Executive Summary

- Cisco is fully committed to virtual networking across multiple hypervisors and going forward containers

- Cisco is continuing to make significant investment in virtual networking R&D with hundreds of engineers

- Cisco Nexus 1000V will be supported in vSphere 6.0 and future versions of vSphere as well as Microsoft Hyper-V and RHAT/Canonical KVM hypervisors.

- Cisco is committed to supporting Nexus 1000V for its 10,000+ install base of customers.

- Cisco will continue to sell Nexus 1000V across multiple hypervisors for various cloud solutions

Nexus 1000V and VMware vSphere Support

- Nexus 1000V has been supported since vSphere 4.0 in 2009.

- Cisco and VMware have agreed to extend support of Nexus 1000V in vSphere 6.x and future releases
    - vSphere 6.0 is not GA yet (expected Q1CY15)
    - Validation/testing of Nexus 1000V is on-going between engineering teams , expect to be completed no later than vSphere 6.0 U1
    - Existing Nexus 1000V releases (5.2(1)SV3(1.x)) will be supported. Release date of compatible maintenance release will be announced later.

- VSUM will support vCenter 6.x and vSphere 6.x

vSphere 4.x	→ EOS 2014
vSphere 5.0 and 5.1	→ EOS 2016
vSphere 5.5	→ EOS 2018
vSphere 6.x	→

Note : End of Technical Guidance is 2 years after End of Support (EOS) date

Cisco Continues to Sell and Support Contracts for Nexus 1000V

- VMware had resold Nexus 1000V licenses (via ELA) as well as supported Nexus 1000V through their support organization

- VMware has announced the following: (Effective Feb 2nd 2015)
  - Stop selling Nexus 1000V licenses (via ELA)
  - Stop selling new VMware support contracts
  - Stop renewing VMware Support contracts
  - Will continue to support existing support contracts

- Cisco and its reseller partners (including VCE) will continue to sell Nexus 1000V licenses and support contracts

- Cisco encourages customers who have expiring VMware support contract to migrate the contract over to Cisco for continued support.
- Please reach out to your account team for assistance

Cisco Nexus 1000V Update

Multi-Hypervisor License – Allows use of licenses on any Hypervisor

Multi-Hypervisor License

Choose one and migrate to another hypervisor in future

- One License to use/re-use across multiple hypervisors
- VSG Release 2(2.2) onwards do not need a separate VSG license

Nexus 1000V for vSphere.
Version 3.1 – Scale, Secure and Simplify

✓ Increased Scalability – Host Scale, VxLAN scale, VM scale

✓ Increased Security – Cisco Trustsec 2.0, Virtual Security Gateway (VSG)

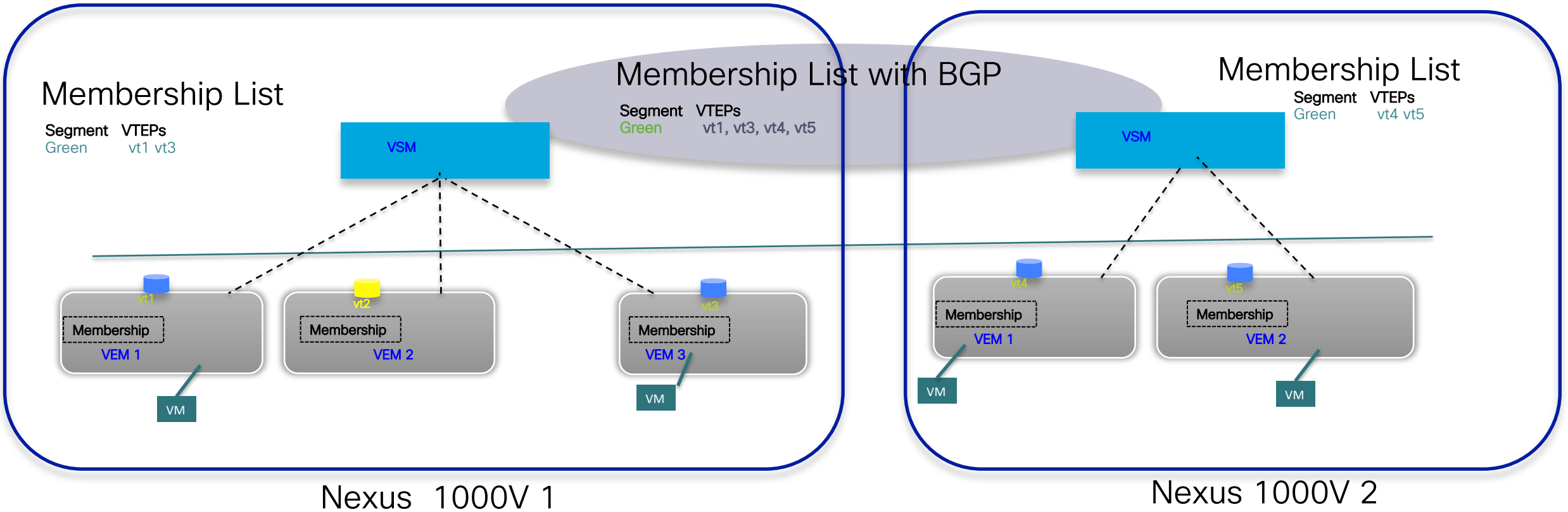✓ Cisco VSUM – simplifies installation, upgrade and monitoring

Nexus 1000V Increased Scale for Larger Deployment

Feature	Details
Number of servers/hosts per switch	250 hosts/servers
Number of ports per switch	10,000 ports per switch
Number of vEth ports per server/hosts	1000 ports per host/server
Active Vlans per switch	4094 VLANS
Active VXLAN per switch	6000 VXLAN
Number of Port Profile per switch	6000 port profiles
Domain Id's	1 to 1023
VXLAN G/W Pairs	8 pairs per switch
VXLAN G/W Pair per server/host	Associated to one G/W pair
Number of VXLAN Mapping per G/W	512 mappings

New Features in 3.1 Release – Scale and Core

Area	Feature	Details
Scale	VXLAN Control Plane (Advanced Edition)	• VXLAN segments across data centers/multiple DVS • VTEP distribution across multiple N1KV DVS
	Distributed Netflow	• Netflows are directly transmitted by VEM to Netflow Collector providing for improved scale. 2K flows per host
Core Feature	Feature Privilege	• Enables privilege of roles for command authorization using TACACS and RADUS server
	IPV6 ACL	• Provides ACL supports for IPv6 Payload

Scaling VXLAN – Extending VXLAN across Nexus 1000V

Membership List with BGP

Segment	VTEPs
Green	vt1, vt3, vt4, vt5

Membership List

Segment	VTEPs
Green	vt1 vt3

Membership List

Segment	VTEPs
Green	vt4 vt5

VSM

VSM

vt1

vt2

vt3

Membership
VEM 1

Membership
VEM 2

Membership
VEM 3

VM

VM

vt4

vt5

Membership
VEM 1

Membership
VEM 2

VM

VM

Nexus 1000V 1

Nexus 1000V 2

- Segments can extend across multiple VSMs

- Built based on Single VSM model

- VSMs distribute the information among them using BGP

- VSM and VEMs will continue to exchange information using AIPC like single VSM mode

New Features in 3.1– Enhanced Security

| Area	Feature	Details
Security	Cisco TrustSec 2.0 (Advanced Edition)	• SGACL support (Enforcement) • Native SGT tagging
	BPDU Guard (Advanced Edition)	• Enables N1KV veth ports as edge port and protect the upstream network receiving the unwanted stp bpdu packets sent by a rouge vm
	Storm Control (Advanced Edition)	• Protecting server/host CPU by rate limiting broadcast, **multicast** and unknown unicast(BUM) traffic on both vEth and pNic • User configurable options
	Port Security Offload	• Port Security feature is offloaded to VEM. Securing Mac's, violation action are done in VEM, providing enhanced security for the server
	New security framework for VSM – VEM communication	• Enhance Secure communication between VSM and VEM • Supported in L3 mode and enabled by default

