Using SANDeploy iSCSI SAN for Citrix XenServer

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www.sandeploy.com

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Overview

SANDeploy Storage virtualization solution will bring low cost and more convenient in data protection, data replication, data backup and failover than the real-hardware.



Figure 1, SANDeploy Offers shared-storage array for Citrix XenServer

This document gives users detailed step-by-step instructions on configuring SANDeploy iSCSI SAN for Citrix XenServer. Virtual Servers may need two or more computers use a few external storages such as iSCSI disks. With SANDeploy, you can quickly create a series of shared disks for virtualization servers.

Preparing SANDeploy Storage

Create Virtual Volume

Click All Programs->SANDeploy->SANDeploy Boot Server (or SANDeploy Server) to launch SANDeploy

Management Console.

SANDeploy			
<u>File Action View H</u> elp			
SANDeploy iSCSI SAN	SANDeploy iSCSI SA	\N	
Subsers	Name	Description	
Virtual Volumes	🐣 Users	Display and manage CHAP users	
ISCSI Targets	Groups	Display and manage CHAP groups	
BootServer	iSCSI Targets	Display and manage virtual volumes Display and manage iSCSI targets	
	BootServer	Display and manage diskless boot and workstations	

Right click on the **Virtual Volumes** node of left tree view in the main interface.

Select Create Virtual Volume... from the pop-up menu. The Create Virtual Volume Wizard appears.



Select Standard Image file and press the Next button to continue.

Select Image File

Create Virtual Volume Wizard	x
Select Image File Please choose a regular disk image file	*
C Use existing image file • Create a new image file	
T:\xen.img	<u>B</u> rowse
Enter Device size (MB):	
< <u>B</u> ack Next	> Cancel

User can either select to open an existed image file or choose to create a new image file.

To create new image file, please select the location of the file where user wants to create the file, specify the capacity of the image file.

Specify Write-Back Cache Setting

When using SANDeploy Boot Server, the following page will appear.

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:
< <u>Back</u> <u>N</u> ext > Cancel

Do not need to use Write-Back option.

Press the **Next** button to continue.

Finish the virtual volume creating.

Create Virtual Volume Wizard	×
Finish Congratulations, the target is being createdyou have completed all the configurations	
Description iqn.2008-08.com.sandeploy.volume:ImageDisk1	
< <u>B</u> ack Finish	Cancel

On the finish window, user can input some descriptions of the volume.

Press Finish to exit.

Create iSCSI Target

Right click on the **iSCSI Targets** node of the left tree view in the main interface. Select **Create Target...** from the pop-up menu. The Create iSCSI Target Wizard displays.

Select LUN

reate iSCSI Target Wizard	×
Select LUN Please choose at least one LUN in the	following list
Available Volumes:	Selected Volumes:
iqn. 2008-08. com. sandeploy. volume: Image[Disk >
	<
	< Back Next > Cancel

Select the volume in the Available Volumes box, and then press the > button to add it to the Selected Volumes box.

Press the **Next** button to continue.

Create iSCSI Target Wizard	×
Select LUN Please choose at least one LUN in the	following list
Available Volumes:	Selected Volumes:
	iqn. 2008-08. com. sandeploy. volume: ImageDisk
	<
	>>
	<<
	·,
	< Back Next > Cancel

You can choose the CHAP group from the **Available Groups**, then add it to the **Selected Groups by** clicking > button.

Press the **Next** button to continue.

Authorization Settings

Create iSCSI Target Wizard	×
Set iSCSI Target Authorization Please at least one CHAP group	
Available Groups:	Selected Groups:
testgroup	
	<
	>>>
	< <u>B</u> ack <u>N</u> ext > Cancel

When you want to use **CHAP**, select some groups from **Available Groups** box, and then click > button to add them to **Selected Groups**.

Press the **Next** button to continue.

Finish iSCSI Target Creating

Create iSCSI Target Wizard	x
Finish Enter target name to finish iSCSI target creating	٠
TargetName: iqn.2008-08.com.sandeploy:SANDeploy.xen	
	< <u>B</u> ack Finish Cancel

In the finish widow, type target name as you wish.

Press the Finish button to exit.

Configuring on the XenServer

Logon to XenServer

Launch XenCenter



Click Add New Server in the tool bar. The Add New Server dialog appears.

📚 Add New S	erver	? ×
Enter the hos your user log	st name or IP address of the server you want to add and in credentials for that server.	
Server:	192.168.0.171	•
User login cr	edentials	
User name:	root	
Password:	•••••	
L	Add Can	cel

Type the IP address / Name with which running XenServer.

