

HAReplicator: Remote Replication to iSCSI SAN

Wednesday, January 9, 2013



KernSafe Technologies, Inc.

www.kernsafe.com

Copyright © KernSafe Technologies 2006-2013. All right reserved.

Table of Contents

Overview	1
Configuring on iStorage Server	1
Network Adapter	1
Choose the Authentication Mechanism	2
Create user	3
Create group	4
Creating target	5
Configuring on HAReplicator	10
Contact	20

Overview

HAReplicator Remote replication from Disk / Volume to iSCSI SAN is a very popular feature in IT industry, which allows user to create a real-time replication between local storage such as disk and volume to remote iSCSI SAN, it not only allows to create synchronous replication in the Ethernet but also allows to create asynchronous replication over WAN.

This document gives detailed step-to-step instructions on HAReplicator configuring for Creating Remote Replication. Before to do so, prepare the following two computers or virtual machine.

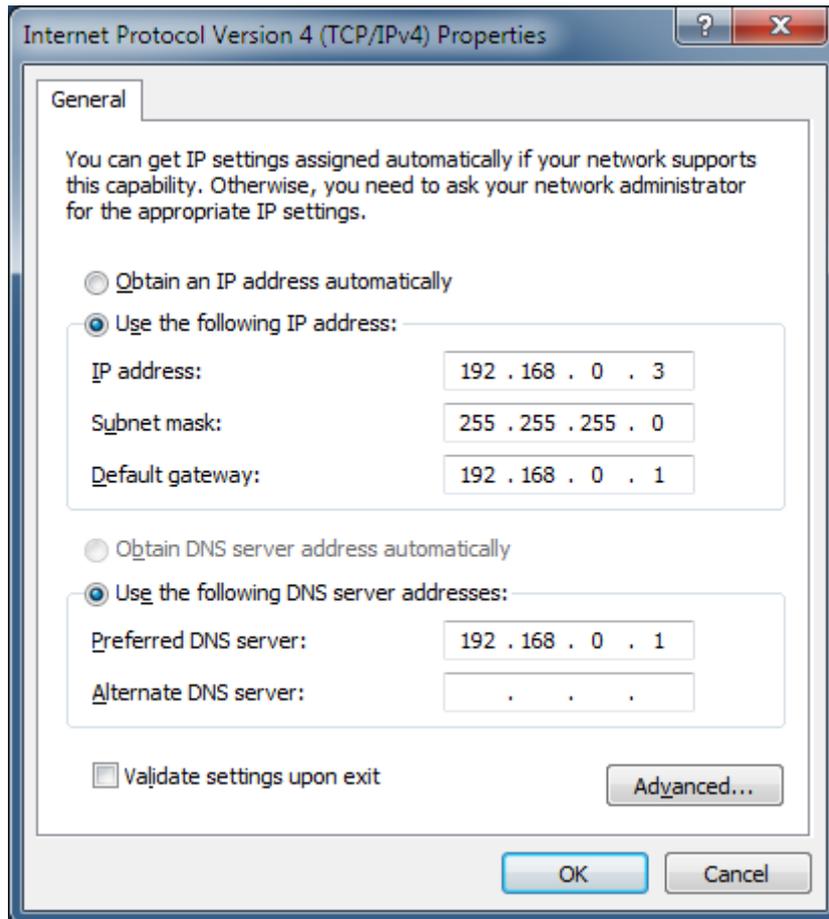
Name	IP Address	Detail
ServerNode1	192.168.0.101	Remote Replication
iStorage Server	192.168.0.3	iSCSI target

Note, you can download our KernSafe free iSCSI target software (iStorage Server) via:
<http://www.kernsafe.com/product/istorage-server.aspx>.

Configuring on iStorage Server

Network Adapter

For working in iSCSI SAN environment, the network adapter must be assigned a static IP address. Select the **Internet Protocol Version 4(TCP/IP4)** and then press the **Properties** button, the **Internet Protocol Version 4(TCP/IP4)** dialog is shown.



Type the **IP address, Subnet mask, Gateway and DNS server**.
Press **OK** to save change.

Choose the Authentication Mechanism

Decide which authentication mechanism you would like to use:
Anonymous , **CHAP**, **IP address** or **Mixed** authentication.

1) Anonymous

All initiators will get full access permission without any authentication required.

2) CHAP(Challenge-handshake authentication protocol)

All initiators need to specify a CHAP user and secret to connect to the target. iStorage Server has a built-in user called "Guest", which is used for initiators without CHAP secret specified.

3) IP Filters

All initiators will be authorized by the incoming IP address defined by the IP Filter roles.

