High Availability iSCSI diskless boot solution

Multiple diskless boot server load balance

2013/9/20

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Overview

SANDeploy provides a series of high performance, high availability and

reliable iSCSI Diskless Boot solutions for any size of business.

Without SANDeploy every client PC need a hard disk, employees

download software casually, network admin would have to setup and

update one by one.

In this document, we will show you how to implement high available

iSCSI Diskless Boot solution with SANDeploy.

We take two servers below as examples.

| | DATA | SYNC |
|----------|---------------|---------------|
| Server01 | 192.168.0.111 | 192.168.1.111 |
| Server02 | 192.168.0.112 | 192.168.1.112 |



Figure 1, Multiple iSCSI BOOT Servers high-availability (Load Balance) with SANDeploy

Configure Server01

Create target

Launch the management console

| Connect to Se | erver | × |
|----------------------------------|---|---|
| Enter the host want to add, a | name or IP address and port of the server which you and enter user login credentils: | |
| Server: | 127.0.0.1 | |
| Port: | 3261 | |
| User login crea | dentials | |
| User Name: | admin | |
| Password: | ••••• | |
| | OK Cancel | |

Press OK button



Right click the Virtual Volumes and then press create new volume

| Create Virtual Volume Wizard | × |
|--|---|
| Select iSCSI Media Please choose an appropriate media in the following list | |
| Standard Image file | 0 |
| C VMware VMDK file | |
| C Virtual Hard Disk (VHD) | |
| C Physical disk | |
| C Disk Partition | |
| C Virtual CD/DVD Image File | |
| C Physical CD/DVD/RW Drive | |
| C SPTI Device (SCSI Pass Through Interface) | |
| C RAM Disk | |
| | |
| | |
| < <u>B</u> ack <u>N</u> ext > Cance | |

Select Standard Image file and the press Next.

| Create Virtual Volume Wizard | | × |
|---|-------------------------------|----------------|
| Select Image File Please choose a regular disk i | mage file | * |
| Create a new image file | O Use existing image file | |
| Sepcify full path name: | | |
| C:\SANDeploy\Server01.img | | <u>B</u> rowse |
| Enter Device size (MB): 35000 Use sparse file Compressed Encrypted with password: | | × |
| | < <u>B</u> ack <u>N</u> ext : | Cancel |

Specify the full path name and size.

Press Next to continue.

| Enable high s | peed cache on this v | volume | | |
|-------------------------------------|------------------------|--------|--|--|
| Cache Parameter Cache size in MB | ss | 512 | | |
| Cache block exp | iry period time in ms: | 5000 | | |
| | | | | |

Uncheck cache. Press Next to continue.

| Create Virtual Volume Wizard | × |
|---|--------|
| Write-Back Cache Setting Select a folder for saving the temporaly data of each clients | |
| ✓ Enable write-back cache for this volume ✓ Write-Back Cache Parameters | |
| Select a folder to stora temporary client data (folder must exist): C:\Temp\ | |
| Quota for each client in MBs ("0"indicate unlimited) | |
| Block size in KBs | |
| | |
| < <u>B</u> ack <u>N</u> ext> | Cancel |

Enable write-back cache for this volume.

The quota of write-back for each client depends on your demands and you can alter the size.

| Congratulations, the target i | is being createdyou have completed all the | 4 |
|---------------------------------|--|---|
| coningurations | | |
| Description | ad | |
| iqn. 2008-08. com. sandeploy. S | erverU1 | |
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Modify the volume description and then press Finish.

| 島 SANDeploy - [SANDeploy iSCSI SAN\Virtu | ual Volumes] | | | | | | | _ 🗆 🗙 |
|--|-----------------|--------|----------|--------|-----------------------|----------------|---------------|-------|
| Eile Action View Help | | | | | | | | |
| 🗢 🔿 🙍 🖬 🙆 🖬 🕨 | | | | | | | | |
| SANDeploy iSCSI SAN | Virtual Volumes | | | | | | | |
| S Users | Device Type | Source | Capacity | Status | Description | | Write-Back Pa | ith [|
| Virtual Volumes | 🗐 Disk Volume | C:\SAN | 34.18G | Online | iqn.2008-08.com.sande | eploy.Server01 | C:\Temp | |
| liscSI Targets | | | | | | | | |
| BootServer | | | | | | | | |
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Now create target with the volume we have just created.

