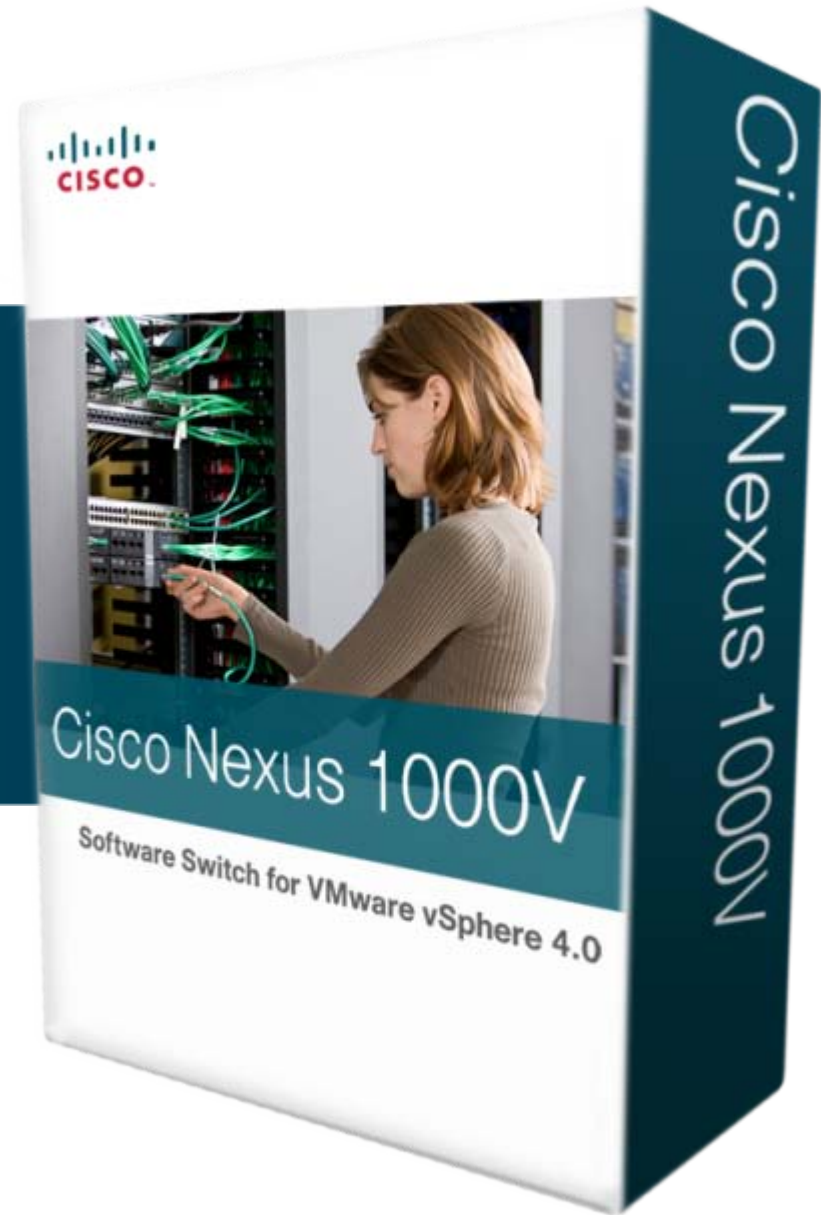




Nexus 1000V Version 1.2

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Server and Access Virtualization Business Unit



Version 1.2

- This is a **HUGE** update to Cisco Nexus 1000V
 - Secure server virtualization with Cisco integrated security
 - Installation wizard shrinks install to 7 minutes
 - More...
- This update is free to all Nexus 1000V customers as part of the service contract which includes upgrades
- Price for new customers remains \$695 per CPU socket
- [Download](#)