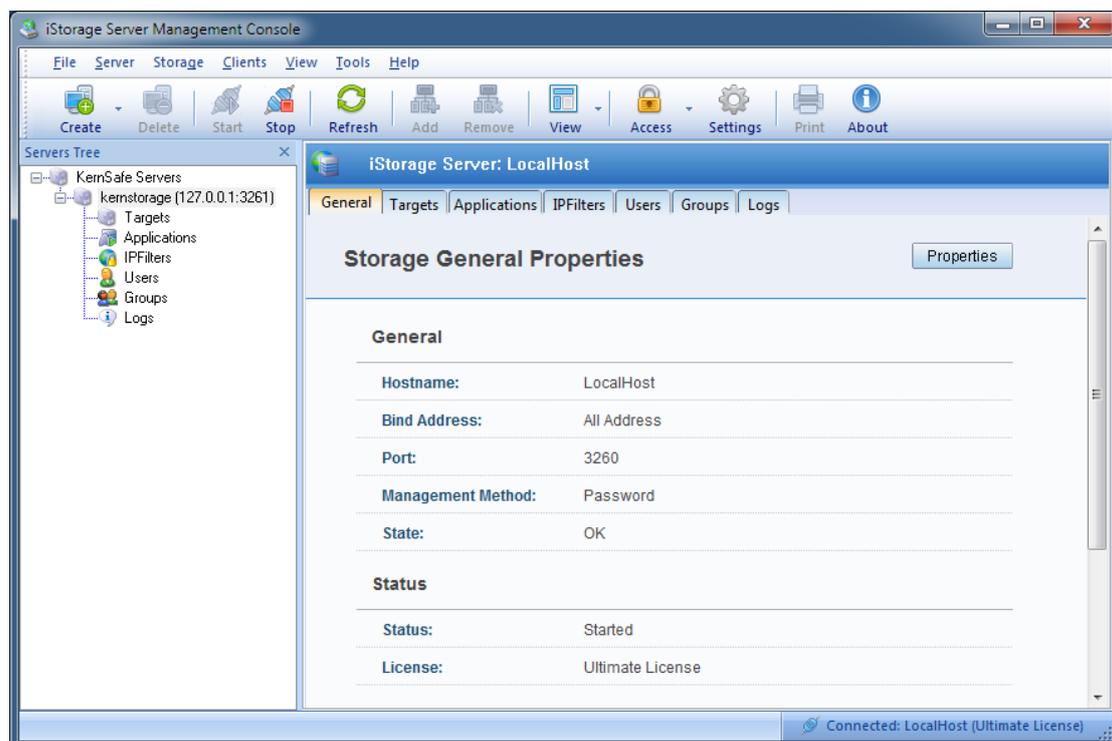
4) Mixed

Security policy is determined by both CHAP and IP Filters.

CHAP is recommended authentication type for remote replication by considering security, we also use this type in this white paper.
Press **OK** to save change.

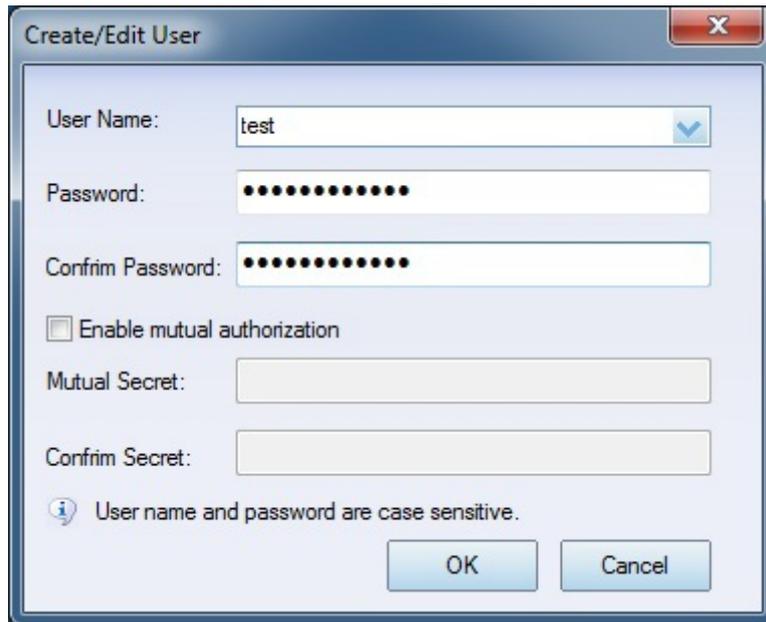
Create user

Open the **iStorage Server Management Console**.



Create user

Right click **Users** Tree Node on the left tree view.
Press **Add** button in the toolbar.
The **Create/Edit User** dialog is shown.



Type user name and password as you like, but we recommend that the password should be 12-16 characters. We take the user name **test** and password **111111111111** as an example.

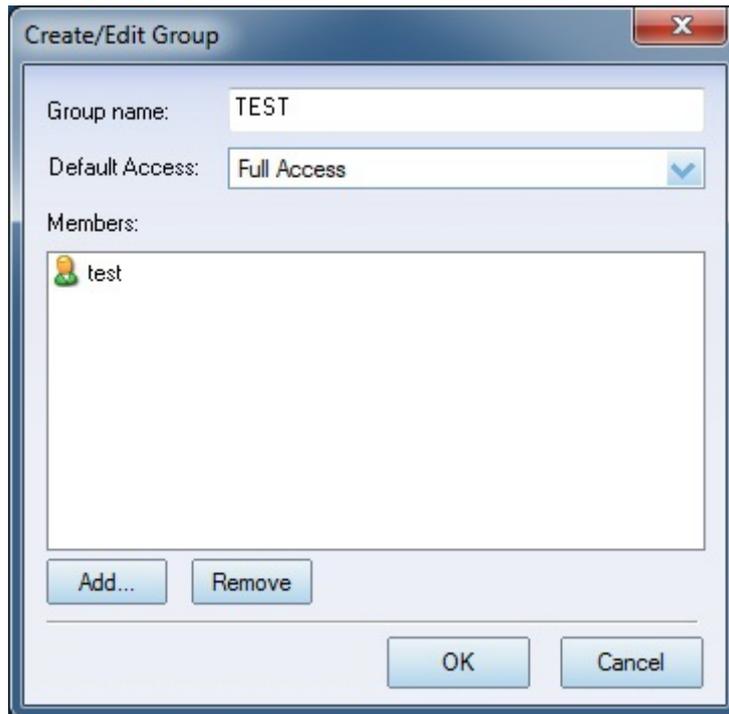
Press the **OK** button to complete creating user.

