

CiB Troubleshooting Techniques

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CiB Hardware





CiB Hardware

Power, Capabilities, and Performance in Four Inches Square

HIGHLIGHTED FEATURES

- 1 5th generation Intel® Core™ i7-5557U processor
- 2 Two DDR3L SO-DIMM sockets (up to 16 GB, 1333/1600 MHz)
- 3 M.2 slot with flexible support for a 42, 60, or 80 mm SATA or PCIe³ SSD
- 4 1x SATA port for connection to 2.5" HDD or SSD
- 5 Intel® Dual Band Wireless-AC and Bluetooth* 4.0
- 6 Kensington lock support
- 7 Backpanel DC power connector (12V 19V)
- 8 One Mini DisplayPort* version 1.2 supporting 8 channel digital audio (7.1 surround sound)
- 9 Intel[®] Gigabit LAN
- 10 2x USB 3.0 ports on the back panel
- 11 Mini HDMI* port supporting HDMI 1.4a and 7.1 surround sound
- 12 Support for user-replaceable third-party lids
- 13 2x USB 3.0 ports on the front panel (including one charging port)
- 14 Intel® HD Audio1 via Headphone/Microphone jack
- 15 Consumer infrared sensor





CiB Start-up and Power

- LED Power Indicator
- No Power, Dead Unit

Quick Check

Symptoms	Quick Check
 No Power, Dead Unit No power No LED No fan spin No startup chime No image on external display No hard drive or optical drive activity Caps Lock LED on wired keyboard doesn't light when pressed. 	 Verify power source. Verify power cable. Listen closely for signs of activity from system including: rotating fans, hard drive or optical drive activity, startup chime, etc. If there is activity then go to the 'Startup and Power Issues' symptom flow.



VMHost Hypervisor

- Vmware ESXi start screen
- VMHost is configured to receive IP Address from DHCP server.





VMHost Customization

- Set static Network Configuration
- Press F2 to "Customize System"
- Insert Credentials







VMHost Customization

• Static Network Configuration



Vmware Vsphere Client

• Connect to ESXi Host using Vsphere client

Ø	VN	Iware vSphere C	lient	×	
vmwa ^{VMware} Client	re vSphere™				1. Insert IP Address
To direct To manag vCenter IP ac User Pass	ly manage a singl ge multiple hosts, Server. ddress / Name: name: sword:	e host, enter the IP ad enter the IP address of	ddress or host na or name of a	ame.	2. Insert User Name
		Use Windows se	close	Help	5. IIISELL PASSWOLU
			4. Clic	k Login	iSHARE 2

an INDEPTH project

VMHost Overview

Edit View Inventory Admin	istration Plug-ins Help		
🖾 🏫 Home 🕨 🚑 Inv	ventory 🕨 🗊 Inventory		
. 🔍			
 192.168.1.82 DatabaseServer DatamanagerDesktop SystemServer 	SN013VMHost.lan VMware ESXi Getting Started Summary Virt General Manufacturer: Model:	Apple Inc. Machines	Performance Configuration Local Users & Groups Events Permissio Resources CPU usage: 317 MHz Capacity 4 x 2,594 GHz
	CPU Cores: Processor Type:	4 CPUs x 2,594 GHz Intel(R) Core(TM) i7-3720QM CPU @ 2,60GHz	Memory usage: 14809,00 MB Capacity 16290,22 MB
	License: Processor Sockets: Cores per Socket: Logical Processors: Hyperthreading: Number of NICs: State: Virtual Machines and Templates: vMotion Enabled: VMware EVC Mode: vSphere HA State Host Configured for FT: Active Tasks: Host Profile: Image Profile: Profile Compliance: DirectPath I/O:	VMware vSphere 5 Hypervisor - Licensed for 1 physical CP 1 4 8 Active 1 Connected 3 N/A Disabled ② N/A N/A N/A N/A N/A N/A N/A	Storage Drive Type Capacity Free Image: Storage Non-SSD 924,00 GB 548,49 GB Image: Storage Non-SSD 931,25 GB 929,12 GB Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage Image: Storage<
	Commands		Host Management Manage this host through VMware vCenter.
Table	Image: New Virtual Machine Image: New Resource Pool Image: New Resource Pool Image: New Resource Mode		



Host Tabs Overview

 The Virtual Machines tab displays information about the State, Space, CPU and Memory resources of the virtual machines.

