# **ISCSI CAKE (CCDISK)**

# **USER MANUAL**



Youngzsoft 2008

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### INTRODUCTION

iSCSI Cake is a Windows based iSCSI target. It shares server's disk, partition, VMDK file, or ISO file with iSCSI initiators/clients. Client can access iSCSI disk as local disk, which supports partition, format, read, and write disk operation. The key feature of iSCSI Cake is disk protection which means client can write, delete, format and repartition iSCSI disk without changing any byte in server's disk.

iSCSI Cake provides network administrator a convenient way of software maintain and update. It is no longer necessary to install software on each client repeatedly. And it is no longer to worry about the safety of shared data on server because everything will recover after client reboot.

#### **Key Features:**

- 1. iSCSI Compatibility: Supports iSCSI initiators on Windows, Linux, and Solaris.
- 2. OS Compatibility: Supports all 32bit/64bit Windows 2000/XP/2003/VISTA and later operating systems.
- 3. 64bit Addressing: Breaks through the 2TB limitation.
- 4. Cluster Sharing: Shares storage among cluster nodes.
- 5 .VMWare Compatibility: Exports VMWare VMDK disk file as target disk.
- 6. ISO Support: Simulates virtual CDROM drive.
- 7. Port Forwarding: Provides service while under the protection of firewall.
- 8. High IO performance: Server cache and per-client cache together deliver high IO efficiency.
- 9. Easy to Manage: Windows based GUI can be installed on any computers to manage iSCSI server.
- 10. COW protection: Protects server data from unauthorized client.



## SERVER INSTALLATION

CCDISK includes two parts:

- 1. NT Service: CakeService.exe runs in background automatically when computer boots up.
- 2. GUI: iSCSICake.exe & ControlClient.dll provide user interface for configuration and watch server status.

### LOGIN

Installation is straight forward, just click "Next" until finish. Then start configuration by double click the shortcut on desktop or quick launch toolbar. The login dialog asks for password and the initial password is empty. iSCSICake.exe & ControlClient.dll can be copied to any other computer to control server as long as the password is not empty.

Login	
Server IP	127 . 0 . 0 . 1
Control port	3258
Password	
(Local co	ontrol only without password)
	OK Cancel

### MAIN INTERFACE

Here is the management interface.

- 1. New disk: Add new iSCSI disk.
- 2. New client: Add new client. By default, client is added automatically unless you changed the default setting.
- 3. Delete disk: Remove iSCSI disk.
- 4. Delete client: Remove client. For example, remove the client that has used too much bandwidth.
- 5. Setup: Change server configuration.

6. Update cache: Cache must be updated after data is changed. You don't need to worry about it if you enable super client since the source disk is opened exclusively.

- 7. Start service: Start iSCSI Cake service.
- 8. Stop service: Stop iSCSI Cake service.
- 9. Exit: Exit GUI. (Service is still running background).
- 10. About: Version information and registration.

🚨 iSCSI Cake 1.	8.0101															
File( <u>F)</u> View( <u>V</u> ) H	telp( <u>H</u> )															
New disk No	и 🛃 ew client Delete disk	Holete client	Setup	Opdate cache	Start service	Stop service	() Exit	(i) About								
R I (Or	nline)		Name	Status	Start type	Acess c	Capacity	Speed	Online time	Read bytes	Write bytes	Source		Working dir		Enat
	Inne) ISCSI Disk Client															
			<												)	>
Ready													Online	0	fotal 0	

#### ADD ISCSI DISK

Add an iSCSI disk by clicking "New disk" button and the disk property dialog will show up.

1. Name: Disk name.

- 2. Capacity: Source disk capacity.
- 3. Working dir: Where client's data is placed.
- 4. Source: Partition or physical disk that is going to be shared with client.

5. Start type: Auto start or not when Cake service starts. Auto start is recommended.

6. Default: Client is added automatically if "Default" is checked, otherwise you have to add client manually.

7. Enable super client: If it is checked, client can really write to source disk otherwise client's data will be discarded after client disconnected. In super client mode, the source is opened exclusively. If the source is partition, you won't be able to access that partition when Cake Service is running. If the source is physical disk, all the drive letter on that disk must be removed in Windows disk manager. (Attention: It is NOT to remove partition that may destroy all your data). You can restore those drive letters if you stop Cake Service or disable super client.