Right click the iSCSI Targets and then press create new target.

| Create iSCSI | (Target Wizard | × |
|-----------------------|---|-----|
| Select LL Please | UN e choose at least one LUN in the following list | |
| Available Volumes: | iqn. 2008-08. com. sandeploy. Server01 | |
| Selected Volumes: | | |
| | < <u>B</u> ack <u>N</u> ext > Can | cel |

Select the Available Volumes and move it to the Selected Volumes.

| Create iSCSI 1 | arget Wizard | | | × |
|-----------------------|--|----------------|----------------|--------|
| Select LU Please | N choose at least one LUN in the following list | | | |
| Available Volumes: | | | | |
| Selected Volumes: | iqn.2008-08.com.sandeploy.Server01 | | | |
| | | < <u>B</u> ack | <u>N</u> ext > | Cancel |

Press Next to continue.

| ate iSCSI Target Wizard | × |
|--|--------------------------------------|
| Set iSCSI Target Authorization Please at least one CHAP group | |
| Available Groups: | Selected Administrator's Groups: |
| Anonymous | |
| | < |
| | |
| | |
| | >> |
| | << |
| 1 | · |
| | |
| | < <u>B</u> ack <u>N</u> ext > Cancel |

Leave it default and press Next to continue.



Enter the TargetName and Press Finish to complete the process.

| 島 SANDeploy - [SANDeploy iSCSI SAN\iSCS | 5I Targets] | | | | _ 🗆 🗵 |
|---|---------------------------------------|-----------|----------------|--------|-------|
| <u>File Action View H</u> elp | | | | | |
| 🗢 🔿 📶 🖬 🔒 📝 🖬 🕨 | 7 | | | | |
| SANDeploy iSCSI SAN | iSCSI Targets | | | | |
| Groups | Target Name | LUN Count | Authentication | Status | |
| Virtual Volumes | logian.2008-08.com.sandeploy:Server01 | 1 | CHAP | Online | |
| 🖃 ᡖ iSCSI Targets | | | | | |
| iqn.2008-08.com.sandeploy:Server0 | | | | | |
| 500001V01 | | | | | |
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Configure server properties

Right click the root menu and press the properties.

| SANDeploy iSCSI Si | AN Prope | rties | ; | | | | | ? × |
|--------------------|-----------|---------|----------|-------|-----------|---------|-----------|------|
| General Boot Serv | /er Remo | ote M | anagen | nent | Load | Balar | nce Lic | ense |
| Boot Mode: | Automatic | ally a | add wor | ksta | tion (Bui | lt-In D | HCF | |
| Client Settings- | | | | | | | | |
| Gateway: | 192.168.0 |).1 | | | | | - | |
| DNS Server: | 192 | ÷ | 168 | ÷ | 0 | | 1 | |
| Host Name Prefix: | SANDP | | | | ID Len | : 3 | | 1 |
| Start IP Address: | 192 | 2 | 168 | 2 | 0 | ÷. | 2 | |
| End IP Address: | 192 | | 168 | 1 | 0 | · | 254 | |
| IP Mask: | 255 | ÷ | 255 | • | 255 | ÷ | 0 | |
| Boot IQN: | iqn.2008- | 08.co | om.sano | leplo | y:Serve | :r01 | - | I |
| Save Data Mode: | Anatomic | ally re | eset dat | a af | ter boot | | • |] |
| | | | | | | | | |
| | | 0 | K | | Cance | : | ∆p | ply |

Open the Boot Server tab

Configure the Boot Mode and Save Data Mode.

Configure Server02

Create target

Launch the management console

| Enter the hos want to add, | t name or IP address and port of the server which you and enter user login credentils: |
|-------------------------------|---|
| Server: | 127.0.0.1 |
| Port: | 3261 |
| User login cre | dentials |
| User Name: | admin |
| Password: | ••••• |

Press OK to log in.



