Nexus 1000v Quickstart with Hyper-V服务器配置 示例

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简介

System Center Virtual Machine Manager(SCVMM)。 还介绍如何安装和配置Cisco Nexus 1000v系 列交换机,以及如何向Nexus 1000v添加虚拟机(VM)。

先决条件

要求

本文档介绍MS Windows Hyper-V Server 2012和Cisco Nexus 1000v系列交换机。但是,您应该对 基本的Windows功能配置和安装(如故障转移群集)有一定的经验/知识。

以下是此部署的要求:

- Active Directory
- 域名服务器 (DNS)
- 两台管理/基础设施Hyper-V主机
- •至少一台数据Hyper-V主机
- SCVMM服务器
- Windows 2012 Jumpserver

此映像来自Cisco Nexus 1000v系列交换机部署指南:



使用的组件

此部署使用Microsoft Hyper-V 2012 Server 2012、Nexus 1000v for Hyper-V和SCVMM。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原 始(默认)配置。如果您使用的是真实网络,请确保您已经了解所有命令的潜在影响。

背景信息

Hyper-V核心与Windows Server 2012并行发布。它只运行Server 2012的服务器核心安装(这意味 着没有GUI,只有CLI),并且只运行Hyper-V和某些相关角色,如集群。这样做的优点是Hyper-V核心完全免费,但支持除外。

安装Windows Hyper-V Server

Hyper-V服务器的安装方式与任何其他Windows安装一样,这意味着您必须完成以下步骤:

1. 如果使用存储区域网络(SAN)存储,请将存储路径减少到一条。

2. 使用安装向导时安装所需的驱动程序。

Hyper-V Server安装过程不在本文档的范围内。但是,它与任何其他Windows安装一样工作。

Windows核心简介

MS正在推广2008年推出的服务器核心。Hyper-V的免费版本仅附带Windows核心。但是,在完全安装后,您可以在两者之间重新启动。

登录Windows核心时,有两个窗口?常规命令提示符和系统配置向导。

C=1.	C:\Windows\System32\cmd.exe - C:\Windows\system32\sconfig.cmd						
	Server Configu	ration					
1) 2)	Domain/Workgroup: Computer Name:	Workgroup: WORKGROUP WIN-JK7CERTKJA8					
3) Add Local Admin: 4) Configure Repote	Add Local Administrator Configure Repote Management	Enabled					
52	Windows Update Settings: Download and Install Undates	Manual					
γŚ	Remote Desktop:	Disabled					
8) 9)	Network Settings Date and Time	No active network adapters found.					
i 0:	Help improve the product with CEIP	Not participating					
$\frac{11}{12}$) Log Off User) Restart Server						
13) 14)) Shut Down Server) Exit to Command Line						

此处有许多选项可用于执行基本安装/维护。第一步是安装网络接口控制器(NIC)卡的驱动程序,下 一节将介绍这些驱动程序。

要从命令提示符进入PowerShell,请键入PowerShell。

Administrator: Windows PowerShe	211
Microsoft Windows [Version 6.2.9200] (c) 2012 Microsoft Corporation. All rights reserved.	
C:\Windows\system32>powershell Windows PowerShell Copyright (C> 2012 Microsoft Corporation. All rights	reserved.
PS C:\Windows\system32>	

如果意外关闭CLI窗口,请按**ctrl+alt+del**,然后打开**任务管**理器以再次启动它:

R		Task Manag	er	
File Optio	ons View			
Processes	Performance Users Details	Services		
	*		0%	4%
Nam	Creat	e new task		×
Ap; ▷ ı 🚺	Type the name of a pro resource, and Windows	gram, folder, docum will open it for you.	ent, or Internet	ИВ
Bac o	pen: cmd.exe		~	
E	😗 This task will be cre	ated with administra	ative privileges.	ИВ
Þ				ИВ
Þ	ОК	Cancel	Browse	ИВ
Wir				
🗐 Cli	ent Server Runtime Process		0.1%	0.9 MB

如果关闭系统配置向导窗口,请键入sconfig.cmd以再次将其打开。

安装驱动程序

安装网络通信所需的以太网网络接口控制器(ENIC)驱动程序。

- 1. 在键盘/视频/鼠标(KVM)窗口的虚拟介质中安装驱动程序光盘。
- 2. 登录Windows主机的控制台时,您会看到服务器配置实用程序。键入**14**以进入CLI提示符,或 使用打开的另一个窗口。

C-1.	C:\Windows\System32\cmd.exe - C:\Windows\system32\sconfig.cmd								
==	Server Configuration								
1) 2)	Domain/Workgroup: Computer Name:	Workgroup: WORKGROUP WIN-JK7CERTKJA8							
3) 4)	Configure Repote Management	Enabled							
52 62	Windows Update Settings: Download and Install Undates	Manual							
ΫŚ	Remote Desktop:	Disabled							
8) 9)	Network Settings Date and Time	No active network adapters found.							
iÓ	Help improve the product with CEIP	Not participating							
11 12 13 14	 Log Off User Restart Server Shut Down Server Exit to Command Line 								

3. 输入PowerShell 命令以进入PowerShell(之前,您只是在Windows命令提示符下)。



4. 使用**Get-PSDrive lightweight命令**(cmdlet)列出所有可用驱动器(包括CD驱动器)。在本例中 ,CD驱动器为**E:**\。

GN .	Administrator: Windows PowerShell								
C:\W\ndows\system32>powershell Windows PowerShell Copyright <c> 2012 Microsoft Corporation. All rights reserved.</c>									
PS C:\Windows\ PS C:\Windows\ PS C:\Windows\	PS C:\Windows\system32> PS C:\Windows\system32> PS C:\Windows\system32> Get-PSDrive								
Name	Used (GB)	Free (GB)	Provider	Root					
 Ĥ 61ias			FileSystem	A:\					
C C Cert	12.53	67.13	FileSystem Certificate	C:\					
E Env	.78		FileSystem FileSystem Environment	E:\					
Function HKCU HKLM Variable WSMan			Function Registry Registry Variable WSMan	HKEY_CURRENT_USER HKEY_LOCAL_MACHINE					
PC C:\Uindoue\	custam395								