8. Super client is protected by CHAP by default. However, CHAP can be disabled by checking "Disable CHAP" option.

D	isk Informatio	n		
[	-Disk information			
	Name	Disk1		
	Capacity	100000	мв	
	Working dir	C:\Program Files\iSCSI Cake\D		
	Source			
	C Partition	<u></u>		
	O Disk	<u> </u>		
	File	G:\filedisk.vmdk		
	C Ramdisk			
	Start type	Auto		
	Auto access	control r client P		
		OK Cance	9	

Click OK and return to main interface. The disk status should be running and you can right click the disk to stop it or change its configuration. The configuration cannot be changed when iSCSI disk is running. Disk status including speed, read/write bandwidth usage can help user to maintain the iSCSI Cake server.

iSCSI Cake 1.8.0101											
File(E) View(V) Help(H)											
New disk New client Delete disk Delete	dient Setup	Update cache Start se	rvice Stop service	Exit	(1) About						
R I(Opline)	Name	Status Start t	ype Acess c	Capacity	Speed	Online time	Read bytes	Write bytes	Source	Working dir	Enab
Client	Disk1	Running Aut	o Auto	100000MB	0.00MBps	OHrOMin	OME	OMB	G:\filed	C:\Program Files\\SCSI Cake\Disk1\	ĸ
	<										>
Ready										Online 0 Total 0	

#### ADVANCED SETTINGS

Though iSCSI Cake works great with default setting, you can also customize it by clicking "Setup" button.

- 1. Service port: Default is 3260.
- 2. Cache size: Server cache size in MB.
- 3. TCP\_NO\_DELAY: Reduce response time of small request.
- 4. Refresh interval: Status refresh interval time in second.
- 5. Control port: Accept GUI control, default is 3258.
- 6. Admin password: Password for GUI control.
- 7. Super client password: Password for super client, length 12-15. Client uses it for CHAP secret.
- 8. [Initiator setup]: This part control client cache and need iSCSIClient to be installed in client side.
- 9. Enable local cache: Enable client side cache and cache size in MB.
- 10. Memory cache: Use client memory as cache.
- 11. Disk cache: Use client disk as cache and where to place the cache file.
- 12. Save client data on server when shutdown: Flush data in client cache to server when client disconnect.
- 13. Cache write only: Cache write request only.

Setu	Р		
_[ta	arget setup]		
S	ervice port	3260	
Ca	ache size	768	мв
T	CP_NO_DELAY	<b>v</b>	
B	efresh interval	5	S
C	ontrol port	3258	
A	dmin password		
S	uper client passwd	*****	
_ (in	nitiator setup]		
	Enable local cache	1024	МВ
0	Memory cache		
•	Disk cache	C:\CakeCache	
	Save client data on s	erver when shutdo	own
	Cache write only		
U	Ipdate cache	ve Canc	el

## **CLIENT INSTALLATION**

Microsoft provide standard iSCSI initiator to support iSCSI solution. It can be downloaded from <u>Here</u>. We will take version 2.07 for example.Note : Microsoft iSCSI initiator supports Windows 2000/XP/2003/Vista and later Windows system.



Install both components.

Software Update Installation Wizard	×
Microsoft iSCSI Initiator Installation	
Microsoft iSCSI Initiator will be installed	
Installation Uptions     ✓ Virtual Port Driver     ✓ Initiator Service     ✓ Initiator Software Initiator     ✓ Microsoft MPIO Multipathing Support for iSCSI	
< <u>B</u> ack <u>N</u> ext > C	ancel

Agree whatever to continue.



The confirmation at the end of the installation.



There is a shortcut on desktop after installation.



Double click the shortcut to run initiator. Choose 'Add' to add target address.

iSCSI Initiator P	roperties			×
General Discove	ery Targets	Persistent Targets	Bound Volumes/Devices	
_ <u>Iarget</u> Portals				
Address	Port	Adapter	IP Addr	
Add		<u>R</u> emove	R <u>e</u> fresh	
_iSNS Servers-				
Name				
Add		Remove	Re <u>f</u> resh	
	L	OK	Cancel Apply	

Fill out the table with your server's address. The socket is 3260 by default.

nd socket number o ct specific settings f	f the portal you or the discovery
<u>P</u> ort:	
3260	Advanced
ОК	Cancel
	nd socket number o ect specific settings f <u>P</u> ort: 3260 OK

Target is added and ready to be connected.

iSCSI Initiator Propert	ties		×			
General Discovery Ta	rgets Persistent Targets	Bound Volumes/Device	es			
Select a target and click Log On to access the storage devices for that target. Click details to see information about the sessions, connections and devices for that target.						
<u>T</u> argets:						
Name		Status				
ign.2005-02.com.ricec	akelisosi:00	Inactive				
ſ	 Details Log 0	In R <u>e</u> fresh				
			2			
	ОК	Cancel Apply				

Select 'Log On' to connect to target.

