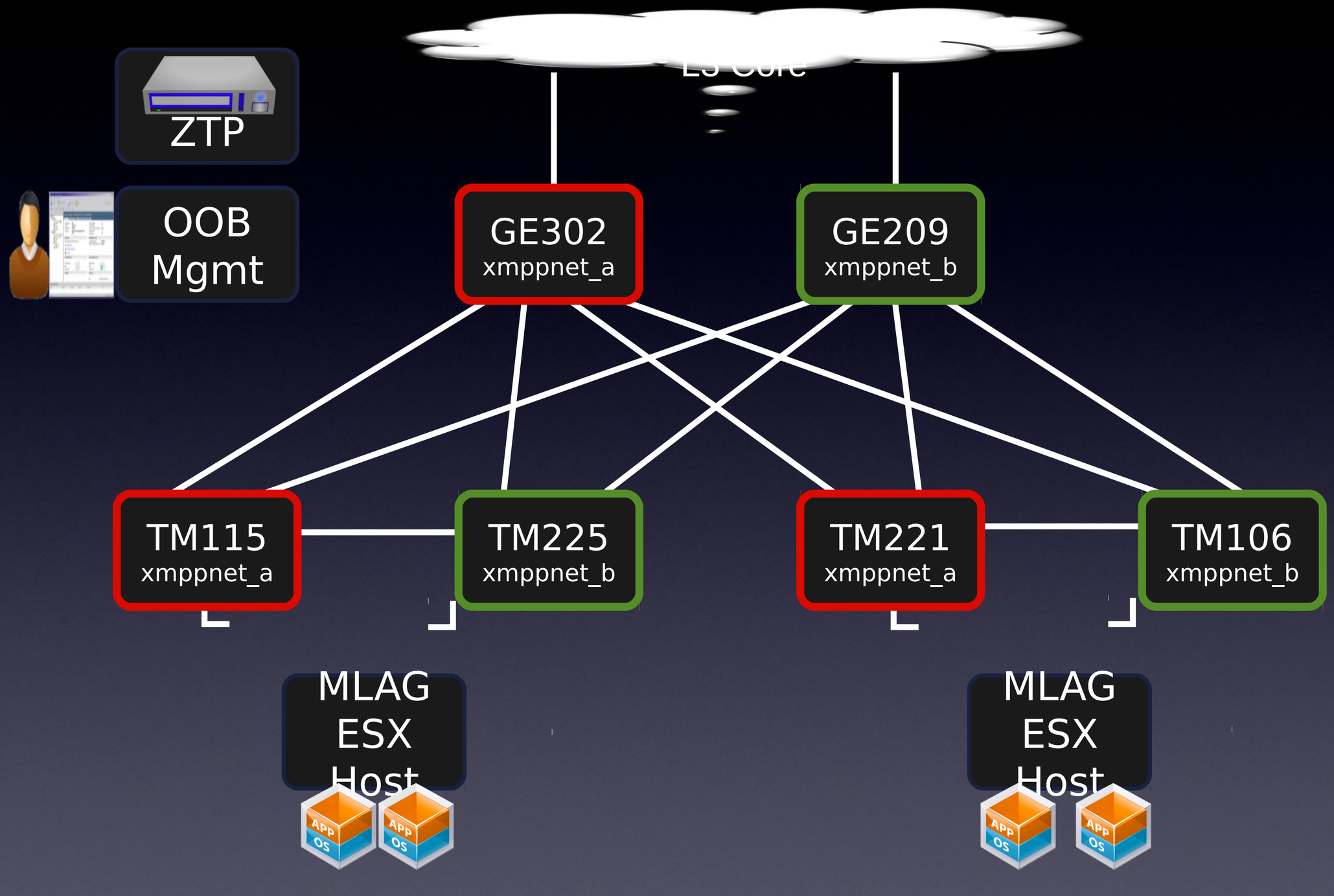
Scale from 10 servers to 100,000 Servers

Dual-Homed Host Support for Resilience

Workflow Based Development = Handsfree Automation

Upgrade Software
Replace failed hardware
Scale out capacity
Model configuration changes