5. 导航到要安装的驱动程序文件夹。

<u>ол.</u>	Administrator: Windows PowerShell							
PS PS PS	S C:\Windows\system32> cd E:\ S E:\> cd .\Windows\Network\Cisco\MLOM\W2K12\x64 S E:\Windows\Network\Cisco\MLOM\W2K12\x64> ls							
	Directory: E:\Windows\Netw	ork	Cisco\MLOM\	W2K12\x64				
Mod	le LastWriteT	ime	Length	Nane				
d 1 1 PS	4/19/2013 5:44 11/16/2012 7:10 11/1/2012 6:43 11/1/2012 6:43 E:\Windows\Network\Cisco\ML	PM PM PM PM	8444 6224 14756Ø 2K12∖x64>	edump enic6x64.cat enic6x64.inf enic6x64.sys				

6. 使用pnputil - i - a .\[driver].inf命令安装驱动程序。

C:1.	Administrator: Windows PowerShell
PS	C:\Users\Administrator> cd E:\Windows\Network\Cisco\MLOM\W2K12\x64
PS	E:\Windows\Network\Cisco\MLOM\W2K12\x64>
PS	E:\Windows\Network\Cisco\MLOM\W2K12\x64>
PS	E:\Windows\Network\Cisco\MLOM\W2K12\x64> pnputil -i -a .\enic6x64.inf
Mid	crosoft PnP Utility
Pro	ocessing inf : enic6x64.inf
Suc	ccessfully installed the driver on a device on the syste
Dri	iver package added successfully.
Pul	blished name : oem1.inf
Tot	tal attempted: 1
Nur	nber successfully imported: 1
PS	E:\Windows\Network\Cisco\MLOM\W2K12\x64>

7. 确认已安装驱动程序。此命令因驱动程序而异;对于ENIC,请运行ipconfig命令。

Administrator: Windows PowerShell Cih E:\Windows\Network\Cisco\MLOM\W2K12\x64> ipconfig Windows IP Configuration Ethernet adapter Ethernet 3: Connection-specific DNS Suffix Link-local IPv6 Address . . . IPv4 Address. rtp-sv.cisco.com fe80::3959:fd23:2afe:4547%20 14.17.124.84 255.255.0 255 Subnet Mask . Default Gateway 17.124. 14. 254Ethernet adapter Ethernet 2: Connection-specific DNS Suffix Link-local IPv6 Address . . . IPv4 Address. rtp-sv.cisco.com fe80::149:152d:639c:501f%16 14.17.124.83 255.255.255.0 14.17.124.254 -Subnet Mask . Default Gateway

8. 如果使用DHCP,则地址应已就绪。否则,返回服务器配置向导,并使用sconfig.cmd命**令配置** IP地址。

将Hyper-V服务器添加到域

Windows依赖于一组复杂的信任域。要将Hyper-V服务器添加到SCVMM或远程管理服务器,您必须 是同一域的成员。在域/工作组信任方面,还有其他方法可以解决此问题,但它们不在本文档的讨论 范围之内。

1. 输入sconfig.cmd命令以启动服务器配置向导。

C:\Windows\System32\cmd.exe - C:\Windows\system32\sconfig.cmd C:1. Server Configuration Workgroup: WORKGROUP WIN-JK7CERTKJA8 1) Domain/Workgroup: 2) Computer Name: 3) Add Local Administrator 4) Configure Remote Management Enabled 5) Windows Update Settings: 6) Download and Install Updates Manual 7) Remote Desktop: Disabled 8) Network Settings 9) Date and Time No active network adapters found. 10) Help improve the product with CEIP Not participating 11) Log Off User 12) Restart Server 13) Shut Down Server 14) Exit to Command Line

2. 输入1以启动域向导。这将引导您完成将服务器添加到域的过程。

C:1.	Administrator: Windows PowerShell
12) F 13) S 14) F	Restart Server Chut Down Server Exit to Command Line
Enter	number to select an option: 1
Chang	ge Domain/Workgroup Membership
Join	(D)omain or (W)orkgroup? (Blank=Cancel) D
Join Name Speci	Domain of domain to join: rtp-sv.cisco.com fy an authorized domain∖user: administrator
Joini	ng rtp-sv.cisco.com
Compu	iter Name
Enter Chang	• new computer name (Blank=Cancel): chrisb2-hyperv1 ring Computer name
Speci	fy an authorized domain\user: administrator

- 3. 使用域,并使用适当的凭证登录。
- 4. 如果未出现指示设置已生效的窗口,请使用**shutdown r**命令重新启动计算机,以使新设置生效。
- 5. 在Jumpserver上使用DNS管理器为主机添加DNS条目。

启用远程访问

远程访问服务器核心有多种方法。最好的是Microsoft管理控制台(MMC)。

MMC

- 1. 在主机上运行netsh advfirewall set allprofiles state off。
- 2. 在Windows 2012 Jumpserver中,打开"服务器管理器",然后右键单击"所有服务器"。
- 3. 搜索主机,并将其添加到服务器管理器。

Local Server		Filter		Q			
All Servers		race		~			
File and Storage Services	Þ	Server Name	IPv4 Address				Manageability
🖪 Hyper-V		CB-HYPERV2	14.17.124.31.14	.17.124.80.14.1	7.124.86.14	.17.124.87	Online - Performance counters not
	ь				Add	Servers	
		_		_			
	A	ctive Directory	DNS	Import	1		Selected
							Computer
	S	earch: chrisb2-h	nyperv2.rtp-sv.cis	co.com		Q	
	Ν	lame		IP Address	5		
	c	hrisb2-hyperv2.r	tp-sv.cisco.com	14.17.124.3	31		
							I

您现在可以像在本地计算机上一样使用服务器管理器。

远程桌面

从命令提示符运行cscript C:\Windows\System32\Scregedit.wsf /ar 0,以便为管理员启用远程桌面 连接。

C:4.	Administrator: Windows PowerShell
PS	C:\>
PS	C:\> cscript C:\Windows\System32\SCregEdit.wsf /ar 0
Mi	crosoft (R) Windows Script Host Version 5.8
Coj	pyright (C) Microsoft Corporation. All rights reserved.
Rey	gistry has been updated.
PS	C:\>_