Right click the Virtual Volumes and then press Create Virtual Volume.

| œ | Standard Image file |
|---|---|
| С | VMware VMDK file |
| С | Virtual Hard Disk (VHD) |
| С | Physical disk |
| С | Disk Partition |
| С | Virtual CD/DVD Image File |
| C | Physical CD/DVD/RW Drive |
| C | SPTI Device (SCSI Pass Through Interface) |
| 0 | RAM Disk |

Choose Standard Image file and press Next to continue.

| eate Virtual Volume Wizard | | × |
|---|-------------------------------|----------------|
| Select Image File Please choose a regular disk | image file | ٠ |
| • <u>C</u> reate a new image file | C Use existing image file | |
| Sepcify full path name: | | |
| C:\sandeploy\Server02.img | | <u>B</u> rowse |
| Enter Device size (MB): 35000 Use sparse file Compressed Encrypted with password: | | × |
| | < <u>B</u> ack <u>N</u> ext : | Cancel |

Specify full path name and size.

Press Next button.

| Create Virtual Volume Wizard | | | × |
|--|----------------|----------------|--------|
| High Speed Cache Setting Choose enable or disable high sp | beed cache. | | |
| Enable high speed cache on this v | volume | | |
| Cache Parameters | | | |
| Cache size in MBs | 512 | 금 | |
| Cache block expiry period time in ms: | 5000 | | |
| | | | |
| | | | |
| | | | |
| | < <u>B</u> ack | <u>N</u> ext > | Cancel |

Uncheck Enable high speed cache on this volume.

Press Next button to continue.

| Create Virtual Volume Wizard | × |
|---|--------|
| Write-Back Cache Setting Select a folder for saving the temporaly data of each clients | * |
| ✓ Enable write-back cache for this volume ✓ Write-Back Cache Parameters | |
| Select a folder to stora temporary client data (folder must exist): | |
| C:\Temp\ | |
| Quota for each client in MBs ("0"indicate unlimited) 2048 Block size in KBs | |
| 4K 💌 | |
| | |
| < <u>B</u> ack <u>N</u> ext > | Cancel |

Enable write-back cache for this volume.

Press Next to continue.

| Finish Congratulations, the target is b configurations | ing createdyou hav | e completed all the | - |
|--|--------------------|---------------------|---|
| Description | | | |
| ign.2008-08.com.sandeploy.Serve | r02 | | |
| l | | | |
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Press Finish to complete the creation.

| 島 SANDeploy - [SANDeploy iSCSI SAN\Virt | ual Volumes] | | | | | |
|---|-----------------|--------|----------|--------|--------------------------------|-----------------|
| Eile Action View Help | | | | | | |
| 🗢 🔿 🙍 🖬 🤷 🛃 🕨 | | | | | | |
| SANDeploy iSCSI SAN | Virtual Volumes | | | | | |
| Users Groups | Device Type | Source | Capacity | Status | Description | Write-Back Path |
| isCSI Targets | Disk Volume | C:\san | 34.18G | Online | iqn.2008-08.com.sandeploy.Serv | rerO2 C:\Temp\ |
| | | | | | | |

Now we can create the target with the volume we have just created.

Right click the iSCSI Targets and press Create new target.

| Create iSCSI | Target Wizard | × |
|-----------------------|---|--------|
| Select LU Please | UN e choose at least one LUN in the following list | |
| Available Volumes: | iqn.2008-08.com.sandeploy.Server02 | |
| Selected Volumes: | | |
| | < <u>B</u> ack <u>N</u> ext > | Cancel |

Choose the volume in Available Volumes and move it to Selected Volumes.

| Create iSCSI | Farget Wizard | | | × |
|-----------------------|--|----------------|----------------|--------|
| Select LU Please | N choose at least one LUN in the following list | | | |
| Available Volumes: | | | | |
| Selected Volumes: | ion. 2008-08. com. sandeploy. Server02 | | | |
| | | < <u>B</u> ack | <u>N</u> ext > | Cancel |

Press Next to continue.

| Create iSCSI Target Wizard | | × |
|---|-----------------------|--------|
| Finish Enter target name to finish iSCSI target creating | | * |
| TargetName: iqn.2008-08.com.sandeploy:Server02 | | |
| | | |
| | | |
| | | |
| | < <u>B</u> ack Finish | Cancel |

SANDeploy

Enter the target name and press Finish to create the target.

| SANDeploy - [SANDeploy iSCSI SAN\iSC | ōI Targets] | | | | |
|--------------------------------------|------------------------------------|-----------|----------------|--------|--|
| <u>File Action View Help</u> | | | | | |
| 🗢 🔿 🖄 🖬 🤷 🗟 🔢 🕨 | | | | | |
| SANDeploy iSCSI SAN | iSCSI Targets | | | | |
| Users A Groups | Target Name | LUN Count | Authentication | Status | |
| Virtual Volumes | iqn.2008-08.com.sandeploy:Server02 | 1 | CHAP | Online | |
| iscSI Targets | | | | | |
| BootServer | | | | | |
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Configure server properties.