Create group

After creating user, we need a group to hold the user.

Right click the **Groups** tree node in the left tree view.

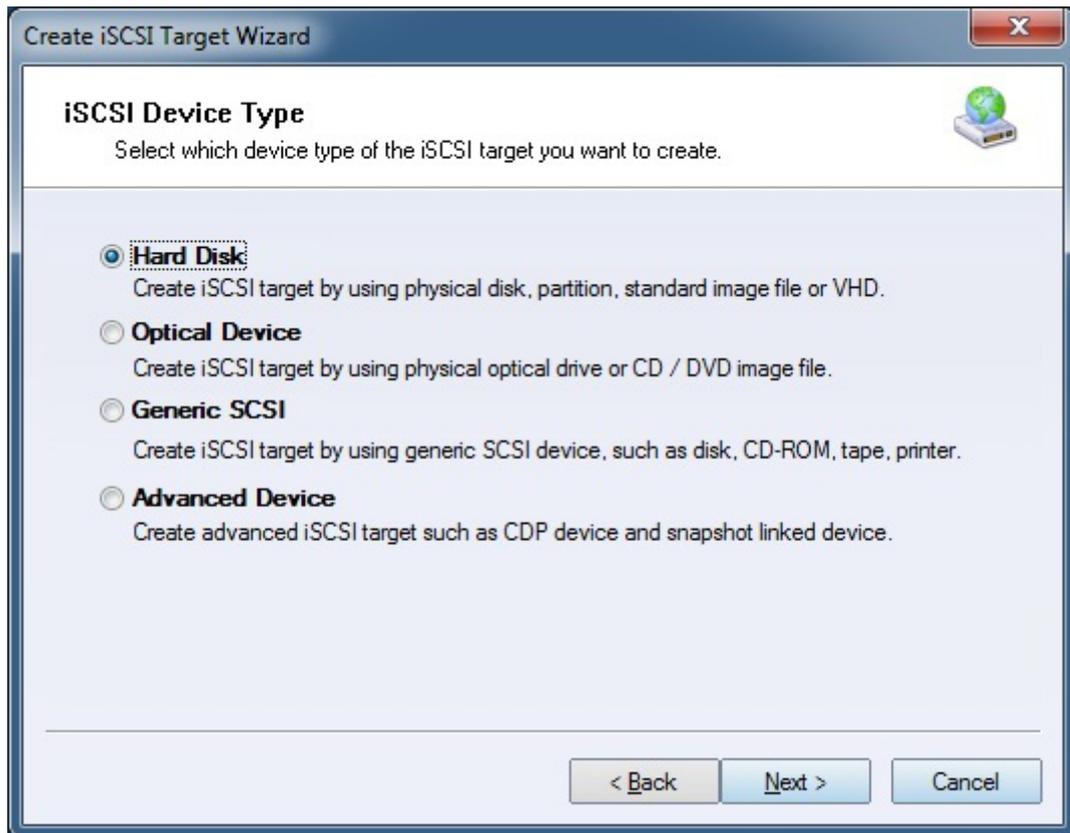
Press the **Add** button on the toolbar, the **Create/Edit Group** dialog is shown.



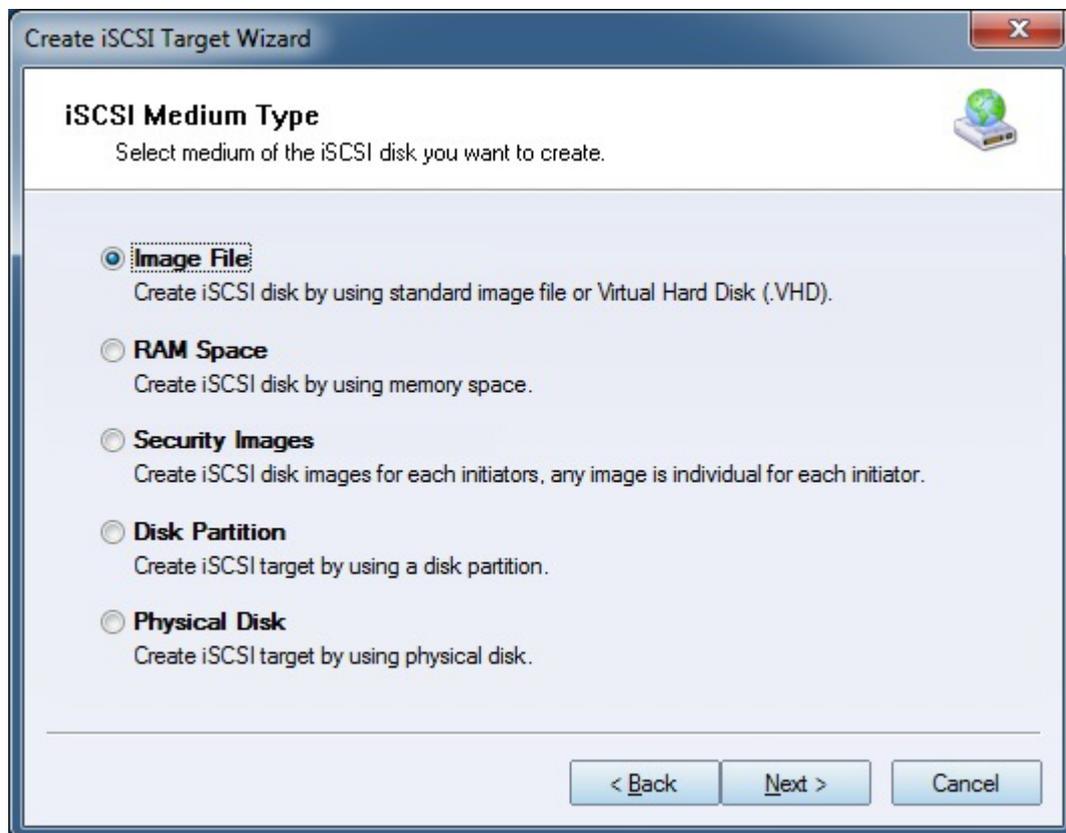
Type a group name as you wish, now we take **TEST** as example.
Press the **Add** button and select the user which we just created.
Press the **OK** button to continue.