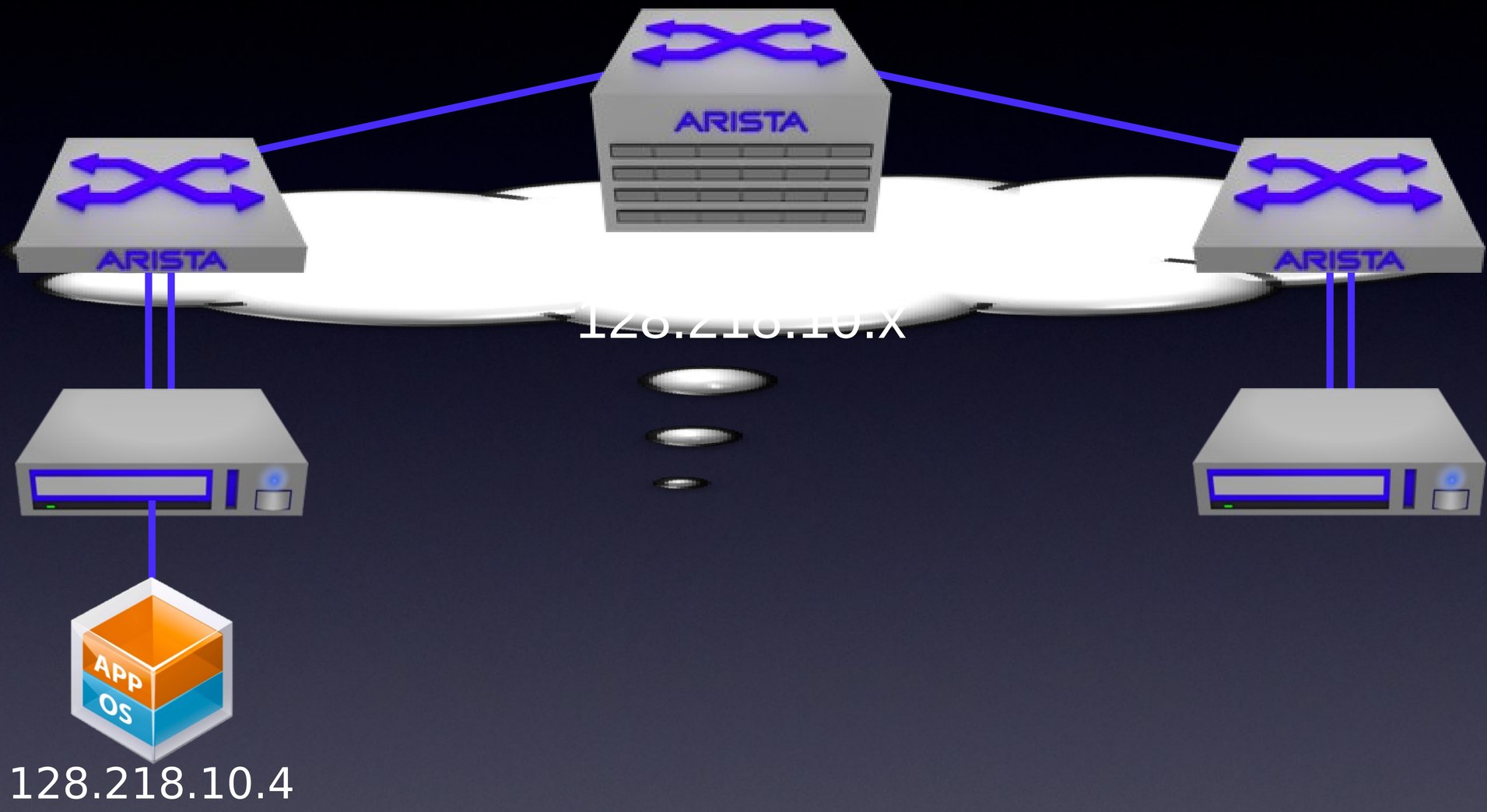
Upgrade Automation Demonstration



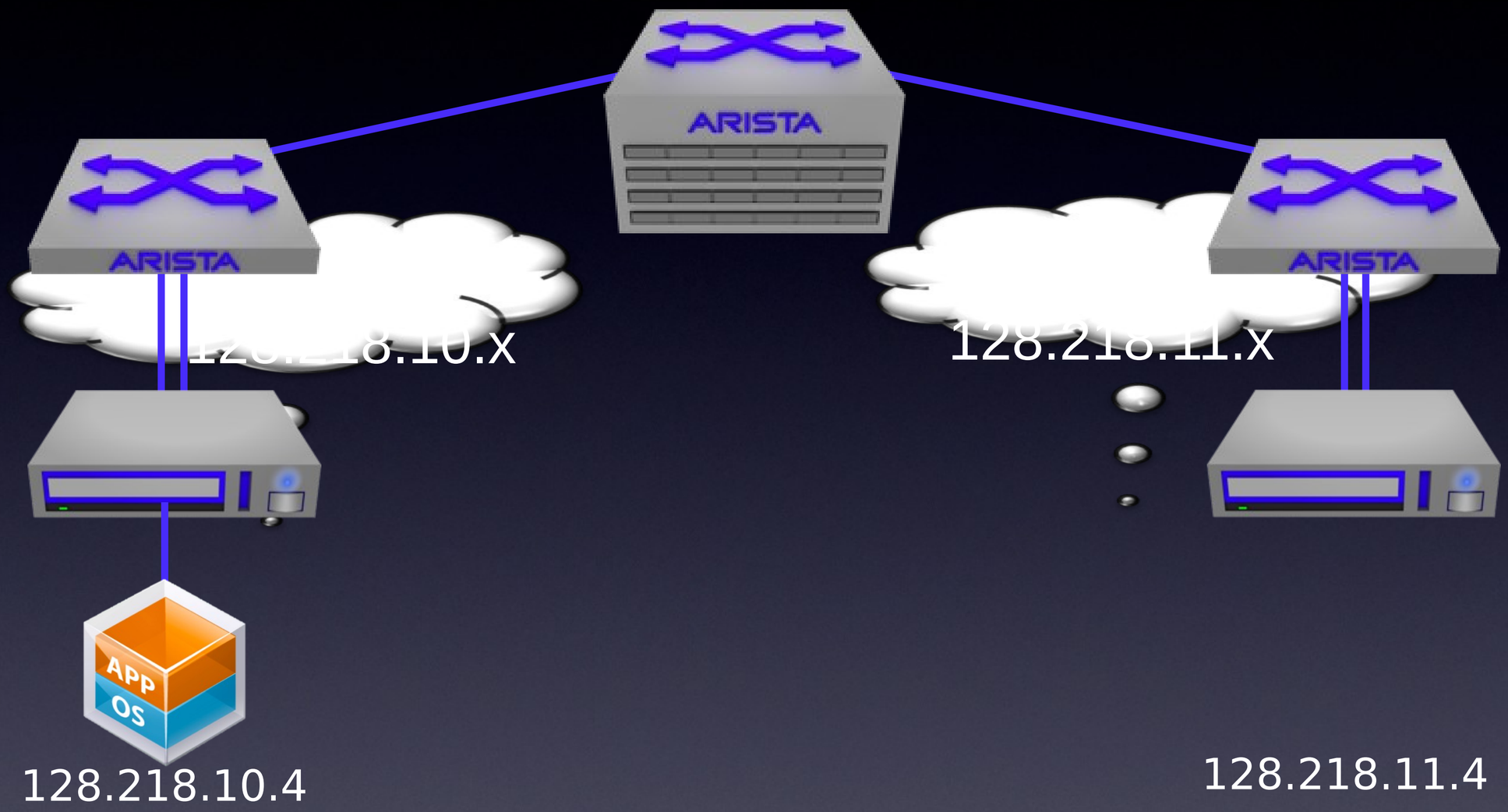
ARISTA

Redefining Data Center Switching

