

使用 iSCSI 與 ASUSTOR NAS 連線

ASUSTOR COLLEGE



課程目的

完成此課程後您將能夠:

- 1. 對 iSCSI 有基本認識
- 2. 能在 ASUSTOR NAS 使用 iSCSI 服務

必修項目

課程必修項目:

無

學生須先具備以下知識: N/A

大綱

- 1. iSCSI 簡介
 - 1.1 什麼是 iSCSI?
- 2. 在你的電腦上使用 iSCSI 服務
 - 2.1 建立 iSCSI target 與 LUN
 - 2.2 使用 iSCSI 啟動器連線至 iSCSI target
 - 2.3 初始化剛連線的硬碟

1. iSCSI 簡介

1.1 什麼是 iSCSI?

iSCSI, (Internet Small Computer System Interface)是用來連接資料儲存設施的一種網路協定,它也 是以 IP 為基礎的儲存網路標準。它擁有高擴充與低成本佈署的特性。在你現有的網路架構下, 透過 iSCSI 你可以將 NAS 視為儲存空間的擴充或是資料備份的目的端

使用 iSCSI 服務可以分成兩部分,一是 target,另一則是 啟動器。在你電腦上的啟動器可視為 一個 iSCSI 的用戶端,可用來尋找 iSCSI 主機並設定主機上 target 的連線。Targets 則可視為 iSCSI 伺服器上的儲存資源。而一個 iSCSI target 通常是專用於網路儲存設備中 (ASUSTOR NAS)

注意:請記得一個 target 在同一時間不能接受多個用戶或啟動器的連線

2. 在你的電腦上使用 iSCSI 服務

在以下的例子中,我們將示範如何在 ASUSTOR NAS 上建立一個 iSCSI volume 並使用 PC 連線到此 iSCSI volume

2.1 建立 iSCSI target 與 LUN

步驟1

開啟 [儲存管理員]。選擇 [iSCSI] 的頁面並點選 [建立]

🞽 Storage N	lanager			⊜ @	
Volume Disk	ISCSI				
Create Action -	LUN Pool Preferences				l
	Name:				I
	IQN:				
	Status:				
	CRC / Checksum:				
	Authentication:				
	Host	IQN			l
	Mapped iSCSI LUN(s)				l
	Name		Capacity	Status	
					đ

在"建立新的 iSCSI 裝置" 視窗顯示後,選擇 [iSCSI target (目標)與 iSCSI LUN (磁碟)] 並點選 [下一步]

Create New iSCSI Device
Please select the device you would like to create.
○ An iSCSI target
⊖ An iSCSI LUN
Next Cancel

步驟3

請為你的 Target 命名並點選 [下一步]

Create Nev	v iSCSI Device
Please configure the	settings for the target.
Target name:	Target1
IQN:	ign.2011-08.asustor:AS-604T008D.Target1
CRC / Checksum:	🗌 Header digest
	Data digest
	\mathbf{X}
	\mathbf{X}
	Previous Next Cancel

步驟 4 選擇 [不需要認證] 然後點選 [下一步]

在我們的例子中我們選擇不需要認證。但如果你想要辨認連線者的身分,你可以選擇使用 CHAP 認證,一旦啟用 CHAP 認證,在使用 iSCSI 啟動器連線到 target 時便會要求輸入 CHAP 密 碼,身分認證後才可以進行連線

Create New iSCSI Device			
Please configure the settings for CHAP authentica	tion.		
lo authentication required			
 Use CHAP authentication 			
Username:			
Password:	\mathbf{i}		
Confirm password:			
Enable mutual CHAP authentication			
Username:			
Password:			
Confirm password:			
		+	
	Previous	Next	Cancel

選擇 [建立一個新的 iSCSI LUN]。在為新建的 LUN 命名並決定 LUN 的大小後,點選 [下一步]

注意:LUN (Logical unit number) 是一可個別尋址的 SCSI 裝置,是附屬於實體 SCSI 裝置 (Target) 下。在 iSCSI 的環境中,LUNs 可視為一堆硬碟,啟動器則是負責與 target 溝通並建立連線。在 連線建立成功後,你可將 LUNs 視為你電腦中的新增硬碟