您现在可以使用具有管理员访问权限的帐户使用远程桌面协**议(RDP**)。您也可以从配置向导中使用 选项7启**用此项**。

Windows远程外壳

1. 运行WinRM quickconfig以启用远程命令提示。



2. 从同一域中的计算机运行winrs - r:[serverName] [command]命令。



远程PowerShell

这类似于远程外壳,但它可为您提供完全的PowerShell访问权限,并允许您连接到远程计算机,如 安全外壳(SSH)。

1. 在远程主机上,运行Enable-PSRemoting - Force命令。

PS C:\Users\Administrator> Enable-PSRemoting -Force WinRM is already set up to receive requests on this computer. WinRM is already set up for remote management on this computer. PS C:\Users\Administrator> _

2. 在远程计算机上运行Enter-PSSession - ComputerName [computer_name]。

Command Prompt - powershell C:\Users\chrisb2> PS C:\Users\chrisb2> Enter-PSSession -ComputerName chrisb2-hyperv1 [chrisb2-hyperv1]: PS C:\Users\chrisb2\Documents> [chrisb2-hyperv1]: PS C:\Users\chrisb2\Documents> [chrisb2-hyperv1]: PS C:\Users\chrisb2\Documents> ipconfig Windows IP Configuration Ethernet adapter Ethernet 3: Connection-specific DNS Suffix Link-local IPv6 Address . . . IPv4 Address : rtp-sv.cisco.com : fe80::3959:fd23:2afe:4547%14 : 14.17.124.84 : 255.255.255.0 : 14.17.124.254 Subnet Mask . Default Gateway Ethernet adapter Ethernet 2: Connection-specific DNS Suffix Link-local IPv6 Address IPv4 Address. rtp-sv.cisco.com fe80::149:152d:639c:501f%13 14.17.124.30 255.255.255.0 -. -Subnet Mask . Default Gateway

安装其他角色

将服务器添加到JumpServer的MMC后,可以从JumpServer运**行"添加/删除角色和功**能"向导,并像 任何其他服务器一样向远程服务器添加角色。现在执行此操作,以便在需要时安装多路径 I/O(MPIO)以及Hyper-V群集所需的故障转移群集功能。

- 1. 打开服务器配置实用程序。
- 2. 导航至管理>添加角色和功能。
- 3. 选择Hyper-V服务器。
- 4. 安装MPIO(如果使用光纤通道(FC))和故障切换群集。
- 5. 对第二台主机重复上述步骤。

其他配置

1. 在命令提示符下使用mpiocpl 命令,以便在安装该功能后启动MPIO向导。

2. 要从CLI配置磁盘,请使用以下命令:

获取磁盘以列出可用磁盘**设置磁盘 — 编号X - IsOffline \$**false,以便使磁盘联机**初始化磁盘** X以初始化磁盘**新分区[Disk_Number] - UseMaximumSize - MBRType - AssignDriveLetter**以 创建分区Format-Volume - DriveLetter [DriveLetter]以格式化驱动器

3. 从jumpserver启动"集群"向导,并将两台主机添加到集群。

将Hyper-V主机添加到SCVMM

现在,您已经完成了基本的Windows安装 — 已安装驱动程序,已配置IP,您已在域中,并且您可以 远程管理设备盒。是时候将主机添加到SCVMM(相当于vCenter)。如果您有运行Hyper-V管理器 的主机,您可以将其指向主机以对其进行管理。但是,这是基本管理,类似于直接登录到ESXi主机 ,而不是vCenter。 本节介绍如何将新调配的Hyper-V主机添加到SCVMM。

- 1. RDP到您的Jumpserver,并使用您的域帐户登录。
- 2. 从桌面启动Virtual Machine Manager控制台。如果未安装此,可以从SCVMM ISO安装。



3. 将控制台指向您的SCVMM服务器,然后单击"使用当前**的Microsoft Windows会话身份"单**选按 钮。

8	Connect to Server		x
Micr Sy	osoft [.] /stem Center 2012		
Vir	tual Machine Manager		
Server name:	rtp-sv-svcmm.cisco.com:8100 Example: vmmserver.contoso.com:8100	 	
Use current	Microsoft Windows session identity		
User name:	Example: contoso\domainuser		
Password:			
Automatically	connect with these settings Connect	Cancel	

4. 您现在在SCVMM中。右键单击"所有主**机"文**件夹,然后选**择创建主机组**。用描述性标题命名 。

Administrate	or - rtp-svscvmm.rtp-sv	v.cisco.com	- Virtua	I Machine N	Manager		
Home	Folder						
🍇 🔡	* 🏝 📑	<u>*</u>			1 23	4	PowerShell
Create Create V Service Machin	firtual Create Create Host ne ▼ Cloud Group	Create VM Network	Assign Cloud	Overview	VMs Services	VM Networks	PRO
	Create		Cloud		Show		Window
VMs and Services	۲.	VMs (0)					
🥵 Tenants							
a Clouds		Name	St	tatus ~	Virtual M 👻	Availability	S Host
📥 VM Networ	ks						
Storage							
All Hock	Create Service						
🔺 🚞 mwi 🦹	Create Virtual Machine						
🦉 m 🛍	Add Hyper-V Hosts and Cl	usters					
🦉 m 🗎	Add Citrix XenServer Hosts	and Clusters					
1	Add VMware ESX Hosts an	d Clusters					
	Create Host Group						
2	Move						
	View Networking						
×	Delete						
	Properties						

5. 右键单击新创建的主机组,然后选择Add Hyper-V Hosts and Clusters。



6. 单击受**信任Active Directory域中的Windows Server计算机单**选按钮。

1	Add Resource Wizard				
😭 Resource	location				
Resource location	Indicate the Windows computer location				
Credentials	Windows Server computers in a trusted Active Directory domain				
Discovery scope	O Windows Server computer in an untrusted Active Directory domain				
Target resources	O Windows Server computers in a perimeter network				
Host settings	If you select this option, before you continue, use VMM Setup to install the VMM agent locally on the targeted computers. Ensure that you configure the perimeter network settings during the agent setup.				
Summary	O Physical computers to be provisioned as virtual machine hosts				
Summary	Select this option to add bare-metal computers with baseboard management controllers.				