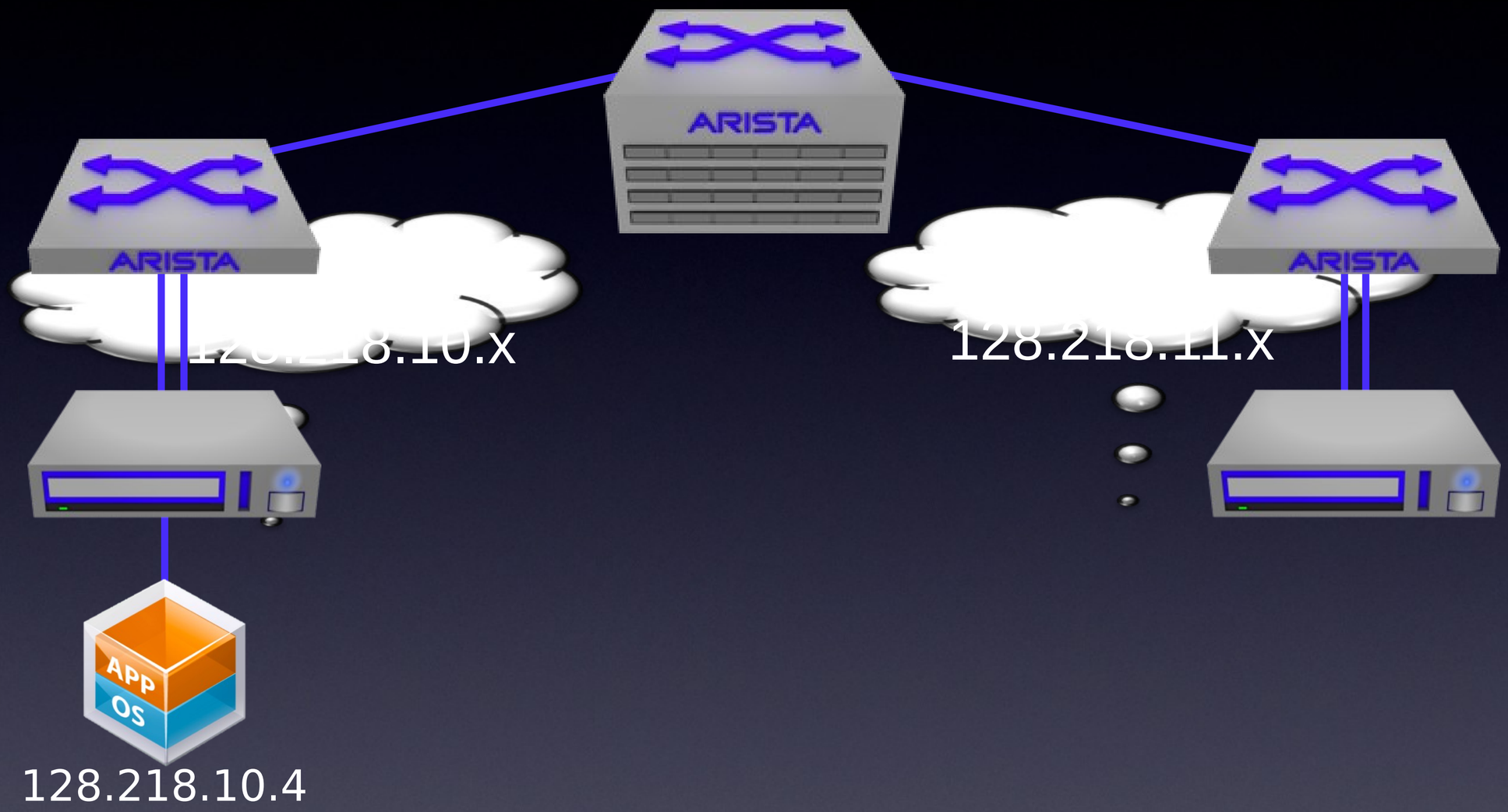
Traditional Stateful vMotion



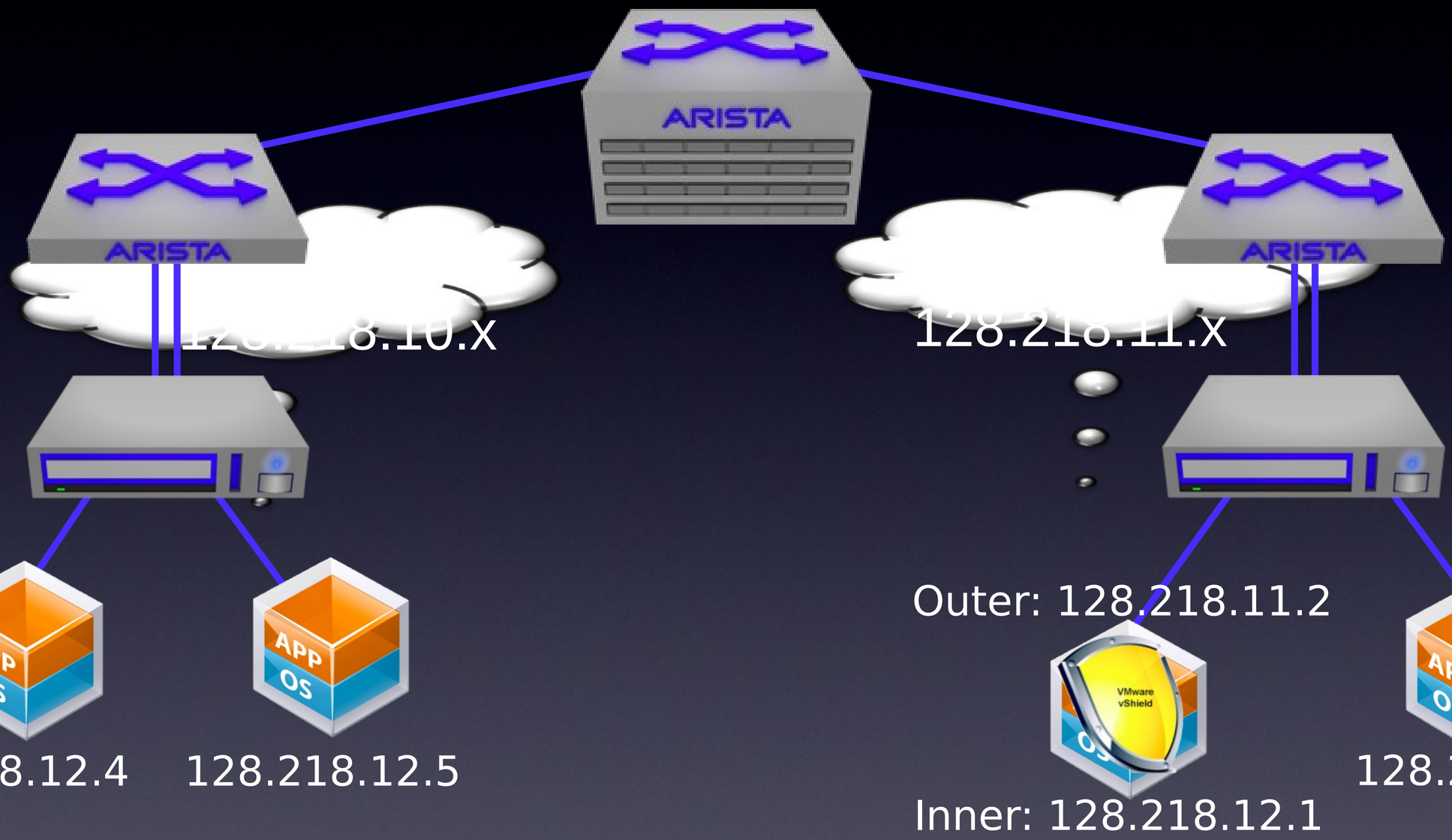
Non-Stateful vMotion Across L3 Subnets