File Edit View Inventory Administration Plug-ins Help							
🖸 🔝 🏠 Home 🕨 🚮 Inventory	🖸 💽 🏠 Home 🕨 🚓 Inventory 🕨 👘 Inventory						
B O							
□)13VMHost.lan VMware E	5Xi, 5.5.0, 2068190					
DatabaseServer	tting Started Summary	Virtual Machines Reso	ource Allocation Pe	rformance Config	uration Local Us	ers & Groups Eve	ents Permissions
🚯 SystemServer							
Nar	me 🛆	State	Provisioned Space	Used Space	Host CPU - MHz	Host Mem - MB	Guest Mem - % Notes
6	DatabaseServer	Powered On	126,12 GB	126,12 GB	53	5197	3
	DatamanagerDesktop	Powered On	126,13 GB	126,13 GB	123	6161	1
	SystemServer	Powered On	122,11 GB	122,11 GB	24 📖	2032	6



Host Tabs Overview

 The Performance tab displays performance information about the utilization of resources for the host and virtual machines.





Host Tabs Overview

• The Configuration tab displays host configuration information.

In 192.168.1.82 SN013VMHost.lan VMware ESXi, 5.5.0, 2068190 🐴 DatabaseServer Getting Started Summary Virtual Machines Resource Allocation Performance Configuration Local Users & Groups Events Permission 🚯 DatamanagerDesktop SystemServer Hardware View: vSphere Standard Switch Networking Health Status Processors Memory Remove... Properties... Standard Switch: vSwitch0 Storage Virtual Machine Port Group Physical Adapters Networking EXTERNAL Network vmnic0 100 Full Storage Adapters 1 virtual machine(s) Network Adapters SystemServer άD Advanced Settings VMkernel Port P Management Network Power Management vmk0:192.168.1.82 Software fe80::e4d:e9ff:fece:5168 Licensed Features Time Configuration Standard Switch: vSwitch1 Remove... Properties... DNS and Routing Virtual Machine Port Group Physical Adapters Authentication Services INTERNAL Network No adapters Virtual Machine Startup/Shutdown 3 virtual machine(s) Virtual Machine Swapfile Location DatamanagerDesktop Security Profile SystemServer Host Cache Configuration DatabaseServer System Resource Allocation Agent VM Settings Advanced Settings



Virtual Machines Overview

Automatic Shutdown and Start-up





Virtual Machine Snapshots

• A snapshot preserves the state and data of a virtual machine at a specific point in time.

192.168.1.82 - vSphere Client –	x I
e Edit View Inventory Administration Plug-ins Help	
Image: Second	
192.168.1.82 DatamanagerDesktop DatabaseServer Getting Started Summary Resource Allocation Performance Events Console Permissions	
SystemServ Power Resources	^
Snambot Motor Colling Snambot	147
Open Console Revent to Current Snanshot Sumed Host Memory: 6167,00	MB
Edit Settinger	мв
Consolidate Visioned Storage: 126,13	GB
Add Permission Ctri+P ning (Current) Not-shared Storage: 126,13	GB
Report Performance View all Used Storage: 126,13	GB
Rename DataMor cibilan DataMor cibilan DataMor cibilan 924 00 GB	548
Open in New Window Ctrl+Alt+N	
Remove from Inventory MHost.lan	_
Delete from Disk	
vSphere HA Protection: ② N/A 💭	
Commands	
Shut Down Guest	
III Suspend	
Restart Guest	
Edit Settings	
E Popen Console	
Annotations	
🖌 Edit	~
< Comparison of the second sec	>
Tasks	root /



Virtual Machine Snapshots

• VMware recommends using only 2-3 snapshots in a chain.

