

Chapter 1. Preparation

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1.1 Case 1 : VMware was installed

In this case, we should assume that VMware Client program is also installed.

You have to set up the necessary resources in using the Client program.

[SCM Virtualization resource]

구분	SCM Express	SCM Enterprise
Virtual CPU	2.0 GHz 4 core	2.0 GHz 4 core
Virtual RAM	6 GByte	10 GByte
Virtual HDD	300 GByte	300 GByte
Virtual Network bandwidth	100 Mbps	100 Mbps
Virtual Network adapter	3	3

See Chapter3 to set up.

1.2 Case 2 : VMware was not installed

1.2.1 Physical Server

[Server Resource]

구분	SCM Express 용	SCM Enterprise 용
CPU	2.0 GHz 5 core or more 2.9 GHz 4 core or more	2.0 GHz 5 core or more 2.9 GHz 4 core or more
RAM	10 GByte or more	14 GByte or more
HDD	300 GByte or more	300 GByte or more
Network bandwidth	100 Mbps or more	100 Mbps or more
Network adapter	1(minimum) / 3(recommended)	1(minimum) / 3(recommended)

(Caution)

Server resources have to be sufficient to install VMware and SCM S/W.

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1.2.2 VMware Installation

VMware vSphere Hypervisor : VMware ESXi 5.5

This guide does not describe VMware installation.

1.2.3 VMware Client program installation

VMware vSphere Client : VMware-viclient-all-5.5.0-1281650.exe

See Chapter2 to install VMware Client.

Chapter2. VMware Client Installation

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VMware v	/Sphere Client 5.5 - InstallShield Wizård
ۍ اک	다음 선택사항에서 설치 언어를 선택합니다.
	영어 ▼ 확민(0) 취소

VMware	vSphere Client 5.5 - InstallShield Wizard
と	VMware vSphere Client 5.5 Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Decom	pressing: VMware vSphere Client 5.5.msi
	Cancel

• Run installation file and select the language.



- vSphere Client wizard start
- <Next>

😸 VMware vSphere Client 5.5	×
End User License Agreement	
Please read the following license agreement carefully.	
VMWARE END USER LICENSE AGREEMENT	-
PLEASE NOTE THAT THE TERMS OF THIS END USER LICENSE AGREEMENT SHALL GOVERN YOUR USE OF THE SOFTWARE, REGARDLESS OF ANY TERMS THAT MAY APPEAR DURING THE INSTALLATION OF THE SOFTWARE.	
IMPORTANT-READ CAREFULLY: BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE, YOU (THE INDIVIDUAL OR LEGAL ENTITY) AGREE TO BE BOUND BY THE TERMS OF THIS END USER LICENSE	Ŧ
 I accept the terms in the license agreement 	
I do not accept the terms in the license agreement	
InstallShield	
< Back Next > Cancel	

• Select

<I accept the terms in the license agreement>

<Next>

VMware vSphere Client 5.5	×
Ready to Install the Program	
The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. C exit the wizard.	lick Cancel to

The wizard is ready to begin installation.	
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. Cl exit the wizard.	lick Cancel to
InstallShield	
< Back Install	Cancel

• Select <Install>



- Select <Finish>
- Run VMware vSphere Client program.

Chapter3. VMware Network Configuration

💋 VMware vSphere Client	<u> </u>
vmware [.] VMware vSphere Client	
In vSphere 5.5, all n through the vSphere will continue to opera vSphere 5.0, but not vSphere 5.5. The vSphere Client is Manager (VUM) and (e.g. Site Recovery I	ew vSphere features are available only e Web Client. The traditional vSphere Client ate, supporting the same feature set as t exposing any of the new features in s still used for the vSphere Update Host Client, along with a few solutions Manager).
To directly manage a single To manage multiple hosts, vCenter Server. IP address / Name: User name: Password:	e host, enter the IP address or host name. enter the IP address or name of a 10.251.194.180
	Use Windows session credentials

- Input IP address of server that is installed VMware ESXi
- Input Id/Password of VMware ESXi.