Enhanced Out of Box Experience
Cisco Virtual Switch Update Manager

Install & Migrate

- Easily install the Nexus1000V & Cisco AVS using vSphere web client
- Smoothly migrate vSwitch/VDS to N1KV

Upgrade & Monitor

- Upgrade the Nexus1000V and AVS(multiple hosts allowed).
- Easily monitor your virtual network.
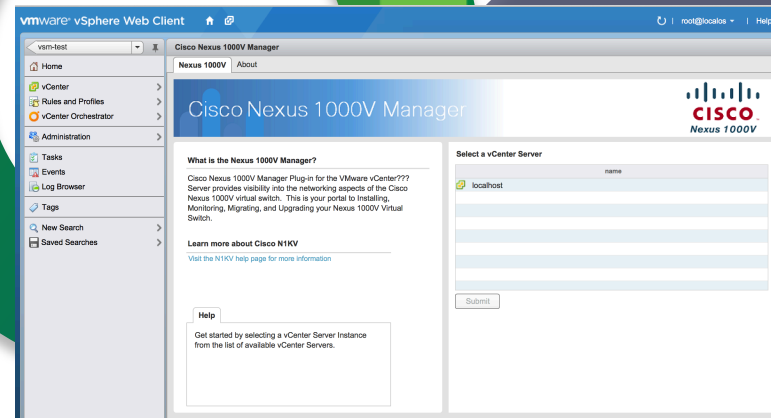
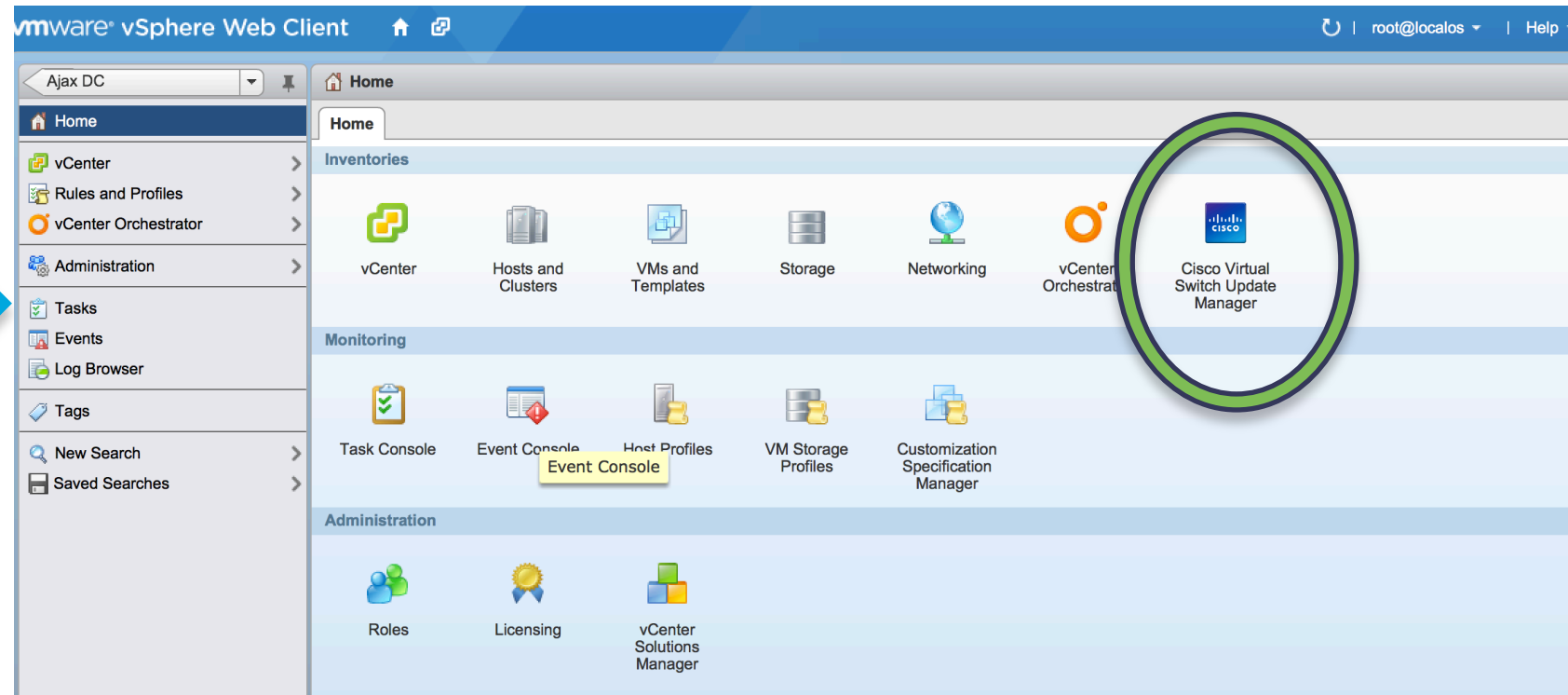## Configure*

Configure and Manage Nexus1000V features and port-profiles

* future

Cisco Virtual Switch Update Manager

(Front end – Web interface in vCenter)

(Back end VM Appliance)
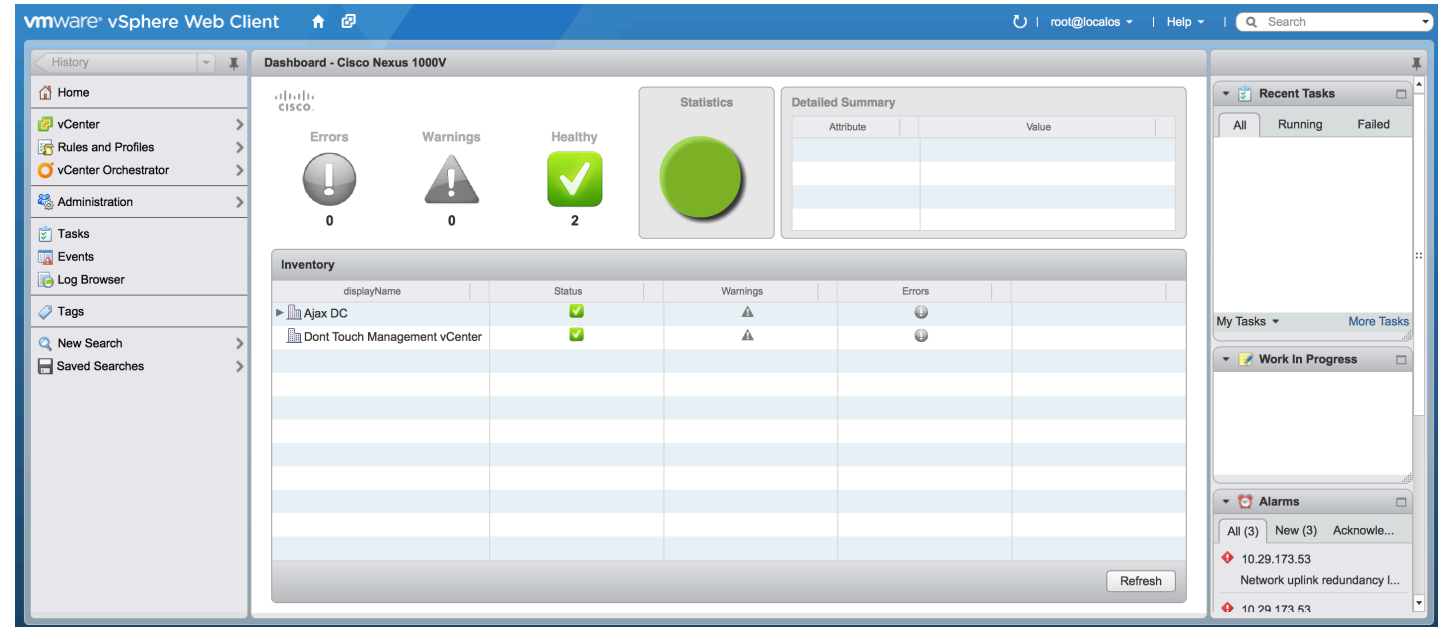
Cisco VSUM Plug-in integrated into the vSphere web client