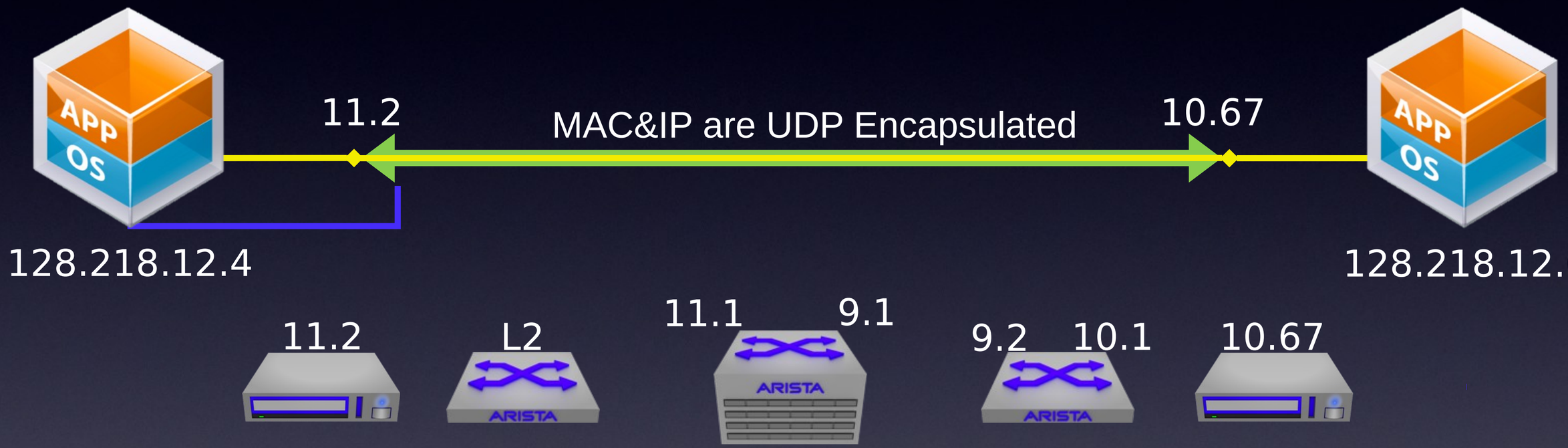
What Virtualization Admins Really Want!



Virtual eXtensible LAN



How does VXLAN work?



Encapsulation is transparent to traditional switch/router nodes

“VXLAN means I can put any VM, on any server, in seconds, software provisioned, without forklifting my network”