Right click the root menu and press the properties.

| Deploy iSCSI S | AN Prope | rties | 5 | | 1 | | 1 | 3 | ? |
|-------------------|-----------|--------|----------|-------|-----------|---------|---------|--------|---|
| ieneral Boot Serv | er Remo | ote M | anagen | nent | Load | Balar | nce I | Licens | e |
| Boot Mode: | Automatic | ally a | add wor | ksta | tion (Bui | lt-In D | HCF | • | |
| Client Settings= | | | | | | | | | |
| Gateway: | 192.168.0 |).1 | | | | | | • | |
| DNS Server: | 192 | • | 168 | ÷ | 0 | 22 | 1 | | |
| Host Name Prefix: | SANDP | | | | ID Len | 3 | | ÷ | |
| Start IP Address: | 192 | • | 168 | - | 0 | ÷. | 2 | | |
| End IP Address: | 192 | • | 168 | | 0 | • | 254 | | |
| IP Mask: | 255 | ÷ | 255 | • | 255 | ÷ | 0 | | |
| Boot IQN: | iqn.2008- | 08.c | om.sano | leplo | oy:Serve | :r02 | | • | |
| Save Data Mode: | Anatomic | ally r | eset dat | a af | ter boot | | | • | |
| | | | ~ 1 | | | | | A 1 | |
| | | U | ĸ | | Lance | 1 | | Apply | |

Open the Boot Server tab

Configure the Boot Mode and Save Data Mode.

Configure High Available

Load Balance on Server01

Launch the server properties tab on Server01

And turn to Load Balance page.

Press Add Server

| Enter the hos want to add, | t name or IP address and port of the server which you and enter user login credentils: |
|----------------------------|---|
| Server: | 192.168.1.112 |
| Port: | 3261 |
| User login cre | dentials |
| User Name: | admin |
| Password | |

Type the Address of Server02.

Press OK to add Server02.

| ANDeploy iSCSI SAN Pro | operties Iemote Managel | ment Load Bala | ance License |
|------------------------------|----------------------------|--------------------|-----------------|
| Add Server | Remove | Synchronize | <u>B</u> efresh |
| 5erver Name 192.168.1.112 | Logon User admin | Control Po 3261 | Conne |
| Automatical load bank | ance. Delete Sync | Synchronize | ▶ |
| Target Name | Serve | r Name | Remote Ta |
| • | | | |
| | OK | Cancel | |

And then press Add Sync.

| dd Synchroniz | ation | | | | 2 |
|-----------------|-----------------------|---------------|-----------|---------------|----|
| First Server | | | | | |
| Target Name: | ign.2008-08.com | sandeploy: | ServerC | 11 | - |
| Interface: | 192.168.1.111 | • | Port: | 3260 | _ |
| Second Serve | r | | | | |
| Server: | 192.168.1.112 | | | | • |
| Target Name: | iqn.2008-08.com | sandeploy: | ServerC | 12 | • |
| Interface: | 192.168.1.112 | • | Port: | 3260 | |
| - Synchronize D | ata | | | | |
| C Synchro | nize data from the fi | rst server to | the se | cond serve | r |
| C Synchro | nize data from the s | econd serv | er to the | e first serve | r |
| Do not s | ynchronize dataj | | | | |
| 2 | | OK | | Cano | el |

Specify the interface and Synchronize Data.

Note: specify the interface which we define as SYNC and it is not

necessary to synchronize data between two servers if the volumes are

newly created.

Press OK to finish it.

| ANDeploy iSCSI SA | N Properties er Remote Manage | ment Load Bala | nce License |
|-----------------------------|------------------------------------|----------------|-----------------|
| Add Se | rver Remove | Synchronize | <u>R</u> efresh |
| Server Name | Logon User | Control Po | rt Conne |
| 192.168.1.112 | admin | 3261 | Conne |
| Automatical load Add Sy | banlance. | Synchronize | ▶ |
| ver Name | Remote Target | St | ate |
| 168.1.112:3260 | iqn.2008-08.com.s | andeploy: W | orking |
| | ОК | Cancel | Apply |

If it is successful the State will turn to Working.