Solution components

- Front End Client component

  ✓ vSphere Web client

- Back End component

  ✓ VM Appliance
  ✓ Runs CentOS
  ✓ Maintains own database
  ✓ Acts as a web-server
  ✓ Repository of N1KV and AVS
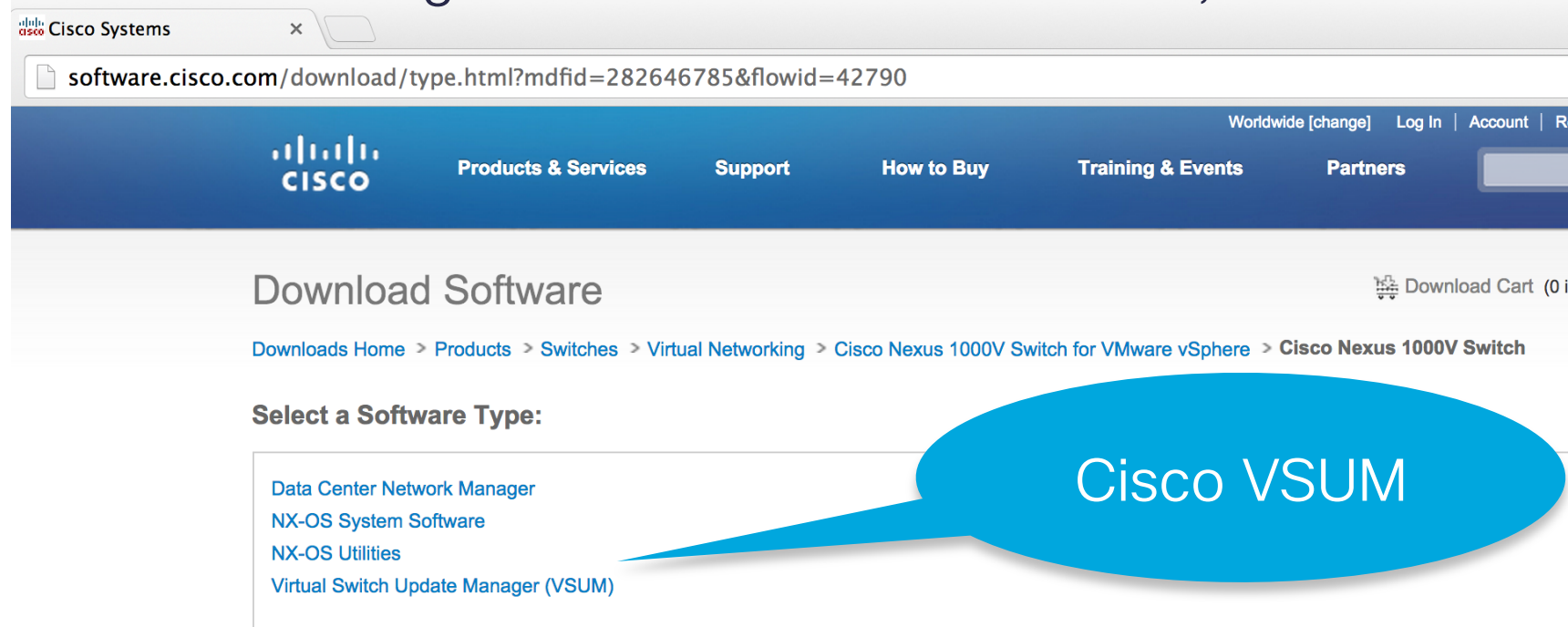   images

vCenter Version Supported: vCenter 5.1 and 5.5

ESXi version on the host: ESXi Vver 4.1 and above

Downloading Cisco VSUM – FREE Download

- No license needed to run Cisco VSUM
- Ships as a virtual appliance (OVA file)
- Download from CCO and use
- Contains all the manager software and Nexus1000V, AVS VEM binaries

Cisco VSUM – Demo

Easy Deployment of Nexus 1000V

vmware® **vSphere Web Client** 🏠 🗗

◀ History ▶ ↻ 📌

Home

- 📋 Home
- vCenter ›
- Rules and Profiles ›
- vCenter Orchestrator ›
- Administration ›
- Tasks
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Cisco Virtual Switch Update Manager 📌

Getting Started   About

This is your portal to Install, Add Hosts, Monitor and Upgrade the Cisco Nexus 1000V. The Cisco VSUM also allows you to Add and Upgrade Hosts on the Cisco Application Virtual Switch.

Basic Tasks

[AVS] [Nexus1000V]

🖥 **Configure**

❓ **Information**

Help

Choose a task to begin   About

1) Choose an available Datacenter

name

Recent Tasks ☐

[All] Running Failed

My Tasks ▾   More Tasks

Work In Progress ☐

Alarms ☐

All (4) New (4) Acknowle...

🔴 10.197.132.142
   Status of other host hardwar...

🔴 10.197.132.140
   Host hardware power status

🔴 10.197.132.142

Administrator@VSPHERE.LOCAL | Help | Search

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Cisco Virtual Switch Update Manager

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AVS | **Nexus1000V**

Install

Configure

Dashboard

Information

Help

Choose a task to begin

About

1) Choose an available Datacenter

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All | Running | Failed

My Tasks ▾ | More Tasks

Work In Progress

Alarms

All (4) | New (4) | Acknowle...

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Status of other host hardwar...

10.197.132.140
Host hardware power status

10.197.132.142

vmware® vSphere Web Client | Administrator@VSPHERE.LOCAL ▼ | Help ▼ | 🔍 Search

◄ Home

EncharaDC

📁 Top Level Objects	22
🖳 Clusters	1
📱 Hosts	5
🖥 Virtual Machines	3
🖥 VM Templates	0
⊞ vApps	0
🗄 Datastores	8
🗄 Datastore Clusters	0
🌐 Standard Networks	7
🖳 Distributed Switches	2
🖳 Distributed Port Groups	42

Cisco Virtual Switch Update Manager

Getting Started   About

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Switch.

Basic Tasks

[AVS] [Nexus1000V]

Install

Configure

Dashboard

Information

Help

Install a new Cisco Nexus 1000V switch. Choose an available datacenter to
install a new Switch.

1) Choose an available Datacenter

name
EncharaDC
Mgmt

Recent Tasks

All   Running   Failed

My Tasks ▼   More Tasks

Work In Progress

Alarms

All (4)   New (4)   Acknowle...

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   Status of other host hardwar...

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   Host hardware power status

🔴 10.197.132.142

◀ Home ▶ ↻ 📌

🏢 **EncharaDC**

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📦 **Install**

🖳 **Configure**

📊 **Dashboard**

❓ **Information**

Help

Install a new Cisco Nexus 1000V switch. Choose an available datacenter to install a new Switch.

---

1) **Choose an available Datacenter**

name
EncharaDC
Mgmt

Recent Tasks

[All] Running Failed

My Tasks ▼   More Tasks

Work In Progress

Alarms

All (4)   New (4)   Acknowle...

🔴 10.197.132.142
   Status of other host hardwar...