	File Edit View Inventory Administration Plug-ins Help
🖉 Take Virtual Machine Snapsh 🛛 🗖 🗙	Home D 🛃 Inventory D 🛐 Inventory
Er fake virtaar machine Shapshill	
Name	Image: SysAdminDesktop SysAdminDesktop Image: DatabaseServer Summary Resource Allocation Performance Events Console Permissions
Demo	SysAdminDesktop – – ×
	SysAdminDesktop Name Name
Description	Vou are here Workshop Demo
	-Description
For Demostration Purposes	
·	
Snapshot the virtual machine's memory	
Quiesce guest file system (Needs VMware Tools installed)	
OK Cancel Help	Go to Delete All Edit

NB: Uncheck Snapshot the Virtual Machines Memory. Not recommended to store single snapshot for more than 24-72 hours.



ghettoVCB backup

- This script performs backups of virtual machines residing on ESXi servers.
- The script takes snapshots of live running virtual machines, backs up the master
 VMDK(s) and then upon completion, deletes the snapshot until the next backup.



Backup Configuration

- Backup Location Datastore2
- Backup Disk Format Thin Provisioned
- Backup Rotation 3 VM's
- Backup Schedule 12AM (Based on date and time of VMHost)







THANK YOU



Remote Desktop Connection Manager

• Centrally Manage your RDP connections.





VMware Vsphere Client

 The vSphere Client is a Windows program that you can use to configure the host and to operate its virtual machines.

2 VI	Mware vSphere Client ×
vmware [.] VMware vSphere Client	
To directly manage a sin To manage multiple host vCenter Server.	gle host, enter the IP address or host name. s, enter the IP address or name of a
IP address / Name:	192.168.0.56
User name:	root
Password:	*******
	Use Windows session credentials
	Login Close Help



Active Directory Users and Computers



 Active Directory[®] Users and Computers is a Microsoft Management Console (MMC) snap-in that you can use to administer users and groups.

Active Directory Users and Computers							
File Action View Help							
Active Directory Users and Computers [ke021-system.cib.]	Name	Туре	Description				
 Saved Queries iii cib.lan Users Computers Builtin Domain Controllers ForeignSecurityPrincipals Groups 	 Builtin Computers Domain Controllers ForeignSecurityPrincipals Groups Users 	builtinDomain Container Organizational Unit Container Organizational Unit Container	Default container for upgraded computer accounts Default container for domain controllers Default container for security identifiers (SIDs) associated with objects from external, Default container for upgraded user accounts				



CiB Tools

- Active Directory Users and Computers
- Remote Desktop Connection Manager
- Vmware Vsphere Client
- GhettoVCB backup script



Connect to Local PC

Overview

- Ethernet Cable Cross-over fly lead
- Configure your machines network card
- Download and install OpenDHCP
- <u>https://sourceforge.net/projects/dhcpserver/</u>
- Open DHCP Server
- Next steps.....



Network Card Config

Ethernet 2 Propert	es	×
Networking Sharing		
Connect using:		
ASIX AX88179	USB 3.0 to Gigabit Ethe	ernet Adapter
This connection uses	the following items:	Configure
Client for Mic VMware Brid File and Print QoS Packet	rosoft Networks ge Protocol er Sharing for Microsoft Scheduler ocol Version 4 (TCP/IPv ocol Version 6 (TCP/IPv	Networks
Link-Layer To	pology Discovery Mapp	oer I/O Driver V
Install	Uninstall	Properties
Description Transmission Contr wide area network across diverse inter	ol Protocol/Internet Proto protocol that provides co connected networks.	ocol. The default ommunication
	0	K Cancel

General You can get IP settings assigned this capability. Otherwise, you r for the appropriate IP settings.	d automatically if your network supports need to ask your network administrator
Obtain an IP address auto	matically
• Use the following IP addres	ss:
IP address:	192.168.0.1
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	
Obtain DNS server address	s automatically
• Use the following DNS serv	ver addresses:
Preferred DNS server:	· · ·
Alternate DNS server:	
Validate settings upon evi	t



Open DHCP install steps

OpenDHCPServer Installation	×
Ready to Install OpenDHCPServer 1.64	
nstall to :	
C:\OpenDHCPServer	Change
 89866 MB Free Disk Space 1001 KB Disk Space Required 	
Spoon Installer Language :	
English ~	
spoon installer	