Create New i	SCSI Device			
Please configure the set Create a new iSCSI L Mount an ISO image a	tings for the new LUN:			
LUN name:	LUN1			
LUN location:	Volume 1]		
Thin provisioning:	Yes	⊖ No	<u> </u>	
LUN size:	0		10	GB
	Available capacity: 1	6.36 GB		Ţ
		Previous	Next	Cancel

步驟6

再次確認你的設定,並點選[完成]

Create New iSCSI Dev	ice		
Please confirm the following settings:			
∃ iSCSI LUN:			<u> </u>
LUN name	LUN1		
Location	Volume 1		
Thin provisioning	Yes		
Size	10 GB		
∃ iSCSI target:			E
Target name	Target1		
IQN	iqn.2011-08.asustor	:AS-604T008D	.Target:
CRC / Checksum	N/A		
Authentication	N/A		~
	Previous	Finish	Cancel

你將能在畫面左側看到你剛建立的 target,在畫面右側則能看到剛建立的 LUN 的資訊

🞽 Storage N	Nanager				⊜ ⊗
Volume Disk	iSCSI				
Create Action -	LUN Pool Preferen	ces			
	Name:	Target1			
Target1	IQN:	iqn.2011-08.asustor	AS-604T008D.Target1		
	Status:	Inactive			
	CRC / Checksum:	N/A			
	Authentication:	Disable			
	Host	IQN			
	Mapped ISCSI LUN(S))			
	Name		Capacity	Status	
	LUNI		10.00 GB	Unline	

2.2 使用 iSCSI 啟動器連線至 iSCSI target

步驟1

在 Windows 下,點選 [開始] 然後選擇 [控制台]



步驟 2 ^{選擇 [系統管理工具]}



連續點擊 [iSCSI 啟動器]Double-click on [iSCSI Initiator].



步驟4 在[目標]的欄位輸入NAS的IP位址,然後點選[快速連線]

iSCSI Initiator Properties	×
Targets Discovery Favorite Targets Volumes and Devices Quick Connect To discover and log on to a target using a basic connection, typ DNS name of the target and then click Quick Connect. Target: 172.16.1.250 Target: 172.16.1.250	RADIUS Configuration De the IP address or Quick Connect
Discovered targets	Refresh
Name	Status
To connect using advanced options, select a target and then click Connect.	Connect
then dick Disconnect.	Disconnect
select the target and dick Properties.	Properties
For configuration of devices associated with a target, select the target and then dick Devices.	Devices
ок	Cancel Apply

在快速連線視窗中,你應能看到 target 已經被連接了,此時點選 [完成]

Quick Connect	×
Targets that are available for connection at the If provided are listed below. If multiple targets are to each target individually. Connections made here will be added to the list o to restore them will be made every time this comp	P address or DNS name that you available, you need to connect f Favorite Targets and an attempt outer restarts.
Discovered targets	
Name	Status
iqn.2011-08.asustor:AS-604T008D.Target1	Connected
Progress report	
Immediate Login Succeeded.Persistent Login fai after system reboot	iled, target will not be available
Connect	Done

此時你也可以在 [探索到的目標] 看到已被連接的 target。確認後點選 [確定]