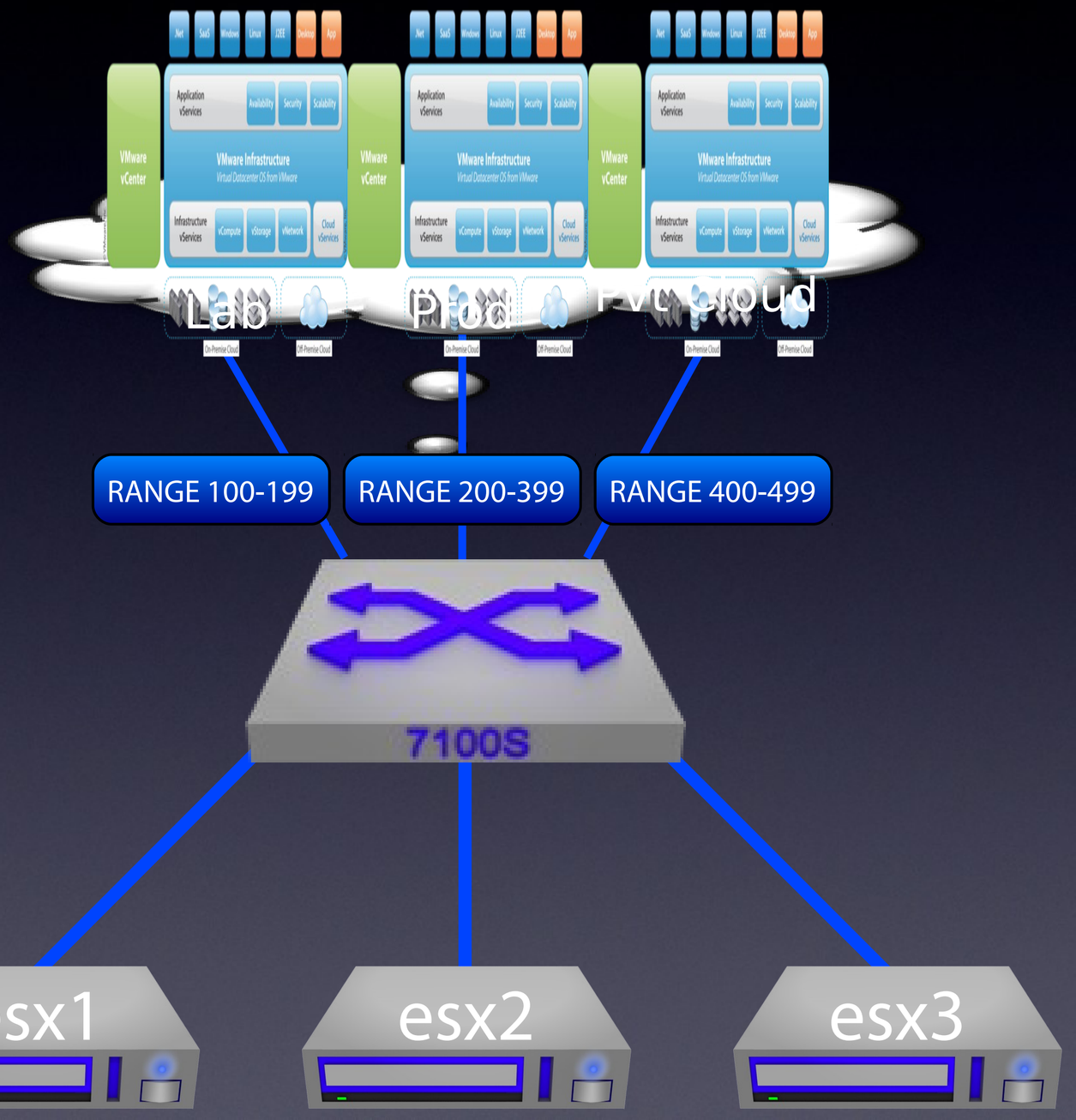
How do we troubleshoot a tunneled, encapsulated, multicast environment???

VM Tracer - Multi-Tenancy

Arista EOS can be connected to multiple vCenter instances

Each vCenter instance can be assigned a non-overlapping VLAN range that is supported for Adaptive Segmentation

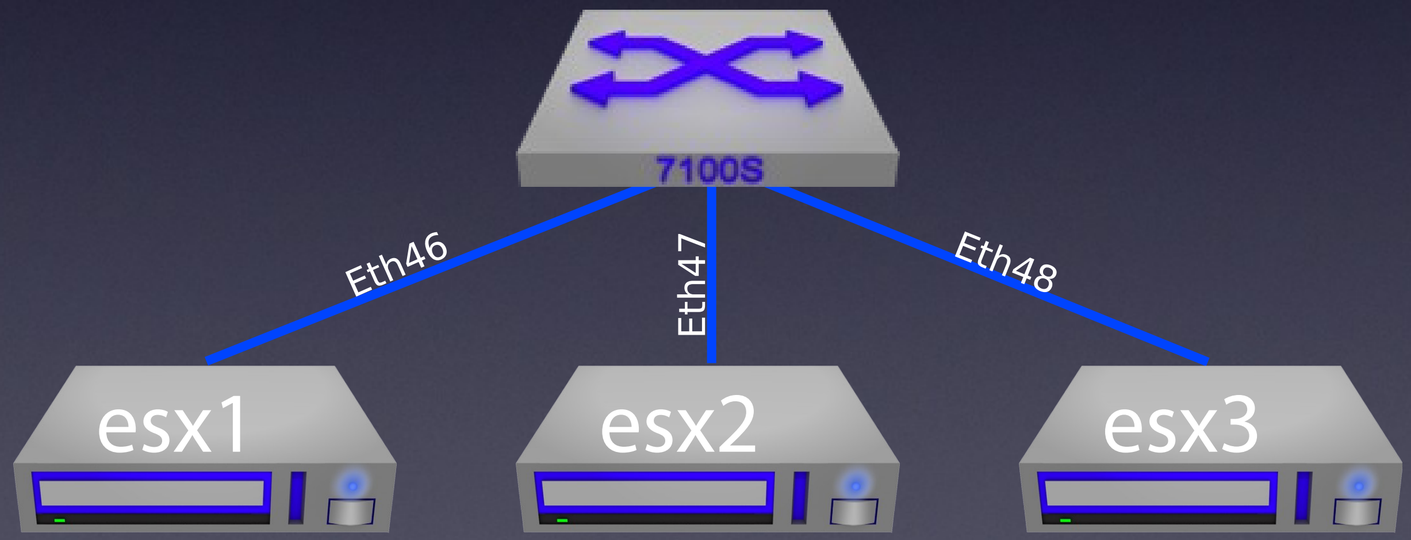
The attempted creation of a VM outside of the allowed VLAN range creates an alert/alarm in vCenter