Version 1.2 Feature Summary

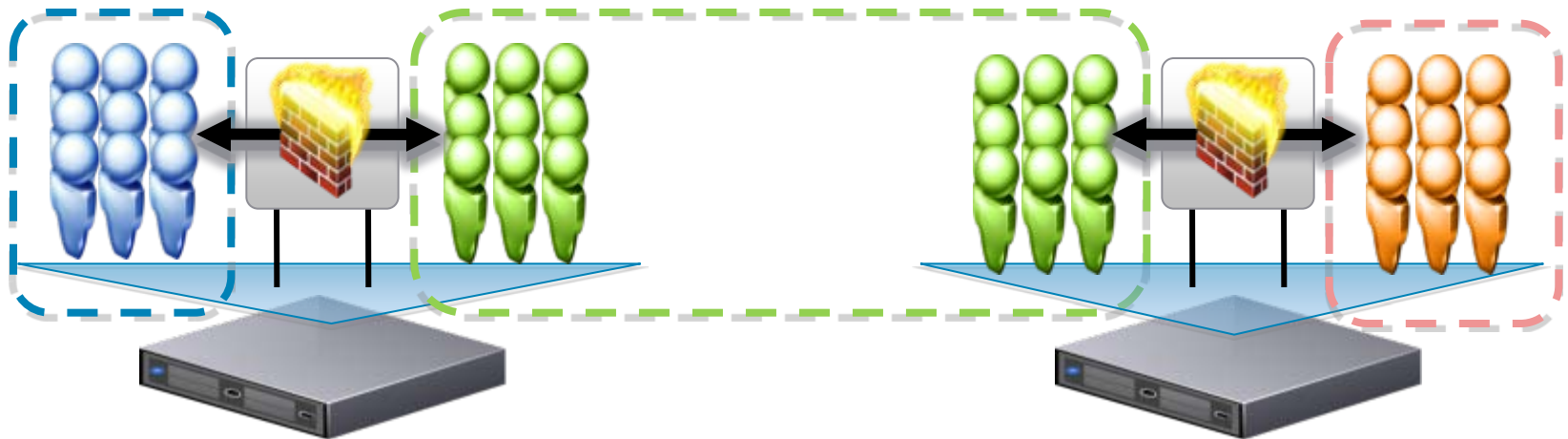
- Enhanced security for server and virtual desktop workloads
 - Secure virtual desktop just like campus network
 - Cisco Integrated Security Features
- Logical security zoning of virtual machines
 - Virtual Service Domains
 - Works with L4-7 service VM, such as VMware vShield
- Faster Deployment
 - Automated Installer GUI
 - L3 VSM/VEM Connectivity