Creating target

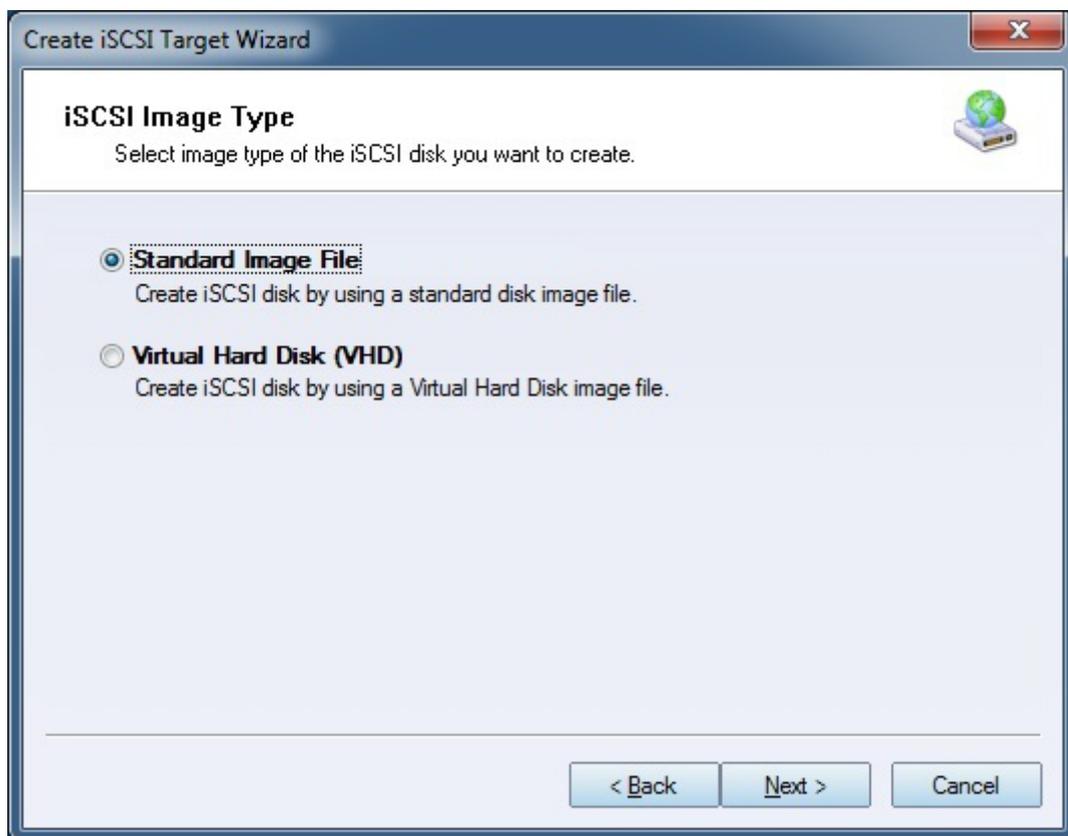
Launch the **iStorage Server Management Console**, press the **Create** button on the toolbar of **iStorage Server Management Console**, the **Create iSCSI Target Wizard** is shown.