🔴 10.197.132.140
   Host hardware power status

🔴 10.197.132.142

🏠 ⧉   🔄 | Administrator@VSPHERE.LOCAL ⌄ | Help ⌄ | 🔍 Search

◀ EncharaDC ▶   🕐 📌

🏢 **Mgmt**
📁 Top Level Objects	10
📑 Clusters	0
📱 Hosts	1
🖥️ Virtual Machines	3
📋 VM Templates	0
🔷 vApps	0
🗄️ Datastores	2
🗄️ Datastore Clusters	0
🌐 Standard Networks	4
💾 Distributed Switches	0
📇 Distributed Port Groups	0

🏢 Mgmt | Actions ⌄

Getting Started | Summary | Monitor | **Manage** | Related Objects

Alarm Definitions | Tags | Permissions | Network Protocol Profiles | Scheduled Tasks | **Cisco Nexus 1000V Installer**

✅ **Nexus1000v Switch Deployment Process**   ❓ ⌄

   ⦿ I want to deploy new control plane (VSM)
   ○ I already have a control plane (VSM) deployed

❗ **Nexus1000V Switch Deployment Type**   ❓ ⌄

>> **A Control VLAN must be selected.**
>> **A Management VLAN must be selected.**

Nexus1000V Switch Deployment Type   ○ Stand alone
                                    ⦿ High Availability Pair ✳

VSM Version   [5.2(1)SV3(1.2)   ▾] ✳

Choose a Port Group   [▾] Control VLAN ✳

                                   [▾] Management VLAN ✳

❗ **Host Selection**   ❓ ⌄

>> **Host 1 The folder cannot be null**
>> **Host 1 The IP address must be specified**
>> **Host 1 The Control VLAN cannot be null**
>> **Host 1 The Management VLAN cannot be null**
>> **Host 1 The Packet VLAN cannot be null**

[Finish] [Reset]

Recent Tasks
All | Running | Failed

My Tasks ⌄   More Tasks

Work In Progress

Alarms
All (4) | New (4) | Acknowle...

❗ 10.197.132.142
   Status of other host hardwar...

❗ 10.197.132.140
   Host hardware power status

❗ 10.197.132.142

◀ EncharaDC ▶   ↻ 📌

🏢 **Mgmt**

📁 Top Level Objects	10
📱 Clusters	0
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📄 VM Templates	0
⊞ vApps	0
🗄 Datastores	2
🗄 Datastore Clusters	0
🌐 Standard Networks	4
🔲 Distributed Switches	0
👤 Distributed Port Groups	0

🏢 Mgmt   Actions ▾   ≡ ▾

Getting Started   Summary   Monitor   **Manage**   Related Objects

Alarm Definitions | Tags | Permissions | Network Protocol Profiles | Scheduled Tasks | **Cisco Nexus 1000V Installer**

❗ **Switch Configuration**   ❓ ≋

>> **The domain ID cannot be null and must be a number between 1 and 1023**

Domain ID: [　　　　　　] *

Deployment Type: ◉ Management IP Address
                  ◯ Control IP Address

❗ **Virtual Supervisor Module (VSM) configuration**   ❓ ≋

>>   **A valid username must have more than 0 characters**
>>   **A password must have more than 0 characters**
>>   **VSM Address The IP address must be specified**
>>   **VSM Mask The IP address is an unroutable address**
>>   **VSM Gateway The IP address must be specified**
>>   **The switch name cannot not be empty**
>>   **The minimum number of characters for the password is 8. The password must contain 1 lowercase, 1 uppercase, and 1 number. No special characters are allowed (for example, $?&>)**
>>   **The password and password confirmation must match**

Switch Name   [　　　　　　　　] *

IP Address   [　　　　　　　　] *

Finish   Reset

◀ EncharaDC ▶ 🕑 📌

📇 **Mgmt**

📁 Top Level Objects	10
🖥 Clusters	0
🖥 Hosts	1
🖥 Virtual Machines	3
🖥 VM Templates	0
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🗄 Datastore Clusters	0
🌐 Standard Networks	4
🖥 Distributed Switches	0
🖥 Distributed Port Groups	0

📇 **Mgmt**   **Actions** ▾   ≡▾

| Getting Started | Summary | Monitor | **Manage** | Related Objects |

| Alarm Definitions | Tags | Permissions | Network Protocol Profiles | Scheduled Tasks | **Cisco Nexus 1000V Installer** |

❗ **Virtual Supervisor Module (VSM) configuration**   ❓ ⌃

>>   A valid username must have more than 0 characters
>>   A password must have more than 0 characters
>>   VSM Address The IP address must be specified
>>   VSM Mask The IP address is an unroutable address
>>   VSM Gateway The IP address must be specified
>>   The switch name cannot not be empty
>>   The minimum number of characters for the password is 8. The password must contain 1 lowercase, 1 uppercase, and 1 number. No special characters are allowed (for example, $?&>)

Switch Name   [   ] ✳

IP Address   [   ] ✳

Subnet Mask   [   ] ✳

Gateway Address   [   ] ✳

Default Port Profiles: ☐

Username   [admin]

Password   [   ] ✳

Confirm password   [   ] ✳

[Finish]   [Reset]

Seamless migration from vSwitch, VMware VDS to Nexus1000V

◀ Home ▶ ↻ 📌

EncharaDC

📁 Top Level Objects	22
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📱 VM Templates	0
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Cisco Virtual Switch Update Manager

Getting Started   [About]

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Basic Tasks

[AVS] [Nexus1000V]

📗 **Install**

🖥️ **Configure**

📊 **Dashboard**

❓ **Information**

Help

Install a new Cisco Nexus 1000V switch. Choose an available datacenter to install a new Switch.

1) Choose an available Datacenter

name
EncharaDC
Mgmt

Administrator@VSPHERE.LOCAL ▾ | Help ▾ | 🔍 Search

◀ Home ▶ 🕑 📌

🏢 **EncharaDC**

📁	Top Level Objects	22
🖥	Clusters	1
📱	Hosts	5
🖥	Virtual Machines	3
🖥	VM Templates	0
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Help

Install a new Cisco Nexus 1000V switch. Choose an available datacenter to install a new Switch.

1) Choose an available Datacenter

name

EncharaDC

Mgmt

Recent Tasks ▾ 🗂

[All | Running | Failed]

My Tasks ▾   More Tasks

Work In Progress ▾ 📝

Alarms ▾ ⏰

[All (4) | New (4) | Acknowle...]

❗ 10.197.132.142
   Status of other host hardwar...

❗ 10.197.132.140
   Host hardware power status

❗ 10.197.132.142

◄ Mgmt ► 🕐 📌

🏠 **Home**

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📑 Rules and Profiles ❯
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🔧 Administration ❯

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[**AVS** | **Nexus1000V**]

📥 **Install**

🗄 **Configure**

📊 **Dashboard**

❓ **Information**

Help

Choose a distributed virtual switch to monitor, migrate or upgrade the Switch. Start by choosing a datacenter, and then choose an associated switch.