Type user name and password.

Press the Add button to continue.

Now entering XenCenter main interface.



Add iSCSI Storage device into XenServer

Click New Storage, New Storage Repository dialog appears.

🔀 New Storage Repository - New	Pool	
Choose the type of n	iew storage	0
Type Location	Virtual disk storage NFS YHD Software (SCST) Hardware (BA Advanced Storage(Link technology) ISO library Windows File Sharing (CIFS) NFS ISO	Shared Logical Volume Manager (LVM) support is available using either ISCSI or Fibre Channel access to a shared LUN. Using the LVM-based shared SR provides the same performance benefits as unshared LVM for local disk storage, however in the shared context, ISCSI or Fibre Channel-based SRs enable VM agility — VMs may be started on any server in a pool and migrated between them.
		<previous next=""> Enish Cancel</previous>

Choose the type of new storage, we select Software iSCSI.

Press the **Next** button to continue.

New Storage Repository - New	Pool	_ 🗆 X
Enter a name and pa	th for the new iSCSI storage	0
Type Location	Select a name and provide a target host for your new ISCSI storage, indicating your target IQN and your tar before proceeding.	get LUN
	Name: ISCSI virtual disk storage Target Host: 192.168.0.177	3260
	Use CHAP User: Password:	
	Target IQN: iqn. 2008-08. com. sandeploy: SAND eploy. xen(192.168.0.177) Image: Discover Target LUN: LUN 0: 01CB44A7FC5B9A40: 20 GB (KernSafe) Image: Discover	' I <u>Q</u> Ns ' LUNs
citrix.		1
	< Previous Next > Einish	Cancel

Input IP address and port (if not 3260) of the Host that runs SANDeploy Server, press the **Discover IQNS** button, a list of targets in drop-down control is shown.

Select desired target in the list.

If the target you want to connect to has CHAP Authentication, check Use CHAP and input user name and secret.

Press the **Discover LUNs** button.

The iSCSI Target now contains a valid LUN. Here we create a 20G image file device as a demo.

Press the Finish button to continue.

There will pop up a dialog, press the Yes button to proceed.

Now, XenServer is carrying on a series of operations, such as Creating SR, to create data structures required by data repositories.



Sorted! You now see an iSCSI storage device successfully added into XenServer.



Create Virtual Machine

Click New VM on XenServer console, the New VM wizard appears.

New VM				
💣 Select a VM template				0
Permission Checks	Search	ρ		
Template Name	Name	Category	-	Template details
Installation Media	🌄 Citrix XenApp on Windows Server 2003 (32-bit) 🎝 Citrix XenApp on Windows Server 2003 (64-bit)	Windows Windows		automatically provision their storage when first booted and then reconfigure themselves with the
Home Server CPU & Memory	🎝 Citrix XenApp on Windows Server 2008 (32-bit)	Windows Windows		optimal settings for Windows 7 (32-bit).
Storage	🏂 Citrix XenApp on Windows Server 2008 R2 (64-bit)	Windows		
Finish	Nindows 7 (32-bit)	Windows		
1 11 11211	2 Windows 2000 SP4 (32-bit)	Windows		
	Mindows Server 2003 (32-bit)	Windows		
	🎝 Windows Server 2003 (64-bit) 🎝 Windows Server 2008 (32-bit)	Windows Windows	•	
CITRIX	Copy host BIOS strings to VM			
		< Previous		Next > Einish Cancel

Select Windows 7(32-bit) in the following wizard.

Press the **Next** button to continue.

Specify the name

🗵 New ¥M		×
📑 Name the new virtua	al machine	
Permission Checks Template	Enter a name that will help you to identify the virtual machine later. This could be a name that describes its software and hardware such as RHEL DHCP Server, Win2K3 XenApp Server or Exchange 2007 Client Access Server. This name will also be displayed in XenCenter's Resources pane and can be changed later.	
Installation Media Home Server CPU & Memory Storage Networking Finish	You can also add a more detailed description of the VM, if you wish. Name: Windows 7 (32-bit) (1) Description:	
	< <u>P</u> revious <u>N</u> ext > <u>Finish</u> Cancel	

Input the desired name and description.

Press the Next to continue.

Select install Mode

😣 New ¥M		_ 🗆 🗙
Locate the operating	g system installation media	0
Permission Checks Template Name Installation Media Home Server CPU & Memory Storage Networking Finish	Select the installation method for the operating system software you want to install on the new VM.	
	< <u>P</u> revious <u>N</u> ext > <u>Fi</u> nish	Cancel

Choose physical DVD Drive on XenServer.