And in the management console you will see the initiator.

| SANDeploy - [SANDeploy iSCSI SAN\iSCS | 51 Targets\iqn.2001 | 3-08.com.sandeploy:9 | jerver01] | | | | - | |
|---------------------------------------|---------------------|----------------------|-------------|--------|---------|------------|----------------|------|
| <u>File Action View H</u> elp | | | | | | | | |
| 🗢 🔿 📶 🐹 🖼 🖬 👔 | T 🕨 📕 | | | | | | | |
| SANDeploy iSCSI SAN | iqn.2008-08.com | sandeploy:Server01 | | | | | | |
| Scours Scours | Computer Name | IP Address | MAC Address | IN (M) | OUT (M) | Logon User | Initiator Name | Perm |
| Virtual Volumes | WIN-9PBFCA | 192.168.1.112 | 48-02-2A-D1 | 0 | 0 | Guest | synchronizing | Oper |
| E iSCSI Targets | | | | | | | | |
| BootServer | | | | | | | | |
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Load Balance on Server02

After the Load Balance on Server01 has been configured , the SYNC will be automatically added to Server02.

| NDeploy is | oot Server R | oper Iemo | t ies te Managen | nent | Load B | alance | ? License |
|-----------------------------------|--|--------------|--|-------------------|----------------------|----------------|---------------------------------|
| Server Na | Add Server | Log | Remove gon User | Syr | nchronize Control | Port | efresh Conne |
| | | | | | | | |
| | | | | | | | |
| • | | | | | | | |
| ▲ ▲utoma | tical load bank Add Sync | ance De | elete Sync | Syr | nchronize | <u> </u> | ● efresh |
| ▲ Automa | tical load bank Add Sync | ance De | elete Sync Server Nar | Syr | nchronize | Remo | efresh te Target |
| ▲utoma rget Name .2008-08.c | tical load bank Add Sync om.sandeploy: | ance De | elete Sync Server Nar 192.168.1. | Syr me 111: | ichronize 3260 | Remo Iqn.20 | efresh te Target 08-08.co |
| Automa rget Name 2008-08.c | tical load bank Add Sync om.sandeploy: | ance De | Server Nar 192.168.1. | Syr me 111: | achronize 3260 | Remo iqn.20 | efresh te Target 08-08.co |

You just need to add Server01.

| General Boot Server R | operties emote M | s lanagemen | t Load Bala | nce | ? × |
|---------------------------|---------------------|----------------|-------------|------------|------------|
| Add Server | Rem | iove S | ynchronize | <u>R</u> e | fresh |
| Server Name | Logon | User | Control Po | rt | Conne |
| 192.168.1.111 | admin | | 3261 | | Conne |
| Automatical load bank | ance. Delete | : Sync S | ynchronize | <u>R</u> e | ▶ fresh |
| Target Name | | Server Na | ame | Rei | mote Ta |
| iqn.2008-08.com.sander | oloy:S | 192.168.1 | .111:3260 | iqn. | 2008-0 |
| | | к | Cancel | 1 | Applu |

In the management console you will see the initiator.

| SANDeploy - [SANDeploy iSCSI SAN\iSCS | 5I Targets\iqn.200 | 8-08.com.sandeploy:Se | erver02] | | | | _ | |
|---|--------------------|-----------------------|-------------|--------|---------|------------|----------------|-----|
| Eile Action View Help | | | | | | | | |
| 🗢 🔿 🔰 🛅 🗎 🙆 📄 🛛 📰 | Þ 📕 | | | | | | | |
| SANDeploy iSCSI SAN | ign.2008-08.com | .sandeploy:Server02 | | | | | | |
| S Users | Computer Name | IP Address | MAC Address | IN (M) | OUT (M) | Logon User | Initiator Name | Per |
| Virtual Volumes | ServerNode2 | 192.168.1.111 | 00-E0-4D-1A | 0 | 0 | Guest | synchronizing | Орі |
| 🖃 🌉 iSCSI Targets | | | | | | | | |
| iqn.2008-08.com.sandeploy:Server0 BootServer | | | | | | | | |
| Bootsciver | | | | | | | | |
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Arriving here, the Servers are configured completely.