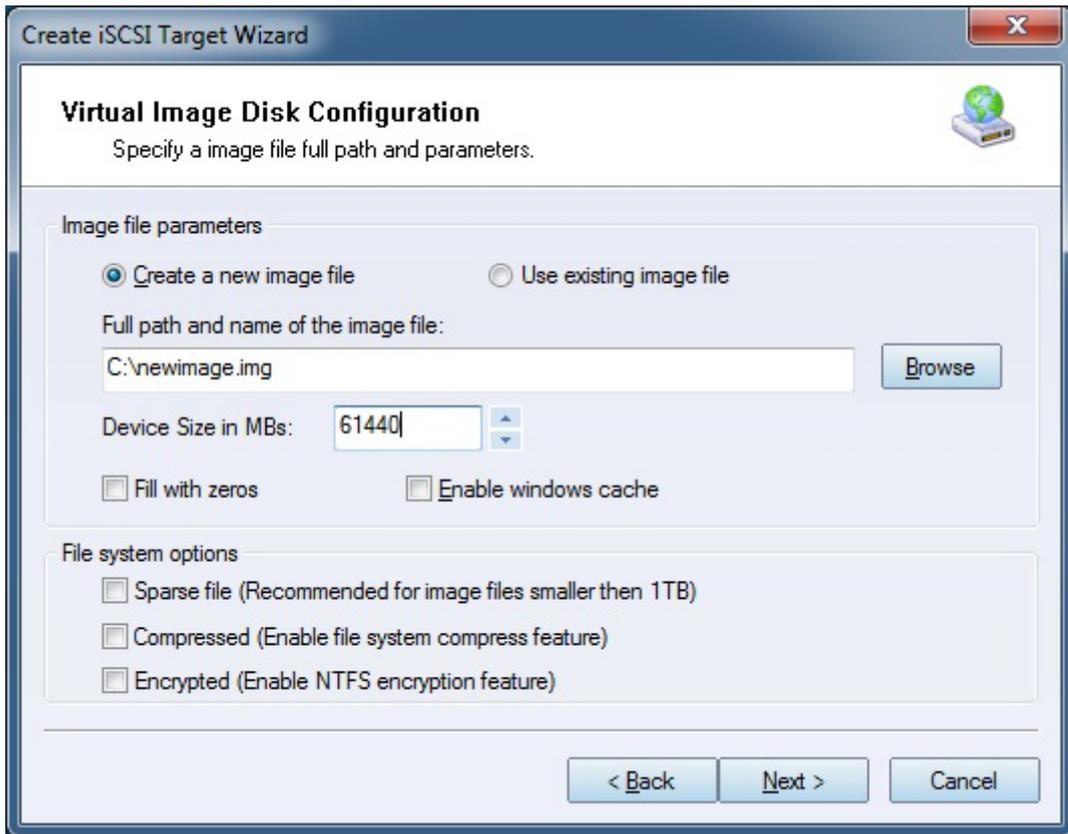
Select **Hard Disk** type and press the **Next** button to continue.



Choose Image File in **iSCSI Medium Type** page.
Then press the **Next** button to continue.



Select **Standard Image File** and press **Next** to continue.



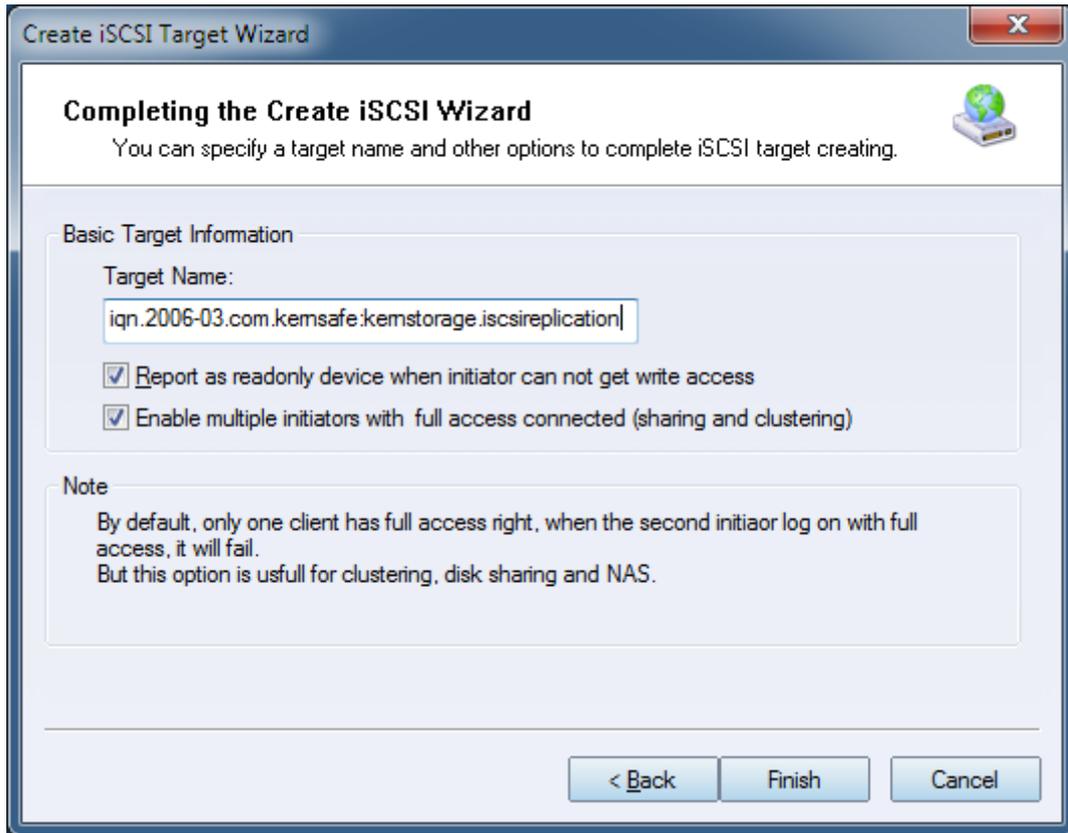
Specify the Location and Size of the image file.

Note: the size should be more than or equal to the disk/volume which is used to create remote replication.

Press the **Next** button to continue.