VM Tracer - Host Discovery

```
show vmtracer interface host

Ethernet46 :       esx-1.aristanetworks.com
Manufacturer:      Dell Inc.
Model:             PowerEdge 2950
CPU type:          Intel(R) Xeon(R) CPU 5110 @ 1.60GHz
CPUs :             1
CPU Cores:         2
NIC Manufacturer:  NetXen
NIC Model:         NetXen NX3031 Dual Port SFP+ 10GbE Server Adapter
Service Tag:       ABCDEF1234
```



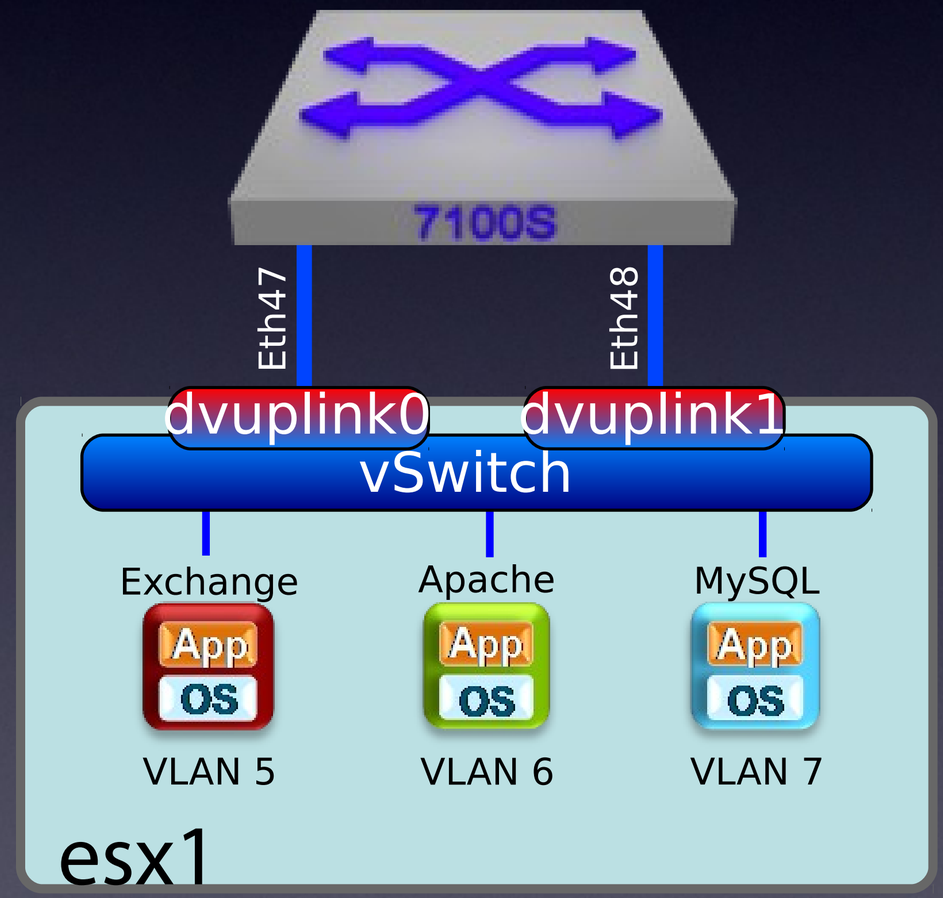
VM Tracer - VM Discovery

```
show vmtracer interface Ethernet48
```

Ethernet48:	esx1.aristanetworks.com/ndsTest/dvuplink1
Switchport	Host/Domain / vSwitch/Uplink