Upload system

Install client tools

First we should open the iscsi initiator service on client.

We can get client tools from Server installation directory.

Double click ConfigWizardx64 .If it is x86, double click ConfigWizard.



Press Next to continue.



Select the Local Network Adapter

Press Next to continue.

| Yo | u can check some of network adapter drivers to be installed on t | he workstaion. | |
|----|--|--------------------|---|
| | Description | Hardware Id | - |
| | @netnvm32.inf,%nvenetfd.devicedesc%;NVIDIA nForce | VEN_10DE&DEV_XXXX | - |
| | @oem9.inf,%rtl8168c.devicedesc%;Realtek PCIe GBE F | VEN_10EC&DEV_8136 | |
| | @oem9.inf, %rtl8168c.devicedesc%;Realtek PCIe GBE F | VEN_10EC&DEV_8137 | |
| | @oem1.inf,%rtl8139.devicedesc%;Realtek RTL8139/810 | VEN_10EC&DEV_8138 | |
| | @oem1.inf,%rtl8139.devicedesc%;Realtek RTL8139/810 | VEN_10EC&DEV_8139 | |
| | @oem9.inf, %rtl8168c.devicedesc%;Realtek PCIe GBE F | VEN_10EC&DEV_8167 | |
| | @oem9.inf, %rtl8168c.devicedesc%;Realtek PCIe GBE F | VEN_10EC&DEV_8168 | |
| | @netrtx32.inf,%rtl8169.devicedesc%;Realtek RTL8169/ | VEN_10EC&DEV_8169 | |
| | @oem1.inf,%rtl8139.devicedesc%;Realtek RTL8139/810 | VEN_1113&DEV_1211 | |
| | @netmyk01.inf,%yukon-4364.devicedesc%;Marvell Yuk | VEN_1148&DEV_43XX | |
| | @oem1.inf,%rtl8139.devicedesc%;Realtek RTL8139/810 | VEN_1186&DEV_1300 | |
| | @netmyk01.inf,%yukon-4364.devicedesc%;Marvell Yuk | VEN_11AB&DEV_4351 | |
| | @notmuk01 inf 0/ unkon 4264 douicodooc0/ Maruall Vuk | MENI 11ADODEN 4959 | |

Leave it default, press Next to continue.



Press Next

| iSCSI Boot Configuration Wizard | |
|---|---|
| 97 | Completing the SANDeploy iSCSI Boot Configuration Wizard |
| X | SANDeploy iSCSI Boot Configuration wizard has completed all the configuration on you workstation, press the Finsiah button to complete the wizard, and then use system upload tool to upload system to SANDeploy iSCSI server. |
| | Now the wizard will install SANDeploy iSCSI Boot initiator, if you do not want to install it (boot via other iSCSI initiator, such as Microsoft iSCSI Boot Initiator), check the Skip install SANDeploy iSCSI Boot initiator option. Note, reboot is required for installing iSCSI boot initiator. |
| SANDeploy SBNDeploy International Limited. | Install MPIO Driver |
| | < <u>B</u> ack Finish Cancel Help |

Check Install MPIO Driver.



Choose Install this driver software anyway.

Log into targets

Open the iSCSI initiator and enter the IP Addresses of two servers.

| arget portals | Favorite Targe | ets Volumes and Devices | RADIUS Configuration |
|---|---------------------------------------|---|---------------------------------|
| The system will loo | ok for <u>T</u> argets o | n following portals: | R <u>e</u> fresh |
| Address | Port | Adapter | IP address |
| 192.168.0.111 192.168.0.112 | 3260 3260 | Default Default | Default Default |
| Fo add a target po | ortal, click Disco | ver Portal. | Discover Portal |
| fo remove a targe then click Remove | et portal, select | the address above and | <u>R</u> emove |
| The system is regi Name | istered on the fi | ollowing <u>i</u> SNS servers: | Re <u>f</u> resh |
| The system is regi | istered on the f | ollowing <u>i</u> SNS servers: | Refresh |
| The system is regi Name To add an iSNS se To remove an iSN! then click Remove | rver, click Add S S server, select | ollowing <u>i</u> SNS servers: Server. The server above and | Refresh Add Server Remove |
| The system is regi Name To add an iSNS se To remove an iSNS then click Remove | rver, dick Add S server, select | ollowing <u>i</u> SNS servers: | Refresh Add Server Remove |