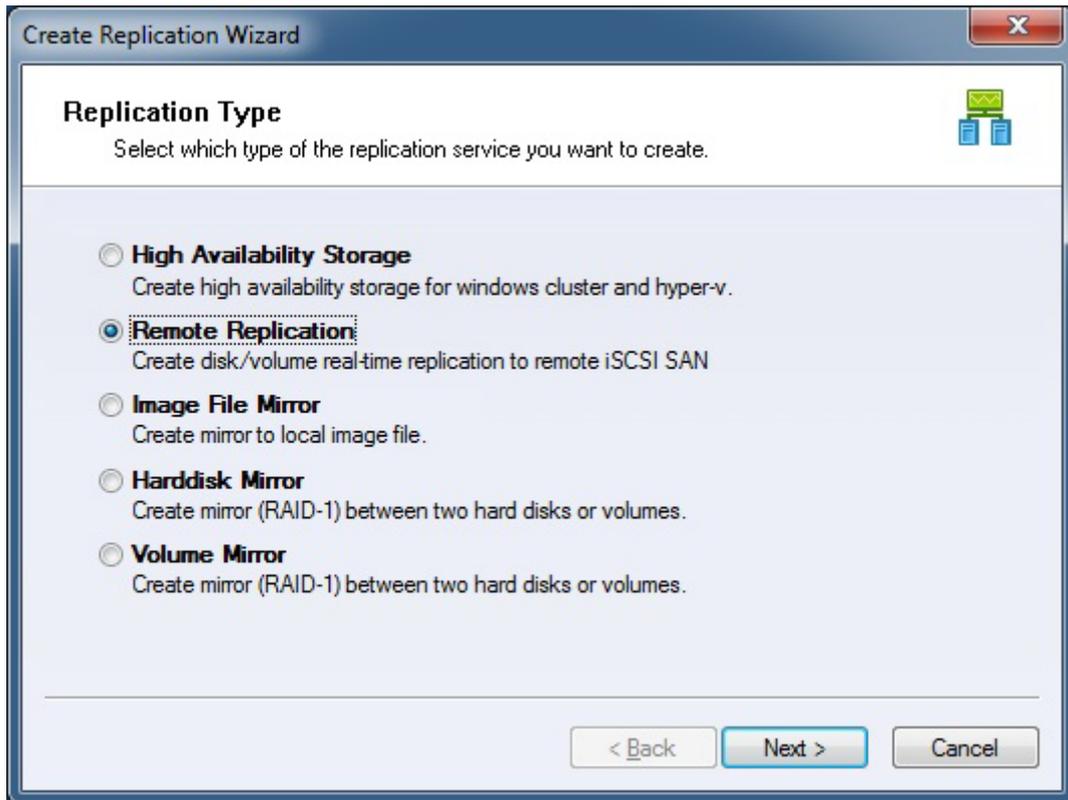
Select the **CHAP** authorization and then press the **Next** button to continue.



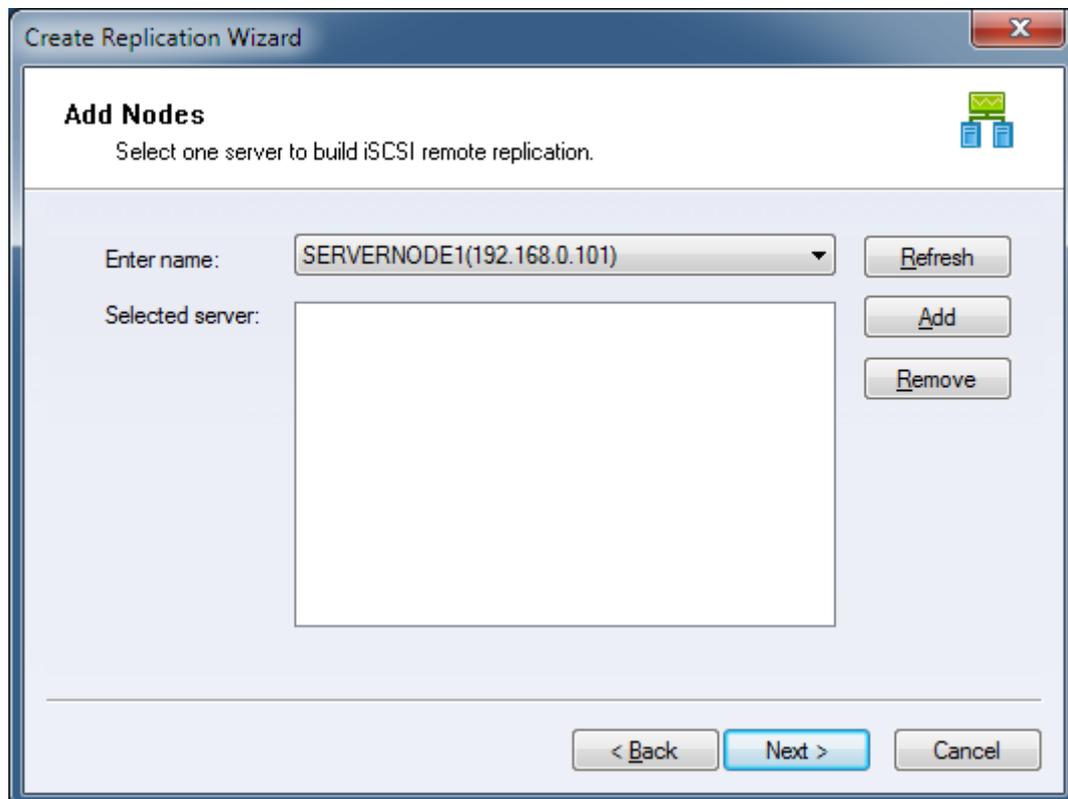
Type the **Target Name** and keep other default.
Press the **Finish** button to continue.