curity Warning					
Certificate Warnings					
An untrusted SSL certificate is installed on "10.251.194.180" and secure communication cannot be guaranteed. Depending on your security policy, this issue might not represent a security concern. You may need to install a trusted SSL certificate on your server to prevent this warning from appearing.					
The certificate received from "10.251.194.180" was issued for "localhost.localdomain". Secure communication with "10.251.194.180" cannot be guaranteed. Ensure that the fully-qualified domain name on the certificate matches the address of the server you are trying to connect to.					
lick Ignore to continue using the current SSL certificate.					
View Certificate Ignore Cancel					
Install this certificate and do not display any security warnings for "10.251.194.180".					

• In this case, select <Ignore>

3 10.251.194.180 - vSphere Client	
File Edit View Inventory Administration Plug-ins Help	
Te the test of tes	
Inventory	
Inventory	
Administration	
Roles System Logs	
Recent Tasks Name, Target or Status contains: -	Clear ×
Name Target Status Details Initiated by Requested Start Ti Start Time Completed Time	
V lasks	root

• Select <Inventory>

🗿 10.251.194.180 - vSphere C	Client								
File Edit View Inventory Administration Plug-ins Help									
💽 💽 🏠 Home 🕽 🛃 Inventory 🗦 🗊 Inventory									
RT 67									
Image: Second system 10.251.194.180 Image: Second system 10.251.194.180 Recent Tasks 10.251.194.180 Name 10.251.194.180 Image: Second system 10.251.194.180 <td< th=""><th>Imp-vmh2 V Getting Sta Hardware Health Process Memor Storag Networ Storag Networ Advant Power License Time C DNS ar Auther Virtual Securit Hardvare</th><th>Mware ESXI, 5.5.0, 1 rted Summary Vir Status sors y e Adapters k Adapters k Adapters k Adapters k Adapters k Adapters ced Settings Management d Features onfiguration d Routing titication Services Machine Startup/Shutd Machine Swapfile Locat y Profile Status Status Completed</th><th>331820 tual Machines etwo anda S VI VI S S VI VI S S VI VI S S S VI VI S S S S</th><th>Resource Alloc vSphere Stan rking rd Switch: vSwitci trual Machine Port Gr M Network virtual machine(s W12_CM2</th><th>ation Performance Co dard Swit 10 10 10 10 10 10 10 10 10 10</th><th>Anfiguration Local Users Refr Remove Properties. al Adapters Vmnic0 100 Full vmnic0 100 Full start Time 12/11/2014 11:11:56</th><th>& Groups Events Pe esh Add Networking</th><th>ermissions Properties</th><th></th></td<>	Imp-vmh2 V Getting Sta Hardware Health Process Memor Storag Networ Storag Networ Advant Power License Time C DNS ar Auther Virtual Securit Hardvare	Mware ESXI, 5.5.0, 1 rted Summary Vir Status sors y e Adapters k Adapters k Adapters k Adapters k Adapters k Adapters ced Settings Management d Features onfiguration d Routing titication Services Machine Startup/Shutd Machine Swapfile Locat y Profile Status Status Completed	331820 tual Machines etwo anda S VI VI S S VI VI S S VI VI S S S VI VI S S S S	Resource Alloc vSphere Stan rking rd Switch: vSwitci trual Machine Port Gr M Network virtual machine(s W12_CM2	ation Performance Co dard Swit 10 10 10 10 10 10 10 10 10 10	Anfiguration Local Users Refr Remove Properties. al Adapters Vmnic0 100 Full vmnic0 100 Full start Time 12/11/2014 11:11:56	& Groups Events Pe esh Add Networking	ermissions Properties	
Update network config	10.251.194.180	Completed		root	12/11/2014 11:11:56	12/11/2014 11:11:56	12/11/2014 11:11:56		
🚰 Tasks								root	

- Select Configuration tab
- Hardware -> Networking

- If there is only the VM Network, you have to add VM Network 1~3.
- If the number of available physical network adapter is 1, add VM Network 1.
- If the number of available physical network adapter is over 3, add VM Network 1~3.