And turn to Targets page.

| contributor repetites | - |
|--|-----------------------|
| Targets Discovery Eavorite Targets Volumes and Devices | PADIUS Configuration |
| - Ouick Connect | Comgaration |
| To discover and log on to a target using a basic connection, to DNS name of the target and then click Quick Connect. | ype the IP address or |
| Target: | Quick Connect |
| Discovered targets | |
| | <u>R</u> efresh |
| Name | Status |
| iqn.2008-08.com.sandeploy:Server01 | Inactive |
| ign.2008-08.com.sandeploy:Server02 | Inactive |
| To connect using advanced options, select a target and then click Connect. | Connect |
| To completely disconnect a target, select the target and then dick Disconnect. | Disconnect |
| For target properties, including configuration of sessions, select the target and click Properties. | Properties |
| | |
| For configuration of devices associated with a target, select the target and then click Devices. | De <u>v</u> ices |
| For configuration of devices associated with a target, select the target and then click Devices. | De <u>v</u> ices |

Connect to two targets

| Connect using | |
|---|---|
| ocal adapter: | Default |
| initiator IP: | Default 🔻 |
| [arget portal IP: | 192.168.0.111 / 3260 • |
| CRC / Checksum | |
| Data digest | 🔲 <u>H</u> eader digest |
| Enable CHAP log o CHAP Log on informa CHAP helps ensure co an initiator. To use, specify the sa nitiator. The name wi pecified. | n ation nnection security by providing authentication between a target and ame name and CHAP secret that was configured on the target for this ill default to the Initiator Name of the system unless another name is |
| Enable CHAP log o CHAP Log on informa CHAP helps ensure co an initiator. To use, specify the sa nitiator. The name w specified. | n ation nnection security by providing authentication between a target and ame name and CHAP secret that was configured on the target for this ill default to the Initiator Name of the system unless another name is iqn. 1991-05.com.microsoft:win-q5m7e7b8eq0 |
| Enable CHAP log o CHAP Log on inform CHAP helps ensure co an initiator. To use, specify the sa nitiator. The name w specified. Mame: | n ation nnection security by providing authentication between a target and ame name and CHAP secret that was configured on the target for this ill default to the Initiator Name of the system unless another name is iqn.1991-05.com.microsoft:win-q5m7e7b8eq0 |

Specify the Target portal IP.

And then press OK and uncheck

After client has connected to target, you should change the permission

of client on Servers.

Select the initiator and press Add to Workstations

| Host Name: | WIN-9PBFCAB8VUT |
|-------------------------|--|
| P Address: | 192 . 168 . 0 . 8 |
| P Mask: | 255 . 255 . 255 . 0 |
| Mac Address: | 00-0C-29-15-06-1A |
| loot Server: | Current Server |
| arget: | iqn. 2008-08. com. sandeploy: Server01 |
| ^p ermission: | Operator 🗸 |

Change the Permission to Operator.

Press OK to add it.

| 島 SANDeploy - [SANDeploy iSCSI SAN\Boo | tServer] | | | | | | |
|--|---------------|-------------|---------------|-------------|------------|-------------|--|
| Eile Action View Help | | | | | | | |
| | Þ 📕 | | | | | | |
| SANDeploy iSCSI SAN | BootServer | | | | | | |
| S Users | Computer Name | IP Address | Mask | MAC Address | Permission | Boot Target | |
| Virtual Volumes | SANDP007 | 192.168.0.8 | 255.255.255.0 | 00-0C-29-15 | Operator | iqn.2008-08 | |
| 🖃 🌉 iSCSI Targets | | | | | | | |
| BootServer | | | | | | | |
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After you have added it to workstation, you should disconnect it and log

into targets again.