Version 1.2 Feature Detail

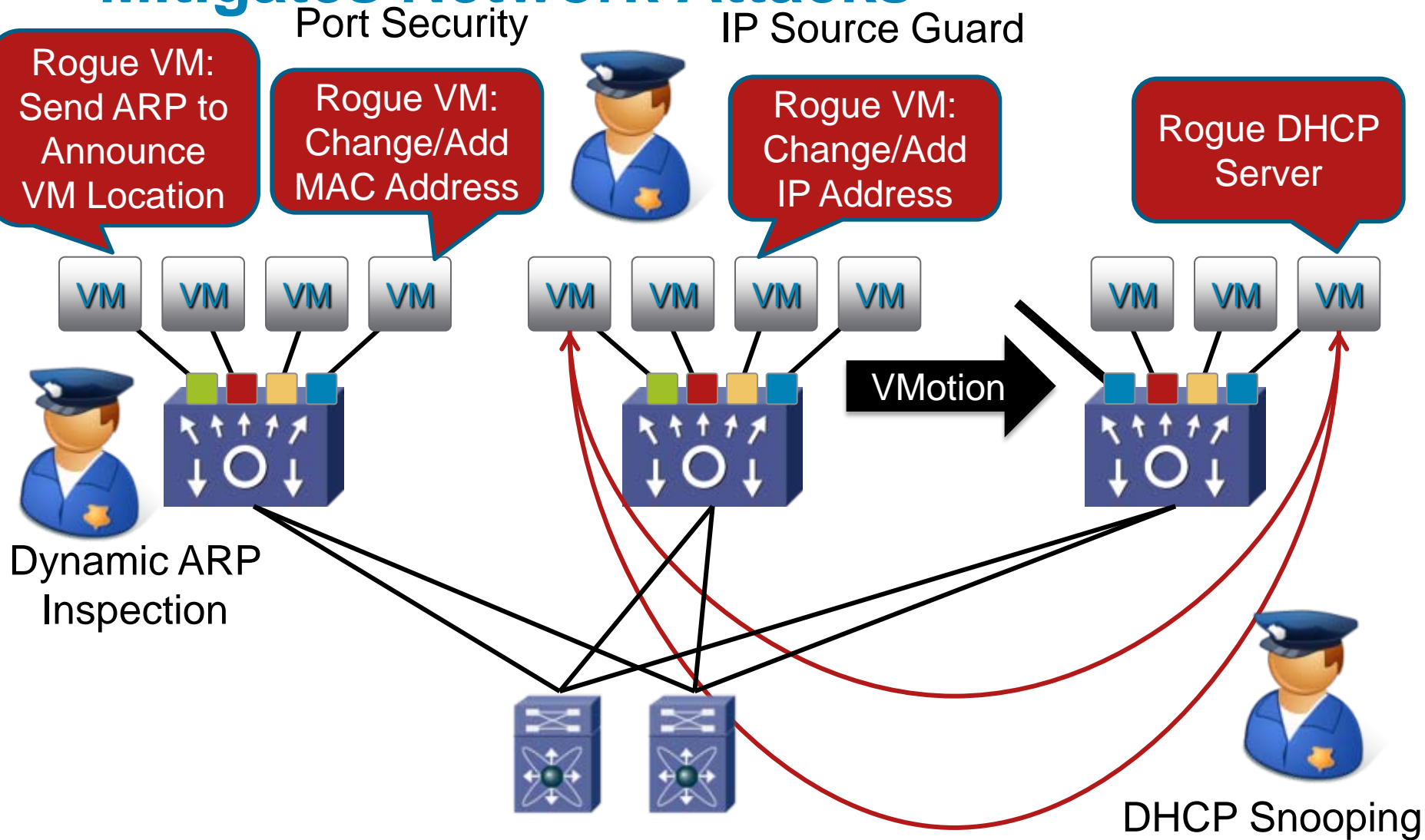
New Features	Description
L3 AIPC	This feature allows L3 connectivity for the VSM to the collection of VEMs for control and packet paths.
Virtual Port ID Pinning	Static assignment of Virtual Port IDs to a specific VPC sub-group for deterministic VM NIC teaming & pinning.
DHCP Snooping	Security feature that filters untrusted DHCP messages and builds a DHCP snooping binding table to validate new DHCP requests.
IP Source Guard	Security feature that restricts the client IP traffic to those source IP addresses configured in the DHCP binding table
Dynamic ARP Inspection (DAI)	Security feature that determines validity of an ARP packet based on valid MAC address to IP address bindings stored in DHCP binding table
Syslog event for vMotion	A unique Syslog message from the VSM indicating a vMotion event and the migrated VM.
IPv6 Management	Support for IPv6 through the management address for Telnet/SSH access into the VSM. IPv6 SNMP access will come in a future release.
Virtual Service Domains (VSD)	Port Profile integrated feature to ease deployment and association of L4-7 service virtual appliance solutions to specific VM VNICs
XML API Support	Fully implemented, tested and documented set of XML APIs (NetConf) corresponding to the current releases feature set.
Additional SNMP MIBs	Bridge MIB (dot1dFdbTable), Virtual Ethernet MIB
Virtual Interface Rates	“Show interface” to include input/output packets & bytes with 5 min avg rates
Support for multiple interfaces into upstream Nexus 2000	VPC-HM optimization to allow N1K PortChannel config when the upstream device (N2K) does not support Port Channel
Enhanced vMotion support for VSM	vMotion support for a VSM running on a VEM that it is managing

Virtual Service Domain

- Virtual Service Domain **define** a logical group of virtual machines **protected** by a **virtual appliance**.
- All the traffic **entering or leaving** the group will be sent to that particular virtual appliance.