---

1) Choose an available Datacenter

name
EncharaDC
Mgmt

2) Choose an associated Distributed Virtual Switch

name
dao1
upgrade

Monitor   Manage

vmware vSphere Web Client   🏠 ⧉   ↻ | root@localos ▾ | Help ▾ ▾

◀ vsm-test ▾ 📌

🖥 **vsm-temp**
- 🖳 Hosts — 0
- 🔲 Virtual Machines — 0
- 👤 Distributed Port Groups — 15
- 🔲 Uplink Port Groups — 2

🖥 **vsm-temp**   Actions ▾   ▤▾ ▾

Summary   Monitor   **Manage**   Related Objects

Settings | Alarm Definitions | Tags | Permissions | Network Protocol Profiles | Ports | Cisco Nexus 1000V

Overview   Add Host   Upgrade   **Install License**   Make Managed

Host License ID   Instructions to get a license

    1165763202140260015   [Copy]

[   ] [Browse] [Install the License]

root@localos ▾ | Help ▾ | 🔍 Search

vsm-temp   Actions ▾

Summary   Monitor   **Manage**   Related Objects

Settings | Alarm Definitions | Tags | Permissions | Network Protocol Profiles | Ports | Cisco Nexus 1000V

Overview   Add Host   Upgrade   **Install License**   Make Managed

Host License ID   Instructions to get a license
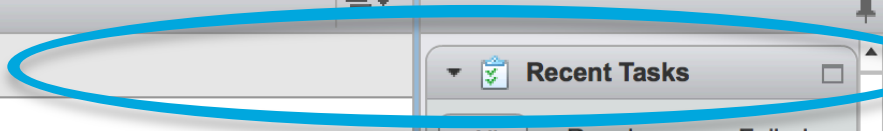
1165763202140260015   [Copy]

[   ]   [Browse]   [Install the License]

▼ 🗒 **Recent Tasks**   ▢

All   Running   Failed

My Tasks ▾   More Tasks

▼ 📝 **Work In Progress**   ▢

▼ ⏰ **Alarms**   ▢

All (3)   New (3)   Acknowle...

⊘ 10.29.173.53
   Network uplink redundancy l...

⊘ 10.29.173.53
   Host hardware power status

⊘ 10.29.173.51

Simplified Upgrade

◀ Mgmt ▶ ⟳ 📌

🏠 Home

vCenter ▸

Rules and Profiles ▸

vCenter Orchestrator ▸

Administration ▸

Tasks

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New Search ▸

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Cisco Virtual Switch Update Manager

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| AVS | Nexus1000V |

Install

Configure

Dashboard

❓ Information

Help

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1) Choose an available Datacenter

name
EncharaDC
Mgmt

2) Choose an associated Distributed Virtual Switch

name
dao1
upgrade

Monitor   Manage

Enhanced virtual network visibility from vCenter

dao1   Actions ▼

upgrade

- 🖥 **dao1**
  - 📱 Hosts · 3
  - 🖧 Virtual Machines · 0
  - 👤 Distributed Port Groups · 28
  - 🖥 Uplink Port Groups · 3

Getting Started   Summary   **Monitor**   Manage   Related Objects

Issues | Tasks | Events | Health | **Cisco Nexus 1000V**

Overview   **Dashboard**   Switch   Hosts/VEM

Cisco Nexus 1000V Summary

System

Switch Name	NX-OS Version	VSM IP	DC Name	Connectivity Mode	VC Connectivity	VSM HA
dao1	5.2(1)SV3(1.2)	10.197.132.138	EncharaDC	L3	Connected	false

Network Statistics

VNICs vs Max	Hosts vs Max	Port-Groups vs Max	Veths/Host Max	VLAN / VXLAN vs Max	
				Vlan	VxLan
3(4096)	3(128)	32(6144)	3(300)	3(4093)	0(0)

Licenses

Cisco Nexus 1000V Edition: ESSENTIAL

License Type	Licenses Available	Licenses Used	Earliest Expiration	Status
NEXUS1000V_STINGRAY_PKG	0	0	N/A	Unused
NEXUS_ASA1000V_SERVICES_PKG	512	0	16 Jan 2015	Unused
NEXUS1000V_INTERCLOUD_VM_PKG	16	0	16 Jan 2015	Unused

◀ upgrade ▶ | ↻ 📌

🖥 **dao1**
- 🖥 Hosts — 3
- 🗄 Virtual Machines — 0
- 🔌 Distributed Port Groups — 28
- 🔌 Uplink Port Groups — 3

🖥 **dao1** | Actions ▾

Getting Started | Summary | **Monitor** | Manage | Related Objects

Issues | Tasks | Events | Health | Cisco Nexus 1000V

Overview | Dashboard | **Switch** | Hosts/VEM

Cisco Nexus 1000V Switch Level Details

Hos /VEM | VM Info | Port Gr ups | vNICs | Uplinks

VMs	vNICs	Adapter	Status	Port Group	VLANs	Host ID
VMware VMkernel	Vethernet1	vmk0	✅	n1kv-veth-vlan904-sys-l3-0	904	3
VMware VMkernel	Vethernet3	vmk0	✅	n1kv-veth-vlan904-sys-l3-0	904	5
VMware VMkernel	Vethernet2	vmk0	✅	n1kv-veth-vlan904-sys-l3-0	904	4

🖫 dao1   Actions ▾

dao1
- 🖫 Hosts — 3
- 🖳 Virtual Machines — 0
- 🖧 Distributed Port Groups — 28
- 🖧 Uplink Port Groups — 3

Getting Started   Summary   **Monitor**   Manage   Related Objects

Issues | Tasks | Events | Health | **Cisco Nexus 1000V**

Overview   Dashboard   **Switch**   Hosts/VEM

Cisco Nexus 1000V Switch Level Details

Host/VEM | VM Info | **Port Groups** | vNICs | Uplinks

Port Group	Type	VLANs	System VLANs	Ports Max	Ports Min	Ports Used
sys27	Vethernet	2400	2400	32	1	0
sys18	Vethernet	2400	2400	32	1	0
sys9	Vethernet	2400	2400	32	1	0
n1kv-eth-1	Ethernet	1,904,2400	1,904	N/A	N/A	6
N1K_Cloud_Default_Trunk	Vethernet	N/A	none	64	1	0
sys12	Vethernet	2400	2400	32	1	0
sys2	Vethernet	2400	2400	32	1	0
sys23	Vethernet	2400	2400	32	1	0
sys15	Vethernet	2400	2400	32	1	0
sys8	Vethernet	2400	2400	32	1	0

◀ upgrade ▶

dao1

🖥 Hosts	3
🖴 Virtual Machines	0
🖴 Distributed Port Groups	28
🖴 Uplink Port Groups	3

🖥 **dao1** | Actions ▾

Getting Started | Summary | **Monitor** | Manage | Related Objects

Issues | Tasks | Events | Health | **Cisco Nexus 1000V**

Overview | Dashboard | **Switch** | Hosts/VEM

Cisco Nexus 1000V Switch Level Details

Host/VEM | VM Info | Port Groups | vNICs | Uplinks

vNICs	VMs	Adapter	Status	Port Group	VLANs	Host ID
Vethernet1	VMware VMkernel	vmk0	✓	n1kv-veth-vlan904-sys-l3-0	904	3
Vethernet3	VMware VMkernel	vmk0	✓	n1kv-veth-vlan904-sys-l3-0	904	5
Vethernet2	VMware VMkernel	vmk0	✓	n1kv-veth-vlan904-sys-l3-0	904	4

🖥 dao1   Actions ▾

Getting Started   Summary   **Monitor**   Manage   Related Objects

◀ upgrade ▶ 🕐 📌

🖥 **dao1**
- 📱 Hosts   3
- 🖧 Virtual Machines   0
- 👤 Distributed Port Groups   28
- 🖧 Uplink Port Groups   3

Issues   Tasks   Events   Health   Cisco Nexus 1000V

Overview   Dashboard   **Switch**   Hosts/VEM

Cisco Nexus 1000V Switch Level Details

Host/VEM   VM Info   Port Groups   vNICs   **Uplinks**

Switch Interface	Status	Port Channel	Host ID	Port Group	VLANs	CDP Uplink
Ethernet3/4	✅	1	3	n1kv-ethdup	1,904,2400	Ethernet1/7
Ethernet5/6	✅	4	5	n1kv-eth-1	1,904,2400	Ethernet143/1/20
Ethernet3/1	✅	2	3	n1kv-eth-1	1,904,2400	Ethernet153/1/13
Ethernet4/7	✅	3	4	n1kv-eth-1	1,904,2400	Ethernet143/1/22