VM Name	Network Adapter	VLAN	Status	State
Exchange	Network adapter 4	7	up/up	--
Apache	Network adapter 3	6	up/up	vMotion
MySQL	Network adapter 1	5	up/up	FT-A

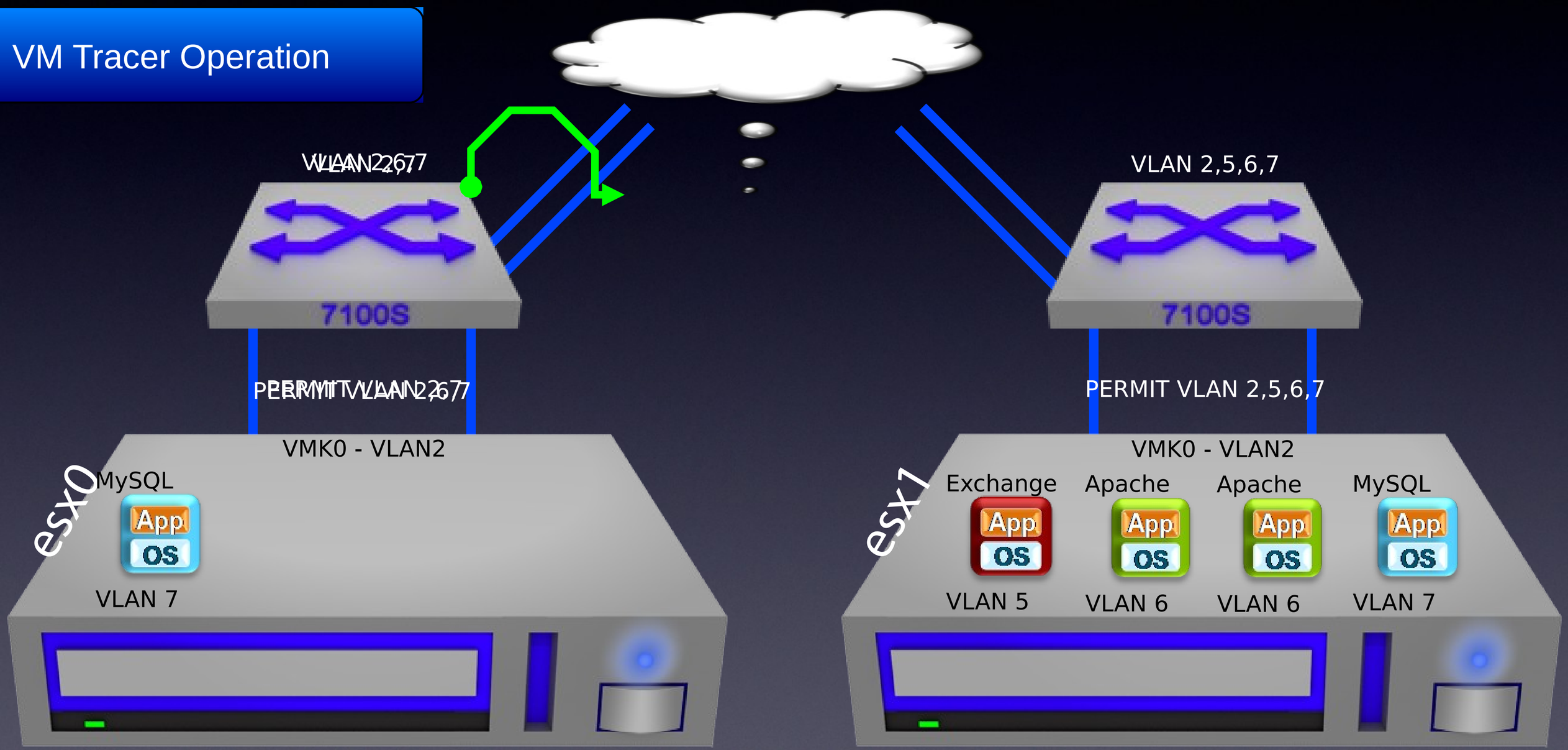
VM Name / Adapter Name / VLAN/Status/State



VM Tracer - VM Adaptive Segmentation

VM Tracer automatically creates, prunes, and un-prunes VLANs on 802.1q VLAN Trunks to ESX Hosts. Routed subnets are not auto-created for IP stability.

VM Tracer Operation



Automated Provisioning of VXLAN

Add Multicast Route

Setup Rendezvous Point

ARISTA

ARISTA

ARISTA

ARISTA

128.218.10.x

128.218.11.x

VNI Test: 224.0.0.12

APP

OS

APP

OS

VMware
vShield

APP

OS

APP

OS