🕗 Add Network Wizard		
Virtual Machines - Networ Virtual machines reach ne	rk Access etworks through uplink adapters attached to vSphere standard switches.	
Connection Type Network Access	Select which vSphere standard switch will handle the network traffic for this connection. You may also create vSphere standard switch using the unclaimed network adapters listed below.	e a new
Connection Settings Summary	© Create a vSphere standard switch Speed Networks Broadcom Corporation NetXtreme BCM5719 Gigabit Ethernet	Â
	Vmnic3 100 Full 192.168.60.212-192.168.60.212	=
	C Use vSwitch0 Speed Networks	-
	Broadcom Corporation NetXtreme BCM5/19 Gigabit Ethernet	
	C Use vSwitch1 Speed Networks	
	Broadcom Corporation NetXtreme BCM5719 Gigabit Ethernet	-
	Preview:	
	Virtual Machine Port Group VM Network 2	
Help	< Back Next >	Cancel

- 1) Click Add Networking Wizard.
- 2) <Virtual Machine> -> <Next>
- 3) < Create a vSphere standard switch > -> < Next >

Virtual Machines - Conne	ction Settings	
Use network labels to id	entify migration compatible connections common to two or more	hosts.
Connection Type	Port Group Properties	
Network Access Connection Settings	Network Label: VM Network 2	
Summary		
	VLAN ID (Optional): [None (0)	<u> </u>
	Preview:	
	Virtual Machine Port Group	ters
	VM Network 2 👷 🔶 🗰 vmr	nic3

- 4) Input <Network Label> VM Network 1
- 5) <Next>
- 6) <Finish>
- If you want to add more network adapter, Repeat 1) ~ 6)

Chapter4. VMware Client Configuration

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• File -> New -> Virtual Machine...

Configuration Select the configuration fi	or the virtual machine
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Ready to Complete	Configuration Typical Create a new virtual machine with the most common devices and configuration options. Custom Create a virtual machine with additional devices or specific configuration options.
Help	< Back Next > Cancel

- Select <Custom>
- <Next>

Create New Virtual Machin Name and Location Specify a name and locat	e
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Ready to Complete	Name: [VM_SCME_02] Virtual machine (VM) names may contain up to 80 characters and they must be unique within each vCenter Server VM folder. VM folders are not viewable when connected directly to a host. To view VM folders and specify a location for this VM, connect to the vCenter Server.
Help	≤ Back Next ≥ Cancel

- Input the virtual machine name
- <Next>

Storage							
Select a destination stora	age for the virtual machi	ne files					
Configuration	Select a destination	storage for the virtua	al machine files:				
Name and Location	Name	Drive Type	Capacity	Provisioned	Free	Туре	Thin Pr
Storage Virtual Machine Version	datastore1	Non-SSD	271.75 GB	241.79 GB	30.68 GB	VMFS5	Suppo
Guest Operating System	datastore2	Non-SSD	271.75 GB	183.63 GB	88.69 GB	VMFS5	Suppo
Network SCSI Controller Select a Disk Ready to Complete							
	<		III				
	Disable Storage	e DRS for this virtual	machine				
	Select a datastore:						
	Name	Drive Type	Capacity Pr	ovisioned	Free	Туре	Thin Pro
Help				< Back	Next	>	Cancel

- Select a destination storage for the virtual machine files
- <Next>

- O X 💋 Create New Virtual Machine Virtual Machine Version Configuration Virtual Machine Version Name and Location This host or cluster supports more than one VMware virtual machine version. Specify the virtual Storage machine version to use. Virtual Machine Version Guest Operating System O Virtual Machine Version: 4 CPUs Memory This version will run on VMware ESX 3.0 and later, and VMware Server 1.0 and later. This version Network is recommended when sharing storage or virtual machines with ESX up to 3.5. SCSI Controller O Virtual Machine Version: 7 Select a Disk Ready to Complete This version will run on VMware ESX/ESXi 4.0 and later. This version is recommended when sharing storage or virtual machines with ESX/ESXi up to 4.1. • Virtual Machine Version: 8 This version will run on VMware ESXi 5.0 and later. Choose this version if you need the latest virtual machine features and do not need to migrate to ESX/ESXi 4. Help < Back Next > Cancel