7. 单击"**使用现有运行方式帐户"**单选按钮。这是向导用于登录您添加的主机的帐户。

1	Add Resource Wizard
📍 Credentia	ls
Resource location	Specify the credentials to use for discovery
Credentials	The Run As account or credentials will be used to discover computers and to install the Hyper-V role and
Discovery scope	the Virtual Machine Manager agent if necessary.
Target resources	Use an existing Run As account
Host settings	Run As account: Administrator Browse
riost settings	O Manually enter the credentials
Summary	User name:
	Example: contoso\domainuser
	Password:

8. 输入需要添加的服务器的DNS名称。

1	Add Resource Wizard			
😭 Discover	y scope			
Resource location	Specify the search scope for virtual machine host candidates			
Credentials	Search for computers by whole or partial names, FQDNs, and IP addresses. Alternatively, you may			
Discovery scope	generate an Active Directory query to discover the desired computers.			
Target resources	Specify an Active Directory query to search for Windows Server computers			
Host settings	Enter the computer names of the hosts or host candidates that you want VMM to manage. Each			
Summary	Computer names:			
-	chrisb2-hyperv1.rtp-sv.cisco.com			

9. 在下一个屏幕上,选择必**须添**加的已发现服务器。如果在此屏幕上看不到服务器,请返回并修 改搜索参数。

1	Add Resource	ce Wizard	
📬 Target reso	ources		
Resource location Credentials	Select the computers that you Discovered computers:	u want to add as hosts	
Discovery scope	Computer Name	Operating System	Hypervisor
Target resources	🗹 🕴 chrisb2-hyperv1.rtp-sv.cisco.c	om Hyper-V Server 2012	Hyper-V
Host settings			
Migration Settings			
Summary			

10. 根据需要修改设置。例如,可以更改默认路径。

1	Add Resource Wizard	X
📍 Host settin	ngs	
Resource location Credentials Discovery scope Target resources	Specify a host group and virtual machine placement path settings for hosts Assign the selected computers to the following host group: Host group: chrisb2 If any of the selected hosts are currently managed by another Virtual Machine Manager (VMM)	·
Migration Settings Summary	environment, select this option to reassociate the hosts with this VMM management server. Reassociate this host with this VMM environment VMM uses virtual machine placement paths as default locations to store virtual machines placed on a host. To add a new virtual machine placement path, specify a path and click Add. Add the following path:	
	Add Selected virtual machine placement paths: Remove	e

11. 如果需要**, 启用**实时迁移。您还可以指定要使用的网络。

1	Add Resource Wizard
👇 Migration	n Settings
Resource location	Specify the live storage and migration settings
Credentials	Live storage migration
Discovery scope	Maximum number of simultaneous live storage migrations: 2
Target resources	Live migration settings
Host settings	Turn on incoming and outgoing live migrations Maximum number of simultaneous live migrations:
Migration Settings	Authentication protocol:
Summary	Use Credential Security Support Provider (CredSSP) Use Kerberos
	Incoming live migration settings:
	Use any available network
	O Use the following IP subnets:
	Subnets Add
	Remove

12. 验证并接受更改。确保修复所有错误。

1		Add Resource Wizard		×
😭 Summary	le anno ann		Alts	
Resource location Credentials	Confirm the settir	ngs		View Script
Discovery scope Target resources Host settings Migration Settings Summary	Resource type: Resource location: Discovery credential Discovery scope: Host settings:	Hyper-V capable Windows Servers Trusted Windows computer s: Administrator Computer name based discovery 1 computers are selected to manage Host group: All Hosts\chrisb2		
		Previ	ous Finish	Cancel

如果连接有问题(例如,如果出错),请完成以下步骤:

- 使用PowerShell netsh advfirewall set allprofiles state off命令禁用Windows防火墙。
- •确保使用正确的凭证,并且主机在域上。
- 查看Windows错误日志,因为在这种情况下这些日志通常非常有用。

Hyper-V上的Nexus 1000v

默认情况下,Hyper-V上的Nexus 1000v与VMware上的Nexus 1000v的配置非常不同。这是因为 Hyper-V上的Nexus 1000v由于Hyper-V的网络架构而严重依赖于网络分段功能。以下是不同术语及 其交互方式的简要概述:

- 逻辑网络 逻辑网络是包含特定网络的通用桶。例如,DMZ将是逻辑网络,而生产将是另一 个。
- **网段池** 属于逻辑网络的网段的集合。例如,它们可能用于不同的站点,例如RTP的一个池和 SJ的一个池。
- 网段 这是定义网络访问功能的地方。这是分配VLAN的位置。
- •端口配置文件 策略的集合,而不是连接。服务质量(QoS)、访问控制列表(ACL)等属于此处 。
- IP池 此地址分配给网段。在大多数情况下,这无关紧要。但是,在协调时,SCVMM可以自 动从此池分配地址。
- •以太网 这是来自主机的上行链路。每组上行链路都允许特定网段池。
- vEthernet 这是VM的接口。它继承其策略的端口配置文件和其VLAN的网段。
- VMnetwork 这是与SCVMM端的IP池结合的网段。
- •端口分类 这是指SCVMM中的端口配置文件策略。

下图说明了继承链:



使用安装程序应用程序安装虚拟管理引擎模块(VSM)

使用此方法进行全新安装 — 安装程序应用程序仅显示没有虚拟交换机的主机。这将安装VSM并提 供一些基本配置。您不应使用此安装,因为如果手动安装,您会更了解产品。但是,此处包含了它 以供参考。

- 1. 使用域凭据登录Jumpserver。
- 2. 打开Windows资源管理器窗口并导**航至[n1k bundle]\VSM\Installer_App**。
- 3. 右键单击Cisco.Nexus1000VInstaller.UI.exe,然后选择以管理员身份运行。

(⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) <> ↑ (⇐) << ↑ (⇐) << ↑ (⇐)				
쑦 Favorites	Name		Date modified	Туре
📃 Desktop	Cisco.Nexus1000VInstaller.C	Core.dll	6/2/2013 7:35 PM	Application
🗼 Downloads	Cisco.Nexus1000VInstaller.U	Л	6/2/2013 7:35 PM	Application
🔚 Recent places	DiscUtils.dll	Open		Application
	Licenses	Pin to Sta	rt	ext Docum
🥃 Libraries	🚳 LukeSkywalker.IPNetworl 🍕	👂 Run as ad	ministrator	Application
Documents	📑 NLog	Troublesh	oot compatibility	(ML Config
N NALLEL	A 11 III			- e - e

- 4. 查看要求。单击 Next。
- 5. 输入SCVMM服务器详细信息。确保使用管理员帐户。

	C 10 10 04 0 4 0 0 C C C D1 4		
	Cisco Nex	us 1000V Installer for I	Microsoft System Center 2012 with Hyper-
Steps		Login to SCVMM	
Prerequisites		Host Name / IP Address:	localhost
Login to SCVMM			8100
Enter VSM Details		Port (https):	
Review Inputs		Domain\User Name:	rtp-sv\cnrisb2
Track Progress		Password:	******
View Installation Sur	mmary		

6. 在下一页,您需要基本的Nexus 1000v配置。根据您的需求填写此信息。VSM ISO在VSM文件 夹中,VEM .msi在VEM文件夹中。当前存在Cisco Bug ID <u>CSCuh36072</u> 漏洞,该漏洞阻止此 向导查看已定义虚拟交换机(vSwitch)的主机。Hyper-V服务器附带已创建的vSwitch。由于此 Bug,您需要删除vSwitch。要删除它,请右键单击host,转到属性,然后转到虚拟交换机。

Cisco Nex	us 1000V Installer for M	Aicrosoft System Center 2012 with Hyper-V		
Steps	Enter the Virtual Super	rvisor Module (VSM) Details		
Prerequisites Login to SCVMM Enter VSM Details	Import Configuration Deploy the Virtual Supe	ervisor Module (VSM) in High Availability (HA) mode		
Review Inputs	Host 1 (Primary VSM VM's	s Host)		
Track Progress	IP Address / Name: Network Adapter:	Emulex OneConnect OCm10102-F-C, NIC/TOE		
View Installation Summary	Host 2 (Secondary VSM V	M's Host)	1	
	IP Address / Name:	mw-hyperv1.rtp-sv.cisco.com	1	
	Network Adapter:	Emulex OneConnect OCm10102-F-C, NIC/TOE	1	
	VSM Name:	chrisb-HyperV	1	
	ISO Image Location: C:\Users\chrisb2\Desktop\Nexus1000v.5.2.1.SM1.5.1\VSM\Install\nex Browse			
	Nexus 1000V VEM MSI: C:\Users\chrisb2\Desktop\Nexus1000v.5.2.1.SM1.5.1\VEM\Nexus1001 Browse			
	VSM IP Address:	14.17.124.15	1	
	Subnet Mask: 255.255.0			
	Gateway IP Address:	14.17.124.254	1	
	Domain ID:	365		
CISCO.	VSM Management VLAN:	124]	
Nexus 1000V	Is the Management VLAN	of the host(s) same as the VSM Management VLAN ?		
	● Yes ○ No	The management VLAN of the host(s) is: Host Management VLAN		
	Save Configuration	1		
About		Previous Next Cancel]	

7. 验证设置,然后单击Next开始安装。安装大约需要十到二十分钟。



完成此向导后,您可以登录VSM。Admin/Admin是默认安装。

手动安装Nexus 1000v

本节介绍如何手动安装Nexus 1000v系列交换机,这在以下几种情况下非常有用:

- •与已存在的系统集成。手动安装方法更精细,允许您准确控制其集成方式。
- 更深入地了解产品。通过此方法,您可以更好地了解一切如何集成,从而更轻松地排除故障和 扩展。
- •安装程序出现问题。如果安装程序遇到任何问题,可以使用手动方法。

手动安装VSM

如果需要将VSM安装到已存在的环境中,请使用此方法。此方法允许您使用现有的基础设施,而不 是构建自己的基础设施。

第1部分 — SCVMM设置

此过程只需对每个SCVMM服务器执行一次。

- 1. 在SCVMM服务器上安装提供程序MSI。
- 2. 导入VSM模板。

在SVCMM服务器上,打开PowerShell。运行Register-Nexus1000vVsmTemplate.ps1脚本。 将虚拟**以太网模块(VEM)复制**到SVCMM存储库ALLUSERSPROFILE%\Switch Extension Drivers。创建逻辑网络(Fabric > Logical Networks)并将其与标准交换机关联(右键单击主机、 Properties、Virtual Switches以创建交换机,并Hardware以将逻辑网络分配给它)。 这允许您 将VM放置到此网络。

第2部分 — VSM部署

- 1. 转到**库 >库服务器**,并将VSM .iso上传到库服务器。
- 2. 右键单击Infra1,然后选择"新建虚拟机"。
- 3. 选择Nexus1000v-VSM-Template。这是在PowerShell脚本在第1部分中运行时注册的。

	Create Virtual Machine Wizard			
🕞 Select Source				
Select Source	Select the source for the new virtual machine.			
Specify Virtual Machine Identity Configure Hardware Select Destination Select Cloud	Use an existing virtual machine, VM template, or virtual hard disk. Nexus 1000V-VSM-Template Create the new virtual machine with a blank virtual hard disk			

- 4. 为VSM命名。
- 5. 将网络适配器连接到第1部分中创建的网络。

H Save as New: 🚙 Di	isk ∢	🗦 SCSI Adapter 🛯 🍓 DVD 🛛 🎕 Network Adapter 🛛 🗡 Remove
Nideo Adapter	^	Network Adapter 3
Default video adap		Connectivity
Bus Configuration		
DE Devices 2 Devices attached		Connected to a VM network:
Nexus1000V-V 4.00 GB, Primary		VM network: VSM Connection Browse
Virtual DVD drive No Media Capt		Static IP (from a static IP Pool)
SCSI Adapter 0 0 Devices attached		
* Network Adapters	≡	MAC Address
Network Adapter 1 Connected to VSM		 Dynamic Static:
Network Adapter 2 Connected to VSM		Port Profile
Network Adapter 3		Classification:
Connected to VSM		Enable virtual switch optimizations