◀ upgrade ▶   🕐 📌

🖥 **dao1**

🖥 Hosts	3
🖥 Virtual Machines	0
🖥 Distributed Port Groups	28
🖥 Uplink Port Groups	3

🖥 **dao1**   Actions ▾

Getting Started   Summary   **Monitor**   Manage   Related Objects

Issues   Tasks   Events   Health   Cisco Nexus 1000V

Overview   Dashboard   Switch   **Hosts/VEM**

System

Host Name	NX-OS Version	Host IP	License	Host / Module	VMs / Host	VNICs / Host
10.197.132.142	5.2(1)SV3(1.2)	10.197.132.142	licensed	5	0	1
10.197.132.143	5.2(1)SV3(1.2)	10.197.132.143	licensed	4	0	1
10.197.132.140	5.2(1)SV3(1.2)	10.197.132.140	licensed	3	0	1

VM Info   Port Groups   vNICs   Uplinks

VMs	VNICs	Adapter	Status	Port Group	VLANs	Host ID
VMware VMkernel	Vethernet3	vmk0	✅	n1kv-veth-vlan904-sys-l3-0	904	5

Dashboard – single pane view of virtual network health

Dashboard

- Cisco VSUM determines the warnings and critical errors in the Cisco Nexus 1000V switch deployed on the vCenter and displays them on the Cisco VSUM Dashboard.

- Cisco VSUM supports the Dashboard functionality from Cisco Nexus 1000V Release 4.2(1)SV2(1.1a) onwards.

- Few of the examples for Warning and Error conditions listed below:

  Warning: Switch reaches 90% of its Veth Limit

  Warning: Host reaches 90% of its Veth Limit

  Error: If the switch is not managed by Cisco VSUM

  Error: If the switch is not supported by Cisco VSUM

◀ dao1 ▶   🕓 📌

🏠 Home

🔲 vCenter   ›

🔲 Rules and Profiles   ›

⭕ vCenter Orchestrator   ›

🔧 Administration   ›

✅ Tasks

📋 Log Browser

⚠️ Events

🏷️ Tags

🔍 New Search   ›

💾 Saved Searches   ›

Cisco Virtual Switch Update Manager

Getting Started

This is your portal to Install, Add Hosts, Monitor and Upgrade the Cisco Nexus 1000V. The Cisco VSUM also allows you to Add and Upgrade Hosts on the Cisco Application Virtual Switch.

Basic Tasks

AVS   Nexus1000V

📥 **Install**

▭ Configure

📊 **Dashboard**

❓ Information

Help

Choose a task to begin   About

1) Choose an available Datacenter

name

Nexus 1000V for KVM
Cisco Virtual Networking Solution for OpenStack

Neutron

Tenant 1

Tenant 2

Tenant n

Virtual Networks (VXLANs)

VXLAN Gateway

Physical Networks (VLANs)

Bare-metal servers

Physical Firewalls

KVM
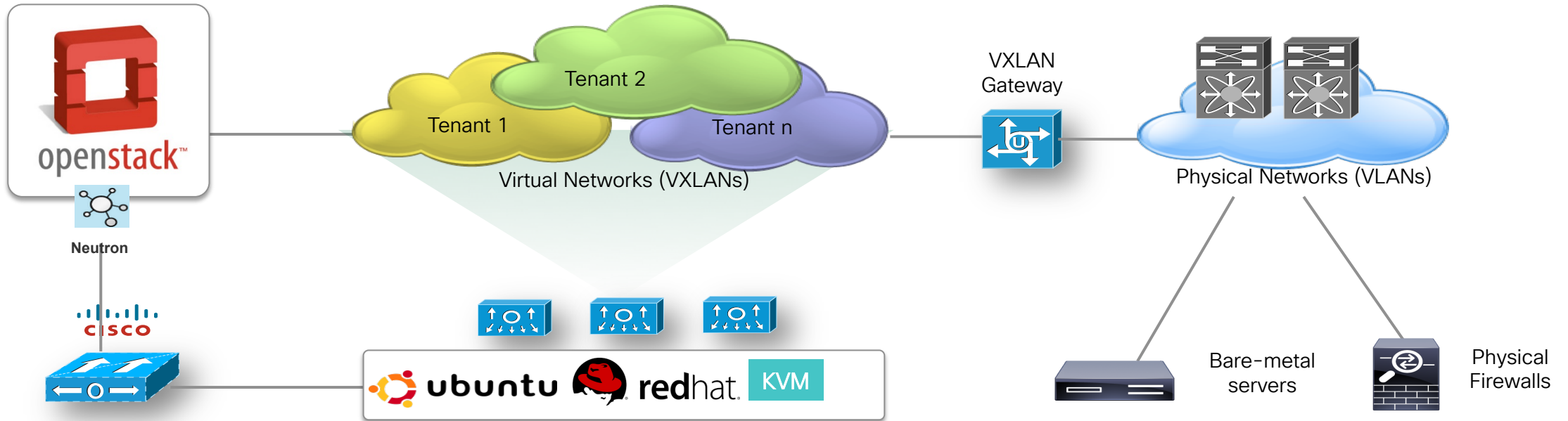
Solution Highlights

- Enterprise grade network virtualization solution (using VxLAN multicast/unicast)
- Enhanced security , visibility and troubleshooting for networking
- OpenStack Extensions – Network Profile (incl Trunk) and Policy Profile Extension (PVLAN)
- Consistent networking between physical and virtual workloads
- Integrated in OpenStack Icehouse release – Ubuntu 14.0.4 and RHEL 7.0/RHOS 5.0
- Automated Installation via Juju/Charm on Canonical and StayPuft on RHAT

Cisco Nexus 1000V for Hyper-V
Consistent Multi-Hypervisor Platform

Best of TechEd
North America 2013
WINNER
Microsoft Product Awards Produced By:
Windows IT Pro