Configuring on HAReplicator

Launch the **HAReplicator Management console** and add the server to the **HAReplicator Management console**.
Click the **Create** button on the toolbar, the **Create Application Wizard** shows.

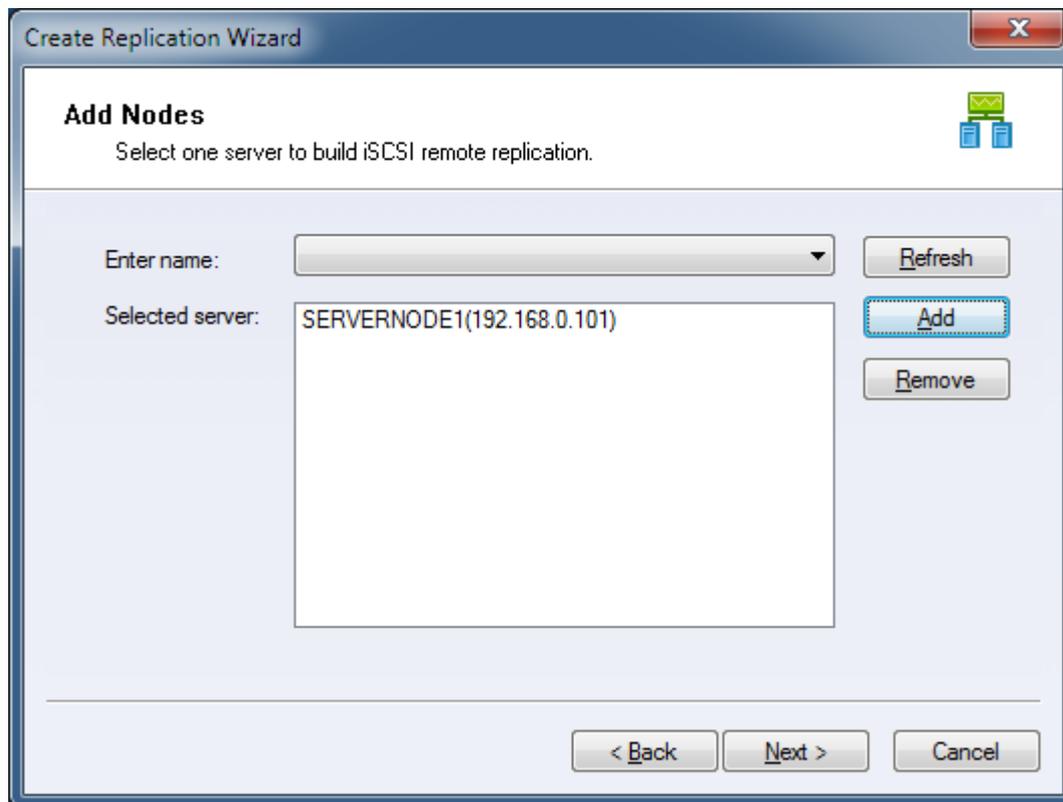


Select the **Remote Replication** and press **Next** to continue.

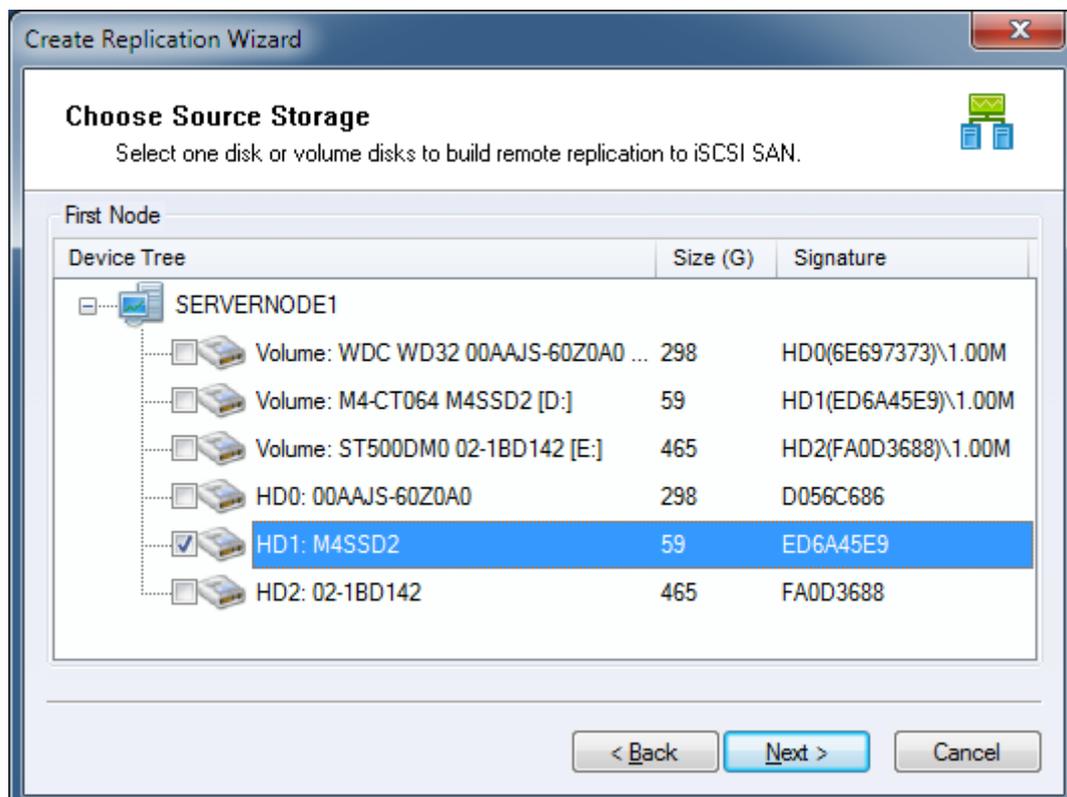


You can choose a server from **Enter name** combo box, and then click **Add** to add the

server to **Selected server** list box



Click the **Next button** to continue.