- 7. 向下滚动,在Availability(可用性)下启用High Availability(HA)(仅当将VSM安装到故障转移 群集时才需要这样做)。
- 8. 将VSM放在基础设施主机上。
- 9. 部署VM后,启动KVM,并运行初始配置向导。

第3部分 — VSM基本配置

1. 启用网络分段管理器和http服务器

chrisb2-hyperv# chrisb2-hyperv# configure terminal Enter configuration commands, one per line. End with CNTL/Z. chrisb2-hyperv(config)# feature network-segmentation-manager chrisb2-hyperv(config)# feature http-server chrisb2-hyperv(config)#

 为VLAN创建IP池。这些是您分配给VM的IP。它们需要定义,但只有在SCVMM提供自动化时 才使用。

nsm ip pool template VLAN124 ip address 14.17.124.80 14.17.124.250 network 14.17.124.0 255.255.255.0 default-router 14.17.124.254

3. 创建逻辑网络。您只需一个逻辑网络,除非您有类似DMZ的设备。

nsm logical network chrisb2-CALO

4. 创建网**段池**。使其成为逻辑网络的成员。

nsm network segment pool chrisb2-RTP member-of logical network chrisb2-CALO

5. 创建多**个网**段,每个接入VLAN一个。

nsm network segment chrisb2-124
member-of network segment pool chrisb2-RTP
switchport access vlan 124
ip pool import template ip_pool_124
publish network segment
switchport mode access

6. 为VM创建端口配置文件。无需在此处访问VLAN。请记住,端口配置文件只是策略的集合。

```
port-profile type vethernet defaultAccess
no shutdown
state enabled
publish port-profile
```

7. 创建网络分段管理器(NSM)上行链路。allow network segment pool命令告诉SVCMM这些网段 被允许通过此上行链路。主机需要这样才能查看数据段。

nsm network uplink UPLINK switchport mode trunk publish network uplink allow network segment pool chrisb2-RTP

8. 使用任何**所需策略(**如port-channel)修改创建的端口配置文件。

port-profile type Ethernet UPLINK channel-group auto mode on mac-pinning

第4部分 — SVCMM基本配置

1. 导航至**交换**矩阵,然后展**开网络**。右键单击Switch Extension Manager,然后单击Add Virtual Switch Extension Manager。

🖬 Adn	ninistrator - S	CVMM.li	ve.cisco.c	com - Virtual Mach	ine Manager					- 0 X
	Home									^ 😧
+ Create	Add Resources •	Overview	Fabric Resources	Services	PowerShell Jobs	View Dependent Resources	Refresh	Remove	Properties	
	Add		SI	how	Window	Dependencies	Refresh	Remove	Properties	
Fabric) 한 S	ervers		•	Virtual Switch Extens	ion Managers (3)					٩
4 📥 N	letworking			Name					Connection	string
v f r	Logical Network	ks		Cisco Nexus 1000	V Chassis version 5	.2(1)SM1(5.1) [build 5	2(1)5M1(5.0	.201)]	http://14.17	4.151
	MAC Address P	ools		Cisco Nexus 1000	V Chassis version 5	.2(1)SM1(5.1) [build 5	2(1)5M1(5.0	201)]	http://14.17	4.152
	Load Balancers			Cisco Nexus 1000	v unassis version p	(2(1)3M1(3.1) [build 3	2(1)3M1(3.0	201)]	http://ia.1/	4.135
	Switch Extensio Logical Switche Native Port Prol Port Classificatio Gateways torage	n Manusan s files ons	Add Virt	ual Switch Extension M	anager					
	/Ms and Service									
10	a training and a state of the s		_							
<u> </u>	aunc		_							
– 1	library								0	
ر <u>(</u>)	lobs									ctivate Windows
💌 S	iettings								N 40	indows.

- 2. 输入"连**接"设置**。连接字符串地址为<u>http://your_VSM_IP_address</u>。
- 3. 单击**Browse**,然后创建**具有凭**据的Run As帐户以登录Nexus 1000v。

3	Add Virt	tual Switch Extension Manager Wizard	×
😽 General		sale of the second s	
General Host Groups Summary	Enter connection Select a manufacture string and credential Manufacturer: Model: Provider: Connection string: RunAs account:	on settings for the extension manager to add rer, model, and configuration provider for the extension manager. Enter the connection als to be used. Cisco Systems, Inc. • Nexus 1000V • Cisco Systems Nexus 1000V • http://14.17.10.1 VSM Browse	
		Previous Next Cancel]i

4. 单击 Next。

5. 在"主机组"面板中,选择可以**使用虚**拟交换机扩展管理器的所有主机组,然后单击"下**一步"**。

3	Add Virtual Switch Extension Manager Wizard
😽 Host Gro	ups
General Host Groups	Host groups that can use this virtual switch extension manager The virtual switch extension manager will be available to the following host groups.
Summary	All Hosts All Live2013-Group
	Previous Next Cancel

6. 在"摘要"面板中,确认设置,然后单击"完**成"**。现在应创建交换机分机。

第5部分 — 创建逻辑交换机

1. 在SCVMM用户界面中,单击左侧导航面板中"Networking"下的**Fabric**,然后单击"**Logical** Switches"。右键单击逻辑交换机并创建逻辑交换机。

Administrator - WIN2012.Live2013	3.com - Virtu	ial Machine Manag	er (Evaluation	Version - 177 day	ys remaini	ng)	_ D X
Home							^ 😧
Create Logical Network	Create Cre pical Switch	eate Add • Resources •	Show Window	View Dependent Resources	Remove	Properties	
Create		Add		Dependencies	Remove	Properties	
Fabric <	Logical Switch	hes (0)					
▶ ₱₱ Servers							P
A -	Name						
1 Logical Networks			There are	e no items to show in	this view		
CADA Address Pools							
🔛 Load Balancers							
VIP Templates							
Switch Extension Managers							
Create Logical	al Switch						
Native Port Profile							
Gateways							~
storage							
WMs and Services							
Pabric Fabric							
🧮 Library							
🗐 Jobs							