VM   VM   VM   VM

VNICs

Nexus 1000V VEM

Capture

Filtering

Extensible vSwitch

Microsoft® Hyper-V™

Windows Server 2012

PNICs

**Nexus 1000V
VSM**

Microsoft®
System Center
Virtual Machine Manager
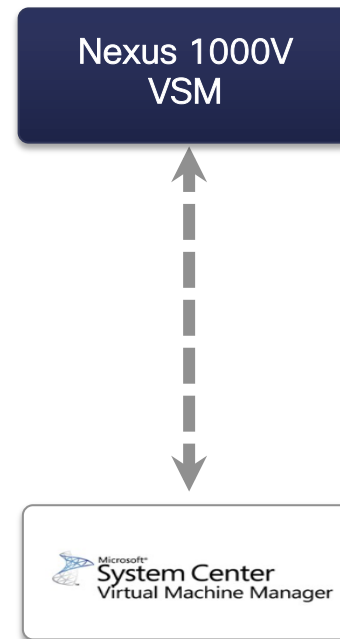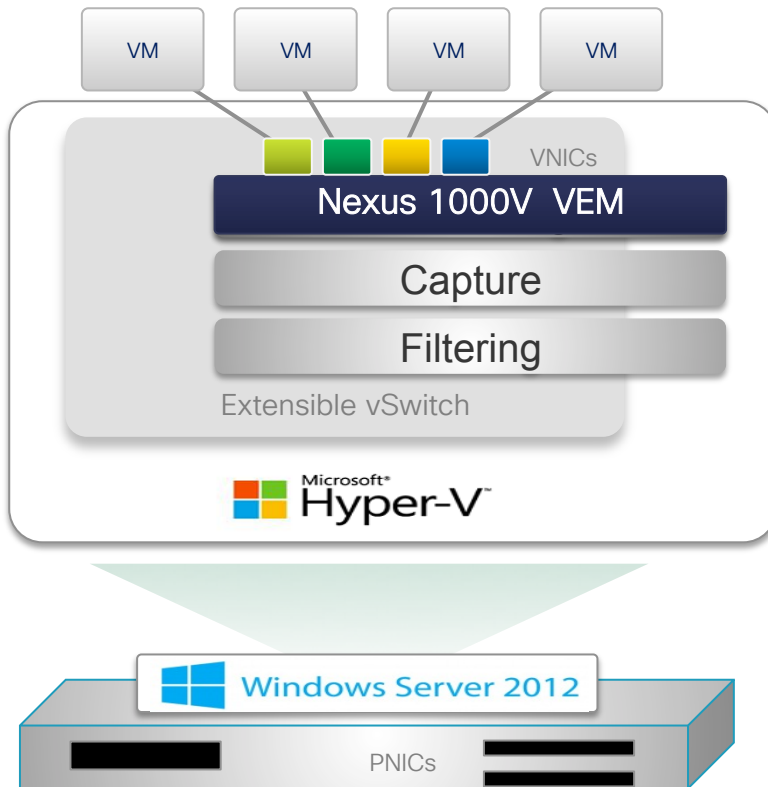
- SCVMM Integration
- Advanced NX-OS feature-set
- VSG based distributed Security
- Consistent operational model
- VXLAN based Network Virtualization

Nexus 1000V Summary – Last 6 Month Summary

VMware vSphere:

- 3.1: increased scale, IPv6, security and ease of deployment with VSUM

Microsoft Hyper-V

- 3.1 – VXLAN and HVN support for WS2012 R2

OpenSource KVM

- 3.1: Canonical IceHouse Ubuntu 14.04 Support, Juju/Charm VXLAN
- 3.2: Redhat OSP 5.0/RHEL7.0 with Staypuft, VSG

Application Virtual Switch (AVS) Update

AVS – OPFLEX enabled Virtual Member of ACI

- OPFLEX enabled vSwitch

- Single point of control via APIC

- Consistent policy between virtual and physical fabric ports.

- Supports a Full Layer 2 Network (Nexus 7k/6k/5k/3k/2k/FI) between Nexus 9k and AVS: Investment Protection

- VDS (VMware Distributed Switch) can only support a single L2 switch between N9k and VDS

L2 Network
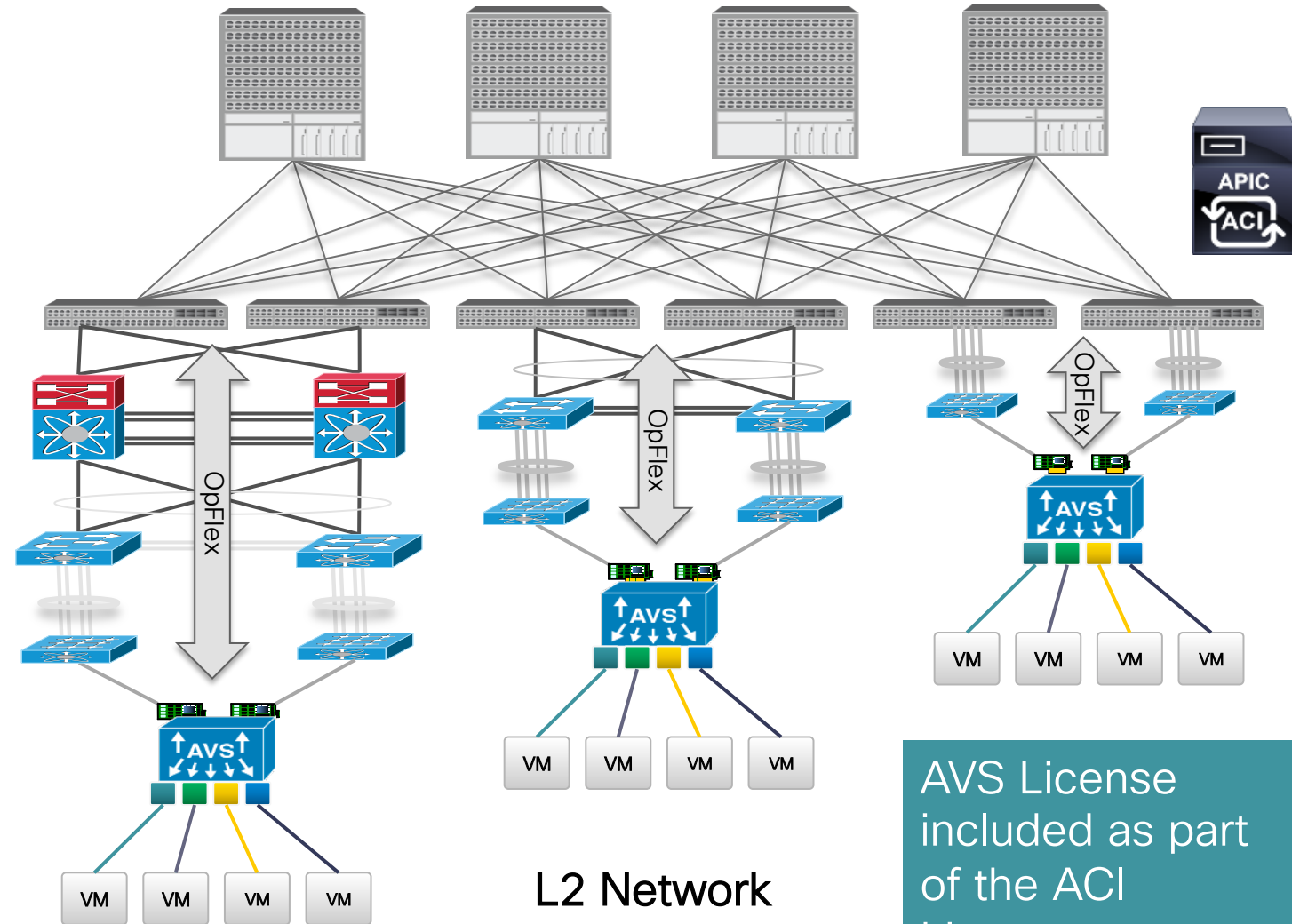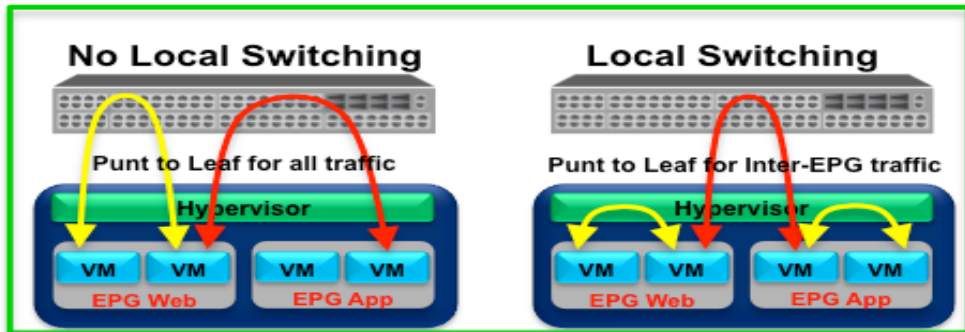
AVS License included as part of the ACI License

Status of AVS Support in vSphere 6

- Cisco views AVS as a critical component of the ACI solution and is fully committed to supporting it in vSphere 6 and beyond.