Log On to Target	×
Target name:	
iqn.2005-02.com.ricecake.iscsi:00	
Automatically restore this connection when the system boots	
Enable multi-path	
Only select this option if iSCSI multi-path software is already insta on your computer.	lled
Advanced OK Cancel	

Note : Client will connect target automatically each time boots up if 'Automatically restore' is selected. You can delete the target from 'Persistent Targets' if you don't want to reconnect automatically.

After connected, the status will change from 'Inactive' to 'Connected'. You can check the new disk in system disk management.

iSCSI Initiator Pro	perties					
General Discovery	Targets	Persistent Targel	s Bound Volume	es/Devices		
Select a target and click Log On to access the storage devices for that target. Click details to see information about the sessions, connections and devices for that target.						
Targets:			Charles			
ian 2005-02 com r	icecake is	esi:00	Connected			
	<u>D</u> e	etails <u>L</u> og	0n R <u>e</u>	fresh		
	(	ОК	Cancel	Apply		

Connection can be closed by clicking Details and Log Off selected connection.

Target Properties	×
Sessions Devices Properties	
This target has the following <u>s</u> essions:	
Identifier	
Fffffff86d3d854-4000013700000008	
Log off Refresh	
Session Properties	
Target Portal Group: 1	
Status: Connected	
Connection Count: 1	
Session Connections	
To configure how the connections within this session are load balanced, click <u>Connections</u> .	
OK Cancel Apply	

# SUPER CLIENT

1. Add a disk with Enable super client option. (Existing disk can be modified after it is stopped.)

D	isk Informatio	n	×
	-Disk information		
	Name	Disk1	
	Capacity	3000000	мв
	Working dir	C:\Program Files\iSCSI Cake\D	
	Source		
	C Partition	<b>_</b>	
	O Disk	<b>_</b>	
	File	E:\test.vmdk	
	Start type	Auto	
	🔽 Default		
	Enable super	r client	
		OK Cance	el

2. Enter setup and change the Super client password to any password with the length between 12 to 15 characters.

Setup					
[target setup]					
Service port	3260				
Cache size	768	МВ			
TCP_NO_DELAY	<b>v</b>				
Refresh interval	5	S			
Control port	3258				
Admin password					
Super client passwd	******				
[initiator setup]					
🔽 Enable local cache	1024	мв			
C Memory cache	C Memory cache				
Disk cache	C:\CakeCache				
<ul> <li>Save client data on server when shutdown</li> <li>Cache write only</li> </ul>					
					Update cache Save Cancel

3. Open Microsoft Initiator and add target address.

iSCSI Initiator Pro	perties			×
General Discovery	Targets	Persistent Targets	Bound Volumes/Device	es
Select a target and click Log On to access the storage devices for that target. Click details to see information about the sessions, connections and devices for that target.				
<u>T</u> argets:				
Name			Status	
ign.2005-02.com.r	icecake.is	csi:00	Inactive	
	_			
	<u>D</u> e	etails <u>L</u> og O	n R <u>e</u> fresh	
	(	ОК	Cancel Apply	

4. Open Advanced options before log on target.

Log On to Target	×			
Target name:				
iqn.2005-02.com.ricecake.iscsi:00	]			
Automatically restore this connection when the system boots				
Enable multi-path				
Only select this option if iSCSI multi-path software is already installed on your computer.				
Advanced OK Cancel	]			

5. Enable CHAP and enter the password with any user name.

Advanced Settings ? 🔀						
General IPSec						
Connect by using						
Local <u>a</u> dapter:	Default 💌					
Source <u>I</u> P:	Default					
<u>I</u> arget Portal:	Default					
CBC / Checksum						
Data digest	Header digest					
CHAP logon ir	nformation					
CHAP helps ensure data security by providing authentication between a target and an initiator trying to establish a connection. To use it specify the same target CHAP secret that was configured on the target for this initiator.						
User name:	iqn. 1991-05. com. microsoft:rj					
Target secret:						
Perform mutual authentication						
To use mutual CHAP specify an initiator secret on the Initiator Settings page and configure that secret on the target.						
	OK Cancel Apply					

6. Super client is connected successfully and you can write data to target.

iSCSI Initiator Pro	perties			×	
General Discovery	Targets	Persistent Targets	Bound Volumes/Device	es	
Select a target and click Log On to access the storage devices for that target. Click details to see information about the sessions, connections and devices for that target.					
<u>T</u> argets:					
Name			Status		
		etails Log C	In Refresh		

ISCSI Cake (CCDisk)

# CONTACT

iSCSI Cake(CCDisk)

Youngzsoft

Product Page: <u>http://www.iscsicake.com/</u>

Company Page: <a href="http://www.youngzsoft.net/">http://www.youngzsoft.net/</a>

Email: <a href="mailto:support@iscsicake.com">support@iscsicake.com</a>