- 2. 单击"入门"页面上的**"下一步"**。查看说明,然后单击**Next**。
- 3. 输入逻辑交换**机的**名称和说明。

2	Create Logical Switch Wizard
🐖 General	and the
Getting Started	Enter name and description for the logical switch
General	You can use a logical switch to apply settings to virtual switches across multiple hosts. A logical switch contains port profiles from the native Hyper-V switch and port profiles for any extensions that you use
Uplink	Name: Pod-1
Virtual Port	Description: Nexus 1000v for SCVMM
Summary	 Enable single root I/O virtualization (SR-IOV) SR-IOV allows a device, such as a network adapter, to gain direct access to physical networks adapters that support SR-IOV. Using SR-IOV, network performance can achieve nearly the same performance as in non virtualized environments. You can enable SR-IOV only when a logical switch is created. To change your SR-IOV usage in the future, you must create a different logical switch.
	Previous Next Cancel

4. 在"分机"面板中,列出了虚拟交换机分机。选择您**创建的**VSM扩展,然后单**击Next**。 **注意:**只能选择一个转发扩展。

Adn	ninistrator - SCVMM.I	ive.cisco.c	com - Virtual Machi	ine Manager					- 0 ×
	Home								^ 😢
+ Create	Add Overview	Fabric	Services	PowerShell	View Dependent	Refresh	Remove	Properties	
•	Resources •	Resources	TY Posts	Nodau.	Resources	Refrech	Remove	Dranastias	
Fabric > 한한 S	ervers	•	Virtual Switch Extensio	on Managers (3)					(م
4 📥 N	letworking		Name	Charrie consistent F	WHICH AND AN IN- THE R	2/11/51/11/5 0	2011	Connection	string
100	Logical Networks		Cisco Nexus 1000	V Chassis version 5	2(1)SM1(5.1) [build 5 2(1)SM1/5.1) [build 5	2(1)5M1(5.0 2(1)5M1/5.0	201)]	http://14.17	4152
	MAC Address Pools		Cisco Nexus 1000	V Chassis version 5	2(1)SM1(5.1) [build 5	2(1)5M1(5.0	.201)]	http://14.17	4.153
	VIP Templates								
	Switch Extension Manuar Logical Switches Native Port Profiles Port Classifications Gateways torage	Add Vin	ual Switch Extension Ma	inager					~
iler v	/Ms and Services								
	ibrary	_							
	obs								Activate Windows
💌 s	iettings							V N	o to Action Center to activate Vindows.

- 5. 在Uplink面板中,指定属于此逻辑交换机一部分的上行链路端口配置文件。上行链路端口配置文件可用于创建逻辑交换机实例的主机。将上行链路模式设置为组。
 注意:无论您使用单个上行链路还是多个上行链路,模式都应始终为Team。
- 6. 在Uplink port-profiles字段中,单击Add。将打开Add Uplink Port Profile窗口。

2	Create Logical Switch Wizard		x
👫 Uplink			
Getting Started General	Specify the uplink port profiles that are part of this logic The uplink port profiles configured here are available for use on hosts whe created.	cal switch ere an instance of this switch	is
Extensions Uplink	Uplink mode: Team	n	
Virtual Port Summary Port Virtual Port June Port Net	ect a port profile port profile selected here will be available for use by the host physical oter that connect to this logical switch. profile: Uplink-1 mmary ost groups: All Hosts etwork sites: Internet-1	d For Deleti Add Edit Remov	
	OK Cancel	Next Cancel	

2	C	reate Logical Swite	h Wizard		×
🐖 Uplink				AA	
Getting Started General Extensions Uplink	Specify the uplin The uplink port profile created. Uplink mode: Team	nk port profiles these sconfigured here are	nat are part of th available for use on	his logical switch hosts where an instance o	f this switch is
Virtual Port Summary	Uplink port profiles: Uplink Port Profile Uplink-1	Host Groups All Hosts	Network Sites Internet-1	Marked For Deleti False	Add Edit Remove
			P	Previous Next	Cancel

7. 单击 Next。在下一个屏幕中,选择Add以启动分类向导。

2	Create Logical Sv	vitch Wiz	ard	×
💦 🎆 Virtual Port	t		AA	ШĤ
Getting Started	Specify the port classifications	for virtu	ual ports part of this logical s	witch
General Extensions	The port classifications configured here virtual machines.	will be avai	ilable for use by virtual network adapte	ers in a host or
Uplink	Virtual ports:		_	
Virtual Port	Port Classification	Default	Marked For Deletion	Add
Summary				Edit Remove Set Default Clear Default
			Previous Next	Cancel

8. 选择您**的VSM**和您**创建的端**口配置文件。单击**browse**以创建端口分类。(端口分类是要应用 于接口的策略的集合 — 请记住,这是端口配置文件定义的!)

Add Virtual Port
Configure the virtual port
Specify the port classification for the virtual port. For each switch extension associated to the logical switch, one port profile may be selected. Additionally, a native virtual network adapter port profile may be associated to the virtual port.
Port classification: Browse
✓ Pod-1
Use this port profile: AllAccess-1
Include a virtual network adapter port profile in this virtual port
Native virtual network adapter port profile:
OK Cancel

Select a Port Profile Classification

Name	Description
SR-IOV	Port classification to be used for virtual machines t
Host management	Port classification to be used for host managemen
Network load balancing	Port classification to be used for virtual machines t.
Live migration workload	Port classification to be used for host live migratio
Medium bandwidth	Port classification to be used for virtual machines t
Host Cluster Workload	Port classification for host cluster workloads.
Low bandwidth	Port classification to be used for virtual machines t
High bandwidth	Port classification to be used for virtual machines t.
iSCSI workload	Port classification for host iSCSI workloads.
	Create Port Classification

9. 为端口分类指定名称和说明。

8	Create Port Classification Wizard
Specify a	name and description for the port classification
Name:	NoRestrictions-1
Description:	Port Profile with No Restrictions.
View Script	OK Cancel

Name	Description
SR-IOV	Port classification to be used for virtual machines t
Host management	Port classification to be used for host managemen
Network load balancing	Port classification to be used for virtual machines t.
Live migration workload	Port classification to be used for host live migratio
Medium bandwidth	Port classification to be used for virtual machines t
Host Cluster Workload	Port classification for host cluster workloads.
Low bandwidth	Port classification to be used for virtual machines t
High bandwidth	Port classification to be used for virtual machines t
iSCSI workload	Port classification for host iSCSI workloads.
AllAccess1	
NoRestrictions-1	Port Profile with No Restrictions.
	Create Port Classification.