Cisco Integrated Security Features Mitigates Network Attacks



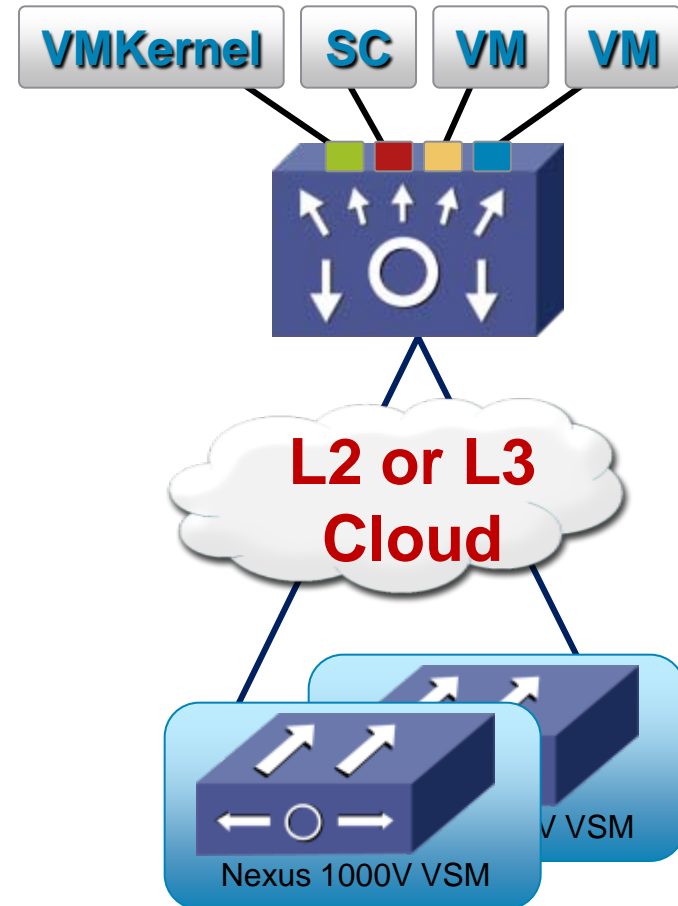
Cisco Integrated Security Features

Secure Virtual Desktops Like Campus Networks

Feature	Capability	Prevents
Port Security (Already Shipping)	Restricting MAC addresses on a port	Rogue VM spoofing MAC address
IP Source Guard	Maps IP address to MAC address	IP/MAC spoofing
DHCP Snooping	Monitors DHCP transactions	Rogue DHCP Server
Dynamic ARP Inspection	ARP: Maps IP address to MAC Monitors ARP transactions, used in VMotion	ARP attacks

L3 VSM / VEM Connectivity

- VSM / VEM can have either L2 OR **L3** connectivity
- More flexible deployment scenarios
 - VSM / VEM still in same data center
- Assign additional IP address for VEM management



Nexus 1000V Installation Application

Even Easier Installation

Deploy OVF Template

Properties
Customize the software solution for this deployment.

Source
OVF Template Details
End User License Agreement
Name and Location
Deployment Configuration
Network Mapping
Properties
Ready to Complete

a. Nexus 1000V Admin User Password
Password
Enter the password. Must contain at least one capital, one lowercase, one number.
[Please ignore this field]

b. Management IP Address
ManagementIPv4
Enter the VSM Ip in the following form: 192.168.0.10
[0 . 0 . 0 . 0]

c. Management IP Subnet Mask
ManagementIPv4Subnet
Enter the Subnet Mask in the following form: 24
[0]

d. Management IP Gateway
GatewayIPv4
Enter the gateway in the following form: 192.168.0.1
[0 . 0 . 0 . 0]

Help < Back Next > Cancel

Virtualization Admin deploy VSM virtual appliance with configuration parameters

Network Admin configure VSM with GUI wizard

Nexus 1000V Installation Management Center - Google Chrome

http://172.23.232.138/Installation.html

Steps

1. Enter vCenter Credentials
2. Select the VSM's host
3. Select the VSM VM's Port groups
4. Provide VSM Config Options
5. Summary: Please Review Configurations

Summary: Please Review Configurations

Installation Progress:

- ✓ Configuring Properties
- ✓ Configuring Port Groups
- ✓ Control Plan
- ✓ Management Vlan
- ✓ Packet Vlan
- ✓ Setting Properties
- Checking VSM Status
 - VSM Powered Off
 - Configuring Virtual Device Specification
 - Configuring Property Specification
 - Restoring VSM
- Establishing SSH Connection (this may take a few minutes)
 - Registering Extension with vCenter
 - Creating NFS Connection
- Cleaning Up the Installation
 - Powering Off VSM
 - Removing Cnf Properties
 - Restarting VSM
- Validating Install (this may take a few minutes)
- Installation Completed