Press the **Next** button to continue.

Select a home server.

S New ¥M	
💣 Select a home server	0
Permission Checks Template Name Installation Media	When you nominate a home server for a virtual machine, the virtual machine will always be started up on that server if it is available. If this is not possible, then an alternate server within the same pool will be selected automatically.
Home Server CPU & Memory Storage Networking Finish	xenserver-bhkanins 2651 MB available (3062 MB total)
CİTRIX	< <u>Previous</u> <u>Finish</u> Cancel

Select server for running this VM.

Press the **Next** button to continue.

Allocate resources

X New ¥M	
💣 Allocate processor a	nd memory resources
Permission Checks	Specify the number of virtual CPUs and the amount of memory that will be initially allocated to the new virtual machine.
Template	
Name	Number of vCPUs:
Installation Media	Memory: 2048 MB
Home Server	
CPU & Memory	
Storage	
Networking	
Finish	
CITRIX	
	< Previous Next > Finish Cancel

.Specify the number of CPUs and memory size.

Press the **Next** button to continue.

Select storage device.

<mark>≳</mark> New ¥M				X
💣 Configure storage	for the new VM			?
Permission Checks Template Name Installation Media Home Server	The virtual machine template you selected earlier provides the virt properties of these virtual disks, and add more disks if required. Alternatively, you can select the second option below to create a and does not use any virtual disks. When you have finished configuring disks for the new virtual mach	tual disks listed belov diskless VM that can hine, click Next to co	v. You can char be booted fror ntinue to the ne	nge the n the network ext step.
CPU & Memory		Size	Shared	Add
Networking Finish	Local storage on xenserver-bhkanins	24 GB	False	Delete Properties
	Use storage-level <u>f</u> ast disk done			
	$\mathbf C$ -Create a diskless VM that boots from the network			
CITRIX.				
	< <u>P</u> revio	ous <u>N</u> ext >	Einish	Cancel

First you see an iSCSI Virtual disk storage device, which is the local storage on XenServer. It is XenServer's default storage device. If you want to add other virtual disk, press the **Add** button.

😣 Add Virtua	l Disk	<u>? ×</u>
Enter a name VM the disk b	, description and size for your virtual disk. The size of your disk and the home server set elongs to will affect which storage locations are available.	ting of any
<u>N</u> ame:	New virtual disk	
Description:		
<u>S</u> ize:	20400 🕂 MB	
Location:	Society of the storage of the storag	
	Add	Cancel //

Select the storage you want to add.

Specify the size of the new virtual disk.

Press the **Add** button to finish the wizard.

New YM				
💣 Configure storage	for the new YM			?
Permission Checks Template Name Installation Media Home Server	The virtual machine template you selected earlier provides the virtual properties of these virtual disks, and add more disks if required. Alternatively, you can select the second option below to create a disl and does not use any virtual disks. When you have finished configuring disks for the new virtual machine	disks listed below dess VM that can l t, click Next to con	. You can char be booted fror tinue to the ne	nge the n the network ext step.
CPU & Memory	Location	Size	Shared	Add
Networking Finish	Local storage on xenserver-bhkanins	24 GB 19.9 GB	False True	<u>D</u> elete P <u>r</u> operties
citrix.	Create a disklesg VM that boots from the network			
	< Previous	<u>N</u> ext >	Einish	Cancel

Select the storage you just add, and then press the **Next** button to continue.

Networking settings for the VM

8 New VM	
💣 Configure networking	g on the new VM 🔹 😮
Permission Checks Template Name	The virtual machine template you have selected provides the virtual network interfaces listed below. You can configure or delete the default virtual network interfaces here, and add more if required. Virtual network interfaces on Windows 7 (32-bit) (1)
Installation Media	MAC Network <u>A</u> dd
CPU & Memory	A <autogenerated mac=""> Network 0</autogenerated>
Storage	Properties
Networking	
Finish	
	Using a Default template, you can configure up to 4 virtual network interfaces during VM creation. To configure more than 4, create a Custom template or add extra virtual network interfaces from the Network tab after creating the new VM.
CİTRIX	
	< <u>P</u> revious <u>N</u> ext > ⊟nish Cancel

We use the default network.

Press the **Next** button to continue.