Uncheck Windows Service

	OpenDHCPServer Installation	×
1.	Installer	
	The installation is now complete. Review the actions below before clicking on Finish:	
ſ	Run program Install Windows Service	
		×
	Installer	
	The installation is now complete. Review the actions below before clicking on Finish:	
2.	Run program Install Windows Service	
	Finis	h
2.	Finis	h



Installation Location

This PC > OS (C:) > OpenDHCPServer

Name	Date modified	Туре	Size
log	2016/05/14 12:41 PM	File folder	
喝 InstallService.exe	2016/05/14 12:31 PM	Application	33 KB
OpenDHCPServer.exe	2016/05/14 12:31 PM	Application	234 KB
e OpenDHCPServer.htm	2016/05/14 1:22 PM	HTM File	1 KB
OpenDHCPServer.ini	2016/05/14 12:31 PM	Configuration settings	14 KB
OpenDHCPServer.log	2016/05/14 12:31 PM	Text Document	0 KB
OpenDHCPServer.state	2016/05/14 12:44 PM	STATE File	1 KB
DenDHCPServer	2016/05/14 12:41 PM	Internet Shortcut	1 KB
🔁 OpenDHCPServerManual.pdf	2016/05/14 12:31 PM	Adobe Acrobat Docu	683 KB
README.txt	2016/05/14 12:31 PM	Text Document	6 KB
RemoveService.exe	2016/05/14 12:31 PM	Application	33 KB
RunStandAlone.bat	2016/05/14 12:31 PM	Windows Batch File	1 KB



V

Windows Firewall

P Windows Secu	urity Alert		×			
💮 Windo	ws Firewal	I has blocked some features of this app				
Windows Firewall has blocked some features of opendhcpserver.exe on all public, private and domain petworks.						
	Name:	opendhcpserver.exe				
	Publisher:	Unknown				
	Path:	C:\opendhcpserver\opendhcpserver.exe				
Allow opendhcpserver.exe to communicate on these networks:						
Private networks, such as my home or work network						
Public networks, such as those in airports and coffee shops (not recommended because these networks often have little or no security)						
What are the risks	of allowing an a	pp through a firewall?				
		Allow access Canc	el			
			C			



OpenDHCPServer Console

C:\WINDOWS\system32\cmd.exe

Warning: Interface 192.168.81.1 is not Static, not used Warning: Interface 192.168.229.1 is not Static, not used Lease Status URL: http://127.0.0.1:6789 Listening On: 192.168.0.1 Network changed, re-detecting Static Interfaces.. Warning: Interface 192.168.1.75 is not Static, not used Warning: Interface 192.168.81.1 is not Static, not used Warning: Interface 192.168.229.1 is not Static, not used Lease Status URL: http://127.0.0.1:6789 Listening On: 192.168.0.1 Client 127.0.0.1, HTTP Request Received Client 127.0.0.1, HTTP Request Received Client 127.0.0.1, /favicon.ico not found Client 127.0.0.1, HTTP Request Received Client 127.0.0.1, /favicon.ico not found Network changed, re-detecting Static Interfaces.. Warning: Interface 192.168.1.75 is not Static, not used Warning: Interface 192.168.81.1 is not Static, not used Warning: Interface 192.168.229.1 is not Static, not used Lease Status URL: http://127.0.0.1:6789 Listening On: 192.168.0.1 DHCPDISCOVER for b8:ae:ed:7d:10:6b () from interface 192.168.0.1 received Host b8:ae:ed:7d:10:6b (Hostb8aeed7d106b) offered 192.168.0.2 DHCPREQUEST for b8:ae:ed:7d:10:6b () from interface 192.168.0.1 received Host b8:ae:ed:7d:10:6b (Hostb8aeed7d106b) allotted 192.168.0.2 for 36000 seconds DHCPDISCOVER for 00:50:56:2a:2b:2c (system) from interface 192.168.0.1 received Host 00:50:56:2a:2b:2c (system) offered 192.168.0.3 DHCPREQUEST for 00:50:56:2a:2b:2c (system) from interface 192.168.0.1 received Host 00:50:56:2a:2b:2c (system) allotted 192.168.0.3 for 36000 seconds