SI Initia	tor Propert	ies						Х
Targets	Discovery	Favorite Targets	Volumes and De	vices	RADIUS	Con	figuration	
-Quick C To disc DNS na	onnect over and log me of the ta	g on to a target usin arget and then click	ng a basic connec Quick Connect.	tion, typ	oe the IP	addre	ess or	
Target:	:				Qu	uick C	onnect]
Discove	red targets					Ref	fresh]
Name				S	Status			ĺ
(iqn.20	11-08.asus	tor:AS-604T008D.T	arget1	c	Connecte	d	$\mathbf{)}$	
To conr	nect using a	dvanced options, se	elect a target and	d then		Cor	nect	
To conr click Co To com then cli	nect using a nnect. pletely disco ck Disconne	dvanced options, se onnect a target, select.	elect a target and ect the target an	d then		Cor	nnect	
To conr click Co To com then cli For targ select t	nect using a nnect. pletely disco ck Disconne get properti he target a	dvanced options, se onnect a target, sel ct. es, including configu nd click Properties.	elect a target and ect the target an uration of session	d then d		Cor	nnect onnect rties	
To conr dick Co To com then di For tare select t For con the tare	nect using a nnect. pletely disco ck Disconne get properti he target a nfiguration o get and the	dvanced options, se onnect a target, select. es, including configund click Properties. of devices associated n click Devices.	elect a target and ect the target an uration of session d with a target, s	d then d is, select		Corr Disco Prope Devi	nnect onnect rties ces	
To conr dick Co To com then di For tar select t For con the tar More ab	nect using a nnect. pletely disco ck Disconne get properti he target a nfiguration o get and the <u>out basic iSt</u>	dvanced options, se onnect a target, select. es, including configund click Properties. If devices associated n click Devices.	elect a target and ect the target an uration of session d with a target, s d targets	d then d s, elect		Corr Disco Prope Devi	nnect onnect rties	
To conr click Co To com then cli For tar select t For con the tar More ab	nect using a nnect. pletely disco ck Disconne get properti the target a nfiguration o get and the <u>out basic iS</u> (dvanced options, se onnect a target, sel ct. es, including configu nd click Properties. If devices associated n click Devices.	elect a target and ect the target an uration of session d with a target, s d targets	d then d ss, select		Cor Disco Prope Devi	nnect onnect rties	

2.3 初始化新連線的硬碟

步驟1

在 Winows 下點選 [開始],對 [電腦] 按右鍵然後選擇 [管理]



步驟2

在"**電腦管理**"畫面出現後,在左邊視窗 [存放位置] 下選擇 [磁碟管理],此時會出現 [初始化磁 碟] 的視窗,確認是否為我們所連線的磁碟後,點選 [確定] 開始初始化硬碟

🜆 Computer Management		
File Action View Help		
🗢 🔿 🗾 🖬 🚺 🗙 🗙	ef 🖻 🗟 📓	
🛃 Computer Management (Local)	Volume Layout Type File System Status	Actions
A 👔 System Tools	Simple Basic Healthy (Primary Partition)	Disk Management
De Celebrater Task Scheduler	GS (C:) Simple Basic NTFS Healthy (System, Boot, Page File, Active, Crash Dump, Pri	More Actions
Event Viewer Shared Folders		
R Shared Folders		
Device Manager		
Storage		
Disk Management		
Services and Applications	You must initialize a disk before Logical Disk Manager can access it.	
	Select disks:	
	Disk 1	
	Use the following partition style for the selected disks	
	GPT (GUID Partition Table)	
	Disk	
	465.76 Note: The GPT partition style is not recognized by all previous versions of	
	Online Itanium-based computers. Active,	
	OK Cancel	
	Unknown	
	10.00 GB 10.00 GB	
	Not Initialized Unallocated	
	CD-ROM 0	
	DVD (E:)	
	No. Mo. Ko	
	TVO IVIEDIA	
	Unallocated Primary partition	

在初始化結束後,你將能看到一個未配置的硬碟,對此硬碟按右鍵並選擇[新增簡單磁碟區]

Disk 0				
Basic 465.76 GB Online	19.53 GB Healthy (Primary Pai	rtition)	OS (C:) 446.23 GB NTFS Healthy (System, Boot, Page File, Activ	e,
Disk 1 Basic 10.00 GB Online	10.00 GB Unallocated	New Si New Sp New St	mple Volume panned Volume	=
CD-ROM 0 DVD (E:)		Proper	ties	
No Media		Help		
Unallocated	Primary partition			

步驟4

在"新增簡單磁碟區精靈"出現後,請照著精靈指示完成設定

New Simple Volume Wizard		x
	Welcome to the New Simple Volume Wizard	
	This wizard helps you create a simple volume on a disk.	
	A simple volume can only be on a single disk.	
	To continue, click Next.	
	< Back Next > Ca	ancel

初始化完硬碟後,你應能夠看到類似下圖的資訊



步驟6

新增磁碟區已經可以使用了,你可以看到類似下圖的資訊。接下來你就可以把它視為一般的硬碟,存放 在此硬碟的資料等同於儲存於 ASUSTOR NAS 中

注意:請記得一個 target 在同一時間不能接受多個用戶或啟動器的連線