- Select <Virtual Machine Version : 8>
- <Next>

- O X Create New Virtual Machine Guest Operating System Virtual Machine Version: 8 Specify the guest operating system to use with this virtual machine Configuration Guest Operating System: Name and Location Storage O Windows Virtual Machine Version Linux Guest Operating System Other CPUs Memory Version: Network SCSI Controller Ŧ CentOS 4/5/6 (32-bit) Select a Disk Identifying the guest operating system here allows the wizard to provide the appropriate defaults for Ready to Complete the operating system installation. Help Next > < Back Cancel

- Select <Linux>
- Select <CentOS 4/5/6(32bit)>
- <Next>



- Number of virtual socket : <1>
- Number of cores per virtual socket : <4>
- <Next>



- Memory Size : SCM Express : <6 GB> , SCM Enterprise : <10 GB>
- <Next>

Which network connection	ns will be used	by the virtual machine?			Virtual Machine Ver
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Ready to Complete	Create N How ma NIC 1: NIC 2: NIC 3: If Vi Adapt the VM suppo	etwork Connections any NICs do you want to connect? Network VM Network 1 VM Network 2 VM Network 3 supported by this virtual machine ve rtual machine is created, via its Edit s er choice can affect both networking ware KnowledgeBase for more info rted for various guest operating sys	3	Adapter Flexible Flexible VICs can be add migration comp ng among the r	Connect at Power On

- Virtual Connection NIC <3>
- NIC 1~3:

Select virtual network adapters. (all same or three different)

- Adapter : <Flexible>
- <Next>

SCSI Controller Which SCSI controller typ	e would you like to use?	Virtual Machine Version:
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Ready to Complete	SCSI controller BusLogic Parallel (not recommended for this guest OS) LSI Logic Parallel LSI Logic SAS VMware Paravirtual	

- SCSI controller <LSI Logic Parallel>
- <Next>

Select a Disk
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Advanced Options Ready to Complete

- Select a Disk type: <Create a new virtual disk>
- <Next>

opeany are virtual disk siz		
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Create a Disk Advanced Options Ready to Complete	Capacity Disk Size: 300 GB Disk Provisioning Thick Provision Lazy Zeroed Thick Provision Eager Zeroed Thin Provision Location Store with the virtual machine Specify a datastore or datastore duster:	Browse,

- Capacity : <300 GB>
- Disk Provisioning : < Thick Provision Lazy Zeroed >
- Location : < Store with the virtual machine >
- <Next>

🕝 Create New Virtual Machine		
Advanced Options These advanced options do r	not usually need to be changed.	Virtual Machine Version: 8
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Create a Disk Advanced Options Ready to Complete	Specify the advanced options for this virtual disk. These options do not normally r to be changed. Virtual Device Node	

- Virtual Device Node : Maintain the default
- Mode : <Independent> -> <Persistent>
- <Next>

- O X 🕜 Create New Virtual Machine Ready to Complete Virtual Machine Version: 8 Click Finish to start a task that will create the new virtual machine Configuration Settings for the new virtual machine: Name and Location Name: VM_SCME_02 Storage Host/Cluster: hp-ymh2. Virtual Machine Version Datastore: datastore2 Guest Operating System Guest OS: CentOS 4/5/6 (32-bit) CPUs Memory CPUs: 4 Network Memory: 6144 MB SCSI Controller NICs: 3 Select a Disk NIC 1 Network: VM Network Create a Disk NIC 1 Type: Flexible Advanced Options NIC 2 Network: VM Network Ready to Complete NIC 2 Type: Flexible NIC 3 Network: VM heartbeat NIC 3 Type: Flexible SCSI Controller: LSILogicParallel Create disk: New virtual disk Disk capacity: 300 GB Disk provisioning: Thick Provision Lazy Zeroed Datastore: datastore2 Virtual Device Node: SCSI (0:0) Disk mode: Independent-persistent Edit the virtual machine settings before completion Creation of the virtual machine (VM) does not include automatic installation of the guest operating system. Install a guest OS on the VM after creating the VM. Help < Back Continue Cancel