Select a disk or a volume to be mirrored to an iSCSI SAN.
Press the **NEXT** button to continue.

Create Replication Wizard

Remote Replication Setting
Specify parameters for remote iSCSI SAN replication.

Remote Portal

Target:

Portal: Port:

Local Portal

Portal: Port:

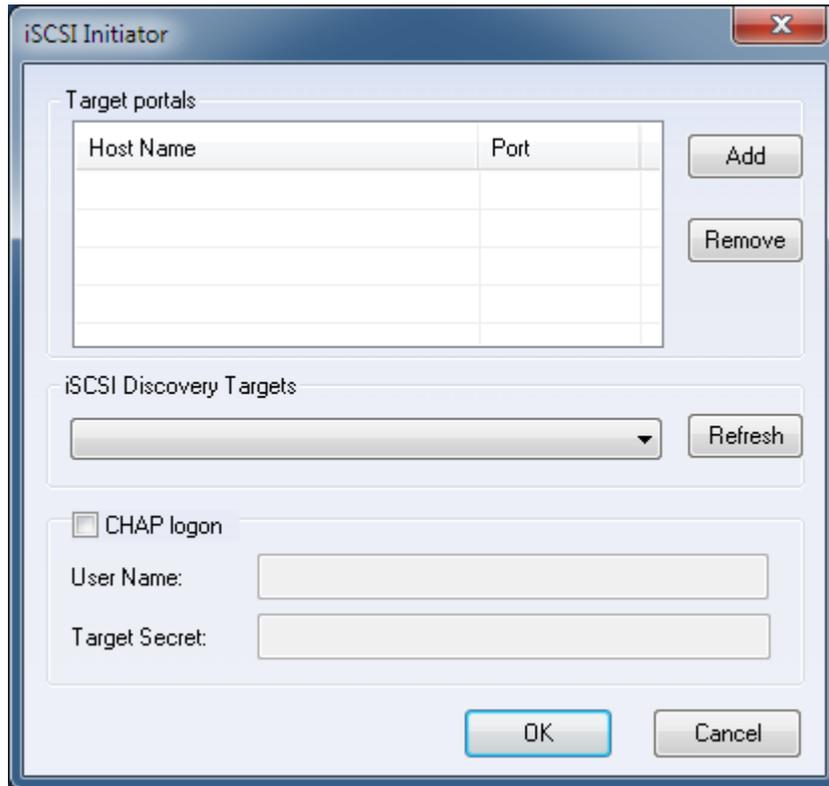
Synchronize Options

Replication Type: Initialize Type:

< Back

Set parameters for iSCSI SAN replication.

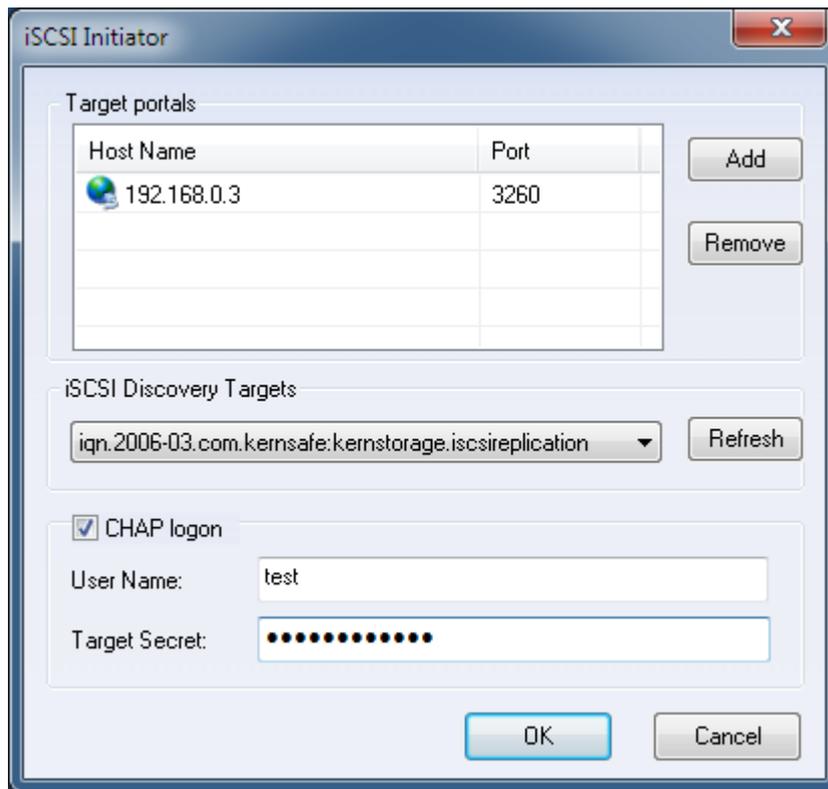
Click **Select** to select an iSCSI target, the **iSCSI Initiator** dialog is shown.



There will show list of targets in the **iSCSI Discovery Targets** list, first time using this feature, click the **Add** button to add a target