Finish the VM creating

8 New VM			
💣 Ready to create the	new virtual machin	e	•
Permission Checks Template Name Installation Media	All the necessary inf the settings shown b Review these setting VM and close this wiz	ormation has been collected and the wizard is ready to provision the new virtual machine u elow. Is, then click Previous if you need to change anything. Otherwise, click Finish to create the ard. It may take several minutes to create the new VM.	sing new
Home Server	Property	Value	<u> </u>
CPU & Memory	Template	Windows 7 (32-bit)	
Storage	Name	Windows 7 (32-bit) (1)	
Networking	Install Method	CD	
Finish	Installation Source	SCSI 3:0:0:0	
	Home Server	xenserver-bhkanins	
	VCPUs	1	
	Memory	2048 MB	
	Disk 0	24 GB	
	l		
CİTRIX	Start the new VM	l automatically)	
		< <u>Previous</u> <u>N</u> ext > <u>Finish</u> (Iancel

Press the Finish button to complete creating new virtual machine.

Install Operation System

Run the virtual machine and set up the operating system.

The process is just like that on real machine.

XenCenter				
Eile View Pool Server VM Storag	e <u>T</u> emplates Too <u>l</u> s <u>W</u> indow <u>H</u> elp	•		
GBack • Forward • 📑 Add New	Server 💼 New Pool 💣 New Stora	ge 💼 New VM 🕐 Shut Down 🛞 Reboot	U Suspend	System Alerts: 35 👳
Show: Server View	😼 Windows 7 (32-bit) (1)			Logged in as: Local root account
E 😣 XenCenter	General Memory Storage Network	Console Performance Snapshots Logs		
xenserver-bhkanins Windows 7 (32-bit) (1) DUD divisor	DVD Drive 1: DVD drive 0 on xenserve	er-bhkanins	Eiect	Looking for guest console
Local storage				
iSCSI virtual disk storage				
		Starting Windows		
	Send Ctrl+Alt+Del (Ctrl+Alt+Insert)	Scale	Jundock (Alt+Shif	t+U) Fullscreen (Ctrl+Alt)
				.::

Press the Install Now button to install OS.

🗷 XenCenter		
<u>Eile View Pool S</u> erver V <u>M</u> St <u>o</u> rae	ge <u>I</u> emplates Tools <u>W</u> indow <u>H</u> elp	
G Back - Forward - I 🚰 Add New	v Server 🎼 New Pool 🔐 New Storage 📷 New VM 🕘 Shut Down 🛞 Reboot 🕕 Suspend 🛛 🧟 Syste	m Alerts: 35
Show: Server View 🔎 👻	S Windows 7 (32-bit) (1) Logged in as: Lo	ocal root account
E 😒 XenCenter	General Memory Storage Network Console Performance Snapshots Logs	
 xenserver-bhkanins Windows 7 (32-bit) (1) Windows 7 (32-bit) (1	DVD Drive 1: DVD drive 0 on xenserver-bhkanins Icoking for gue	st console
	Send Ctrl+Alt+Del (Ctrl+Alt+Insert)	creen (Ctrl+Alt)
		.::

SANI	Dep	loy
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🗴 XenCenter		
<u>File View Pool S</u> erver V <u>M</u> St <u>o</u> ra	age <u>T</u> emplates Too <u>l</u> s <u>Wi</u> ndow <u>H</u> elp	
Gack 👻 🕤 Forward 👻 📑 Add Ne	w Server 📴 New Pool 🔮 New Storage 👕 New VM 🕘 Shut Down 🛞 Reboot 🕕 Suspend	System Alerts: 35 👳
Show: Server View	😼 Windows 7 (32-bit) (1)	Logged in as: Local root account
E XenCenter	General Memory Storage Network Console Performance Snapshots Logs	
www.Pool wew.Pool wew.Pool	DVD Drive 1: DVD drive 0 on xenserver-bhkanins	Looking for guest console
DVD drives		*
Removable storage	General Windows	
iSCSI virtual disk storage	Where do you want to install Windows?	
	Name Total Sine Series Turne	
	Disk 0 Unallocated Space 24.0 GB 24.0 GB	
	Disk1 Unallocated Space 19.9 GB 19.9 GB	
	Refresh Drive options (advanced)	
	. Tagang	
	Net	
	1 Collecting information 7 Installing Windows	
	Scale Undock (A	lt+Shift+U) Fullscreen (Ctrl+Alt)
		.::

Select the 19.9G disk. Just like that on a real hard disk.

Setup starts copying files





Likewise, you may install Windows Server 2003, Windows XP, Vista and Windows Server 2008, or even any version of Linux as you wish.

Contact

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