- Check <Edit the virtual machine settings before completion>
- <Next>

2	VM_SCME_02 - Virtual Machine P	roperties				
H	lardware Options Resources				V	irtual Machine Version: 8
I	Settings	Summary	ĺ	-Resource Allocation	ı ———	
	CPU	7980 MHz		-		
	Memory	0 MB		Shares:	Custom	
	Disk	Normal		Reservation:		7980 - MHz
Ш	Advanced CPU	HT Sharing: Any			2	
Ш	Advanced Memory	NUMA Nodes: 2			A	
				Limit:	J	7980 🕂 MHz
					Unlimited	
			l			
				🔺 Limit based on p	arent resource pool or cu	urrent host

- Select Resource tab
- Select CPU resource
- Shares : Custom 1
- Limit : Uncheck < Unlimited > and scroll the max MHz
- Reservation : Scroll the max MHz

VM_SCME_02 - Virtual Machine	e Properties	
Hardware Options Resources		Virtual Machine Version: 8
Settings	Summary	Resource Allocation
CPU	7980 MHz	
Memory	0 MB	Reserve all guest memory (All locked)
Disk Advanced CPU Advanced Memory	Normal HT Sharing: Any NUMA Nodes: 2	Shares: Custom • 1 ÷ Reservation: 6144 • MB
		☐ Unlimited ▲ Limit based on parent resource pool or current host

- Select Memory resource
- Shares : Custom 1
- Reservation : Scroll the max MB
- Limit : Uncheck < Unlimited > and input < Reservation value >

s Summary 7980 MHz Select a virtual hard disk from the list below and dick the Share field to change its value. y 6144 MB Custom Disk red CPU HT Sharing: Any NUMA No des: 2 Disk Unlimited Unlimited Unlimited Unlimited Used Memory NUMA No des: 2 Unit specifies an upper bound for storage resources that can ballocated to a virtual machine. IOPs are number of I/O operations per second.	e Options Resources				١	/irtual Machine Vers
Custom ed CPU HT Sharing: Any NUMA Nodes: 2 Disk Shares Shares Value Limit - 10Ps Hard disk Custom 200 Unlimited	5	Summary 7980 MHz 6144 MB	Resource Al Select a virtu field to chan	llocation ual hard disk f ge its value.	from the list below a	nd dick the Shares
Iced CPU HT Sharing: Any Iced Memory NUMA Nodes: 2 Hard disk Custom 200 Unlimited Unlimited Limit specifies an upper bound for storage resources that can ballocated to a virtual machine. IOPs are number of I/O operations per second.		Custom	Disk	Shares	Shares Value	Limit - IOPs
Limit specifies an upper bound for storage resources that can be allocated to a virtual machine. IOPs are number of I/O operations per second.	nced CPU	HT Sharing: Any	Hard disk.	Custom	200	Unlimited
Limit specifies an upper bound for storage resources that can b allocated to a virtual machine. IOPs are number of I/O operations per second.	anced Premory	NUMA NUUES: 2				
			Limit specifie allocated to IOPs are nur	es an upper bo a virtual mach mber of I/O op	ound for storage res nine. perations per secon	sources that can be d.

- Select Disk resource
- Shares : Custom
- Shares Value : 200
- <OK>



- Power on virtual machine
- Select Console tab(Ctrl + Alt : Release console)
- Icon click -> CD/DVD drive1 -> Connect to ISO image on local disk -> select SCME ISO image



- Select Console tab
- Install SCME
 - : See SCM Express_Installation Manual