Checking VSM Status... [Progress Bar]

< Back Next > Refresh Cancel

Watch the video: <https://www.myciscocommunity.com/videos/4057>

COMPARISON TO VSWITCH (version 1.2)

Switch Feature Comparison 1 of 3

Feature	ESX 3.5: Standard vSwitch	VMware 4u1: vNetwork Standard Switch	VMware 4u1: vNetwork Distributed Switch	Cisco Nexus 1000V 1.2
Switching Features				
Layer 2 Forwarding	Yes	Yes	Yes	Yes
IEEE 802.1Q VLAN Tagging	Yes	Yes	Yes	Yes
Multicast Support (IGMP v2 and v3)	Yes	Yes	Yes	Yes
IGMPv3 Snooping	-	-	-	Yes
VMware VMotion Support	Yes	Yes	Yes	Yes
Network VMware VMotion (Network Policy)	-	-	Yes	Yes
Upstream Switch Connectivity				
Virtual MAC Pinning	Yes	Yes	Yes	Yes
EtherChannel	Yes	Yes	Yes	Yes
Virtual Port Channels	-	-	-	Yes
Link Aggregation Control Protocol (LACP)	-	-	-	Yes
Load Balancing Algorithms				
Virtual Switchport ID	Yes	Yes	Yes	Yes
Source MAC	Yes	Yes	Yes	Yes
Source and Destination IP	Yes	Yes	Yes	Yes
Source and Destination MAC	-	-	-	Yes
Source and Destination Port IP	-	-	-	Yes
Additional Hashing Options	-	-	-	Yes

Switch Feature Comparison 2 of 3

Feature	ESX 3.5: Standard vSwitch	VMware 4u1: vNetwork Standard Switch	VMware 4u1: vNetwork Distributed Switch	Cisco Nexus 1000V 1.2
Traffic Management Features				
Tx Rate Limiting (from virtual machine)	Yes	Yes	Yes	Yes
Rx Rate Limiting (from virtual machine)	-	-	Yes	Yes
iSCSI Multipathing	-	Yes	Yes	Yes
Quality-of-service (QoS) marking				
Differentiated Services Code Point (DSCP)	-	-	-	Yes
Type of Service	-	-	-	Yes
Class of Service	-	-	-	Yes
Security Features				
Port Security	Yes	Yes	Yes	Yes
VMware VMSafe compatible	Yes	Yes	Yes	Yes
Private VLANs (PVLANS)	-	-	Yes	Yes
Local PVLAN enforcement	-	-	-	Yes
Access Control Lists (ACL)	-	-	-	Yes
DHCP Snooping	-	-	-	Yes
IP Source Guard	-	-	-	Yes
Dynamic ARP Inspection	-	-	-	Yes
Virtual Service Domain	-	-	-	Yes

Switch Feature Comparison 3 of 3

Feature	ESX 3.5: Standard vSwitch	VMware 4u1: vNetwork Standard Switch	VMware 4u1: vNetwork Distributed Switch	Cisco Nexus 1000V 1.2
Management Features				
VMware vCenter Support	Yes	Yes	Yes	Yes
Third Party Accessible APIs	Yes	Yes	Yes	Yes
Network Policy Groups	Yes	Yes	Yes	Yes
VMware port mirroring (promiscuous)	Yes	Yes	Yes	-
Multi-Tier Policy Groups (inheritance)	-	-	-	Yes
SPAN	-	-	-	Yes
ERSPAN	-	-	-	Yes
Netflow v9	-	-	-	Yes
SNMP v3 Read/Write	-	-	-	Yes
CDP v1/v2	Yes	Yes	Yes	Yes
Syslog	**	**	**	Yes
Packet Capture & Analysis	-	-	-	Yes
Radius/TACACS+	-	-	-	Yes
Configuration and management console and interface	VI Client	VI Client	VI Client to VMware vCenter Server	VMware vCenter and Cisco CLI
IPv6 for Management	-	Yes	Yes	Yes
NX-OS XML API	-	-	-	Yes

** Virtual switch network syslog information is exported and included with VMware ESX Server events.