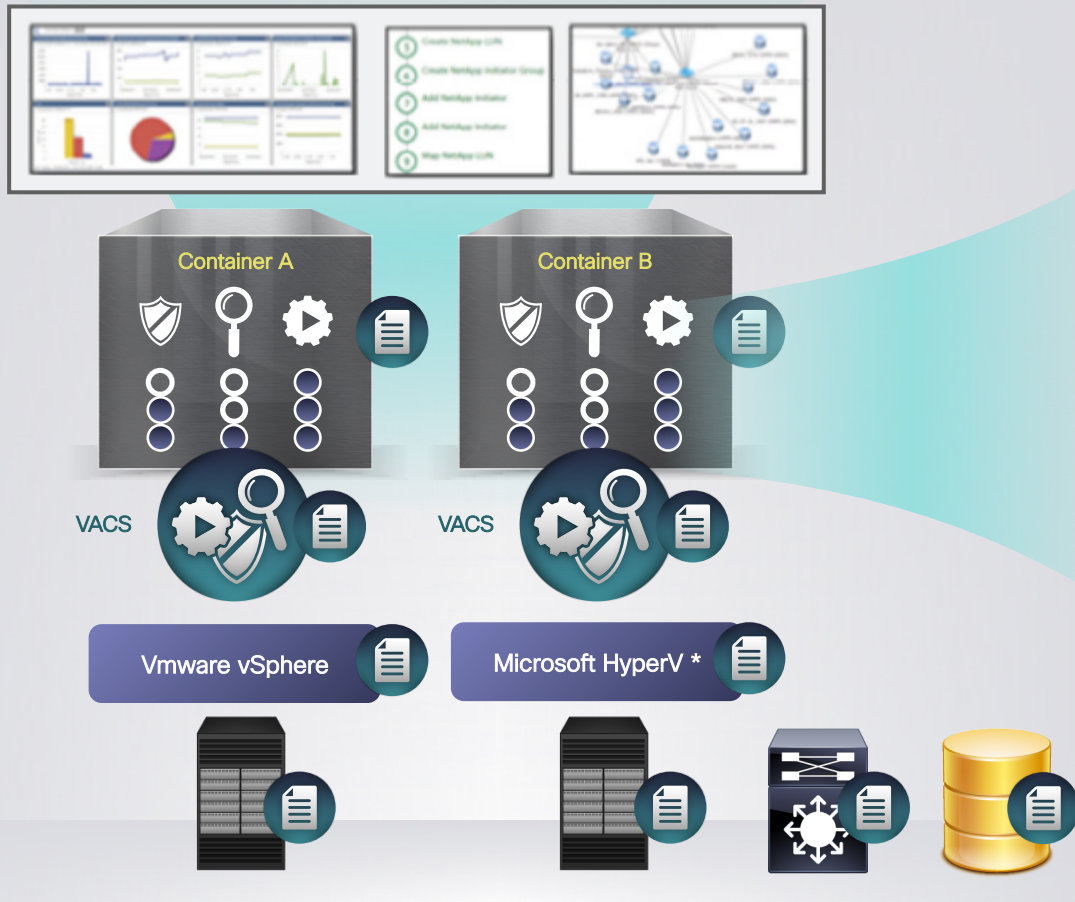- AVS support in vSphere 6 is still being negotiated between Cisco and VMware.

Cisco Virtual Application Container Service (VACS) with UCS Director Update

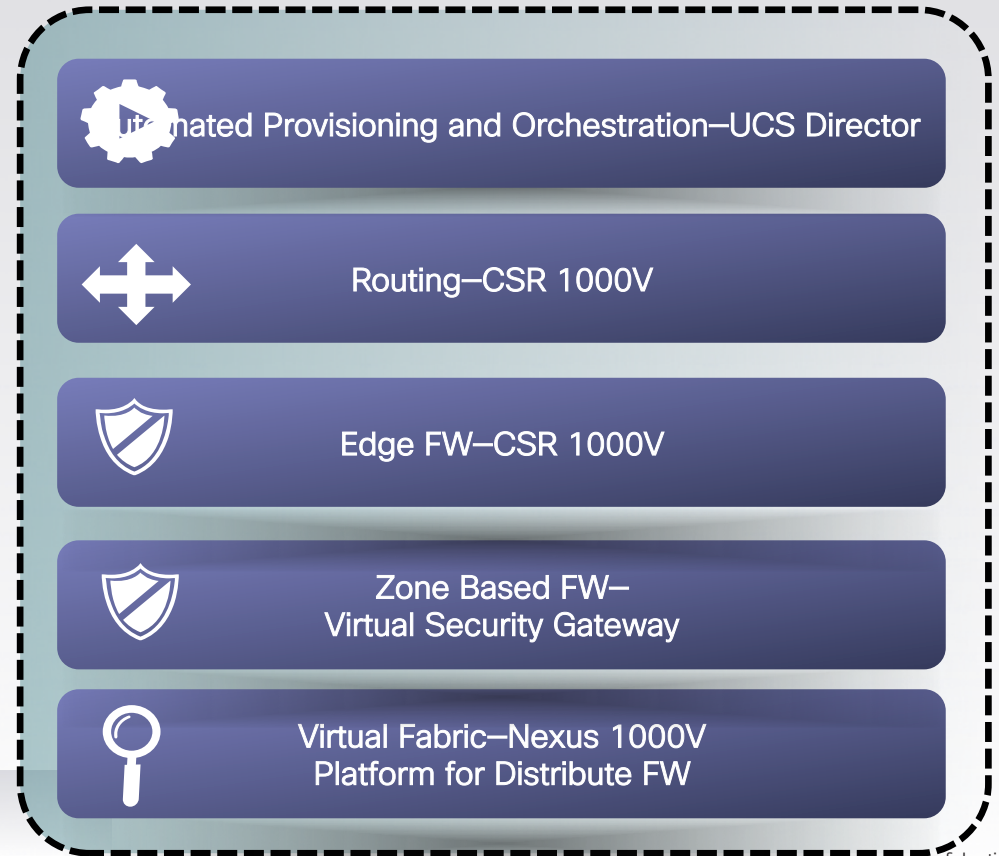# VACS: Virtual Application Segmentation in Shared Infra.
Simple "Out of the box" Experience for Server/Virtual Admins

Included in Cisco ONE Enterprise Cloud Suite

Cisco UCS Director

Container A

Container B

VACS

VACS

Vmware vSphere

Microsoft HyperV *

VACS - Unified Licensing Per Server based

Automated Provisioning and Orchestration—UCS Director

Routing—CSR 1000V

Edge FW—CSR 1000V

Zone Based FW—
Virtual Security Gateway

Virtual Fabric—Nexus 1000V
Platform for Distribute FW

* VACS on Hyper-V available CY15

Executive Summary

- Cisco is fully committed to virtual networking across multiple hypervisors and going forward containers

- Cisco is continuing to make significant investment in virtual networking R&D with hundreds of engineers

- Cisco Nexus 1000V will be supported in vSphere 6.0 and future versions of vSphere as well as Microsoft Hyper-V and RHAT/Canonical KVM hypervisors.

- Cisco is committed to support Nexus 1000V for its 10,000+ install base of customers.

- Cisco will continue to sell Nexus 1000V across multiple hypervisors for various cloud solutions

For More information

- Blog announcing Nexus 1000V for vSphere 6 :
  - http://blogs.cisco.com/datacenter/announcing-cisco-nexus-1000v-for-vmware-vsphere-6-release
- Cisco Nexus 1000V Product Information
  - http://www.cisco.com/go/nexus1000v
- Cisco Nexus1000V Product documentation

  - http://www.cisco.com/go/nexus1000v/docs
- Virtual Switch Update Manager
  - VSUM Datasheet
- Cisco Nexus 1000V Community
  - https://communities.cisco.com/community/technology/datacenter/nexus1000v

Thank you.

CISCO