F

^{10.} 选择刚创**建的端口**配置文件分类,然后单击确定。

8	Add	Virtual Port		x
Configure the virtue Specify the port classificat one port profile may be s associated to the virtual p	al port tion for the virtual port. I elected. Additionally, a n ort.	For each switch extension ative virtual network ada	associated to the lopter port profile ma	ogical switch, y be
Port classification: NoRes	trictions-1			Browse
Pod-1				
Use this port profile:	AllAccess-1			-
Native virtual network	adapter port profile i	n this virtual port		-
			ОК	Cancel

2	Create Log	ical Switch Wi	zard	×
👫 Virtual P	ort		14	
Getting Started General Extensions Unlink	Specify the port classifications configure virtual machines.	ations for virt d here will be ava	rual ports part of this logic ailable for use by virtual network a	al switch dapters in a host or
	Port Classification	Default	Marked For Deletion	Add
Virtual Port	NoRestrictions-1	False	False	Edit
Summary				Remove
				Set Default
			Previous Ne	xt Cancel

11. 单击**OK**以完成添加虚拟端口。单击**Next**以关闭Create Logical Switch Wizard窗口。

*	Create Log	gical Switch Wizard		×
👬 Summary				antill
Getting Started General	Confirm the settings			View Script
Extensions Uplink Virtual Port Summary	Name: Description: Single Root I/O Virtualization: Switch uplink mode: Virtual switch extensions: Uplink port profile sets: Virtual port profile sets:	Pod-1 Nexus 1000v for SCVMM Disabled Team Pod-1 1		
			Previous	Finish Cancel

第6部分 — 基于网段创建VMNetwork

1. 转到VM**和服务,**右键单击VM网络,然后选择创建VM网络。



2. 为其指定描述**性名**称,选择**逻辑网**络,然后单击Next。

<u>9</u> .		Create VM Network Wizard
🄔 Name		
Name Isolation Summary	Specify a name: Name: Description:	me and description for the VM network chrisb2-124
	Logical network:	chrisb2-CALO

3. 对于隔离,选择**外部提供的VM**网络,然后**选择网段**。

<u>8.</u>	Create VM Network Wizard
🌲 Isolation	
Name Isolation	Configure the isolation for this VM network, or select automatic to have it configured for you
Summary	 Automatic Specify an externally supplied VM network External VM network: chrisb2-124 User defined

4. 完成向导。现在,您可以在此VLAN上部署VM。

将主机添加到DVS

将主机添加到逻辑交换机时,VEM会自动安装。

- 1. 转到交**换矩阵>所有主机**。
- 2. 右键单击第**二台主**机,然后选择**属性**。
- 3. 单击Virtual Switches。
- 4. 选择New Virtual Switch > New Logical Switch。
- 5. 将网卡连接到Nexus 1000v逻辑交换机。

•	chrisb2-hyperv1.rtp-sv.cisco.com Properties
General	New Virtual Switch 🛒 New Virtual Network Adapter 🗙 Delete
Status	VSwitch0 External Logical switch: Microsoft_Switch_chrisb2-Nexus
Hardware	Microsoft_Switch_chrisb2 Logical Switch Uplink Port Profile
Host Access	Cisco VIC Ethernet Interfa V Native_Uplink_PortProfile, V
Virtual Machine Paths	
Reserves	
Storage	
Virtual Switches	
Migration Settings	
Placement	
Servicing Windows	

6. 验证模块是否出现在VSM上的show module下。

chrisb2-hyperv#											
chrisb2-hyperv‡ show mod											
Mod	Ports	orts Module-Type				Model			Status		
1	0	Virtual	Supervis	sor Mo	odule		Nexus1000V			active *	*
2	0	Virtual	Supervis	sor Mo	dule		Nexus1000V		ha-stand	iby	
3	288	Virtual	Ethernet	t Modu	ile		NA			ok	
4	288	Virtual	Ethernet	t Modu	ıle		NA			ok	
Mod	Sw		Hw								
1	5,2(1)	SM1 (5.1)	0.0	 0							
2	5.2(1)	SM1(5.1)	0.0	0							
3	5.2(1)	SM1(5.1)	Win	ndows	Server	2012	(6.2.9200,	6.30))		
4	5.2(1)	SM1(5.1)	Win	ndows	Server	2012	(6.2.9200,	6.30))		
Mod	MAC-Ado	iress(es)					Serial-Num				
1	00-19-0)7-6c-5a-	a8 to 00	0-19-0)7-6c-62	2-a8	NA				
2	00-19-0	07-6c-5a-	a8 to 00	0-19-0)7-6c-62	2-a8	NA				
3	02-00-0	0c-00-03-	00 to 02	2-00-0	c-00-03	3-80	NA				
4	02-00-0	0c-00-04-	00 to 02	2-00-0	c-00-04	1-80	NA				
Mod	Server-	-IP	Serve	r-UUII)				Server	r-Name	
1	14.17.5	5.1	NA						NA		
2	14.17.5	5.1	NA						NA		
3	14.17.1	124.82	82DD71	D06-20	92-E011	-0000	-0000000000)4F	CHRISE	32-HYPERV	/1
4	14.17.124.31 82DD7D06-2092-E011-000				-0000000000)5F	CHRISE	32-HYPERV	72		

7. 将VM连**接到**您创建的分类和分段,然后检验连接。

手动安装VEM

如果SCVMM未安装VEM,您可以使用此命令来安装VEM:

msiexec.exe /i [Path_to_N1k_bundle]\VEM\Nexus1000v-VEM-5.2.1.SM1.5.1.0.msi

验证

当前没有可用于此配置的验证过程。

故障排除

目前没有针对此配置的故障排除信息。