| rgets Discovery | Favorite Targets | Volumes and Devices | RADIUS | Configuration |
|--|---|--|------------|--|
| uick Connect o discover and log NS name of the tar | on to a target usin get and then click | ng a basic connection, t Quick Connect. | ype the IP | address or |
| arget: | | | Q | uick Connect |
| iscovered targets - | | | | <u>R</u> efresh |
| Name | | | Status | |
| ign.2008-08.com.s | andeploy:Server0 | 1 | Connecte | d |
| ian.2008-08.com.s | andeplov:Server02 | 2 | Connecte | d |
| | | | | |
| o connect using ad | vanced options, se | elect a target and then | | Connect |
| o connect using ad lick Connect. o completely discor hen click Disconnec | vanced options, se nnect a target, sele t. | elect a target and then ect the target and | | Connect Disconnect |
| Fo connect using ad dick Connect. Fo completely discor then click Disconnect For target propertie select the target and | vanced options, se nnect a target, sele t. s, including configu d click Properties. | elect a target and then ect the target and uration of sessions, | | Connect Disconnect Properties |
| To connect using ad dick Connect. To completely discor then click Disconnect or target propertie elect the target and for configuration of the target and then | vanced options, se nect a target, sele t. s, including configu d click Properties. devices associated click Devices. | elect a target and then ect the target and uration of sessions, d with a target, select | | Connect Disconnect Properties Devices |
| Fo connect using ad dick Connect. Fo completely discor then dick Disconnect for target propertie elect the target and for configuration of the target and then ore about basic iSC | vanced options, se nect a target, sele t. s, including configu d click Properties. devices associated click Devices. <u>SI connections and</u> | elect a target and then ect the target and uration of sessions, d with a target, select | | Connect Disconnect Properties Devices |

Ghost system

We use ghost to replicate system

| Ghost Syma | t64 11.5.1 antec Ghost 1 | 1.5.1 | Copyrigh | (1) t | 1998-2010 | Syman | tec Corr | ooration, f | III rights res | erved. | |
|---------------|---|---------|----------------------------|-------|---|-------|----------|-------------|---------------------|--------|--|
| Symantec | Local Peer to peer GhostCast Options Help Quit | fiction | Disk Partition Check | Disk | To <u>D</u> isk To <u>I</u> mage <u>F</u> rom Image | | | | | | |
| | | | | | 1 | \$ | sym | antec. | | | |
| | 976-23-83 | | | | | | | | 18 7 10 7 May 2 | | |

| Select local source drive by clicking on the drive number Drive Location Model Size(MB) Type 1 Local VMware, VMware Virtual S 61440 Basic 2 Local SRNDeplo iSCSI SRN 1.0 35000 Basic 80 Local OS Volumes 61440 Basic | Cylinder 783; 446 783; | rs Heads 2 255 1 255 2 255 | Sectors 63 63 |
|--|---------------------------------|-------------------------------------|---------------------|
| <u>Q</u> K <u>C</u> ancel | | | 0.5 |
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| Ghost64 11.5.1 |
|---|
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| Symantee Ghost 11.5.1 Copyright (C) 1998-2010 Symantee Corporation, Hill rights reserved. Progress Indicator |
| 0% 100% Statistics Proceed with disk clone? Destination drive will be overwritten. |
| Percent complete Speed (MB/min) MB copied MB remaining Time elapsed Time remaining |
| Details Connection type Local Source Local drive E11, 61057 HB Destination Local drive E21, 20480 HB Current partition Current file |
| Symantec. |
| |



| Ghost64 11.5.1 - 6% | | | | | |
|---|---|--|--|--|-----|
| | 1. Canto | Seller State | 12 11.12 | an a | 1 |
| Symantec 6host 11.5 | .1 Copyright (C) 199 | 98-2010 Symantec Corpo | ration. All rights rese | rved. | |
| Progress Indicator | | | | | |
| | | | | | |
| 0% | 25% | 50% | 75% | 100% | |
| | | | | | |
| Percent complete | 6 | | ~ /·. | i | |
| Speed (MB/min) MB copied | 384 474 | | 1 | · - 7 | |
| MB remaining Time elapsed | 7153 | | | | |
| Time remaining | 18:37 | | | / | |
| Details | | | | | |
| Connection type Source | Local Local drive [1], 61 | 1440 MB | | | |
| Destination Current partition | Local drive [2], 35 1/1 Tupe:7 [NTFS], Si | 5000 MB ze:61438 MB. No name | | | |
| Current file | 15209 M1033DSK.CSD |) | | | |
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After the system has been ghosted successfully, you should disconnect it

from targets .Other clients can boot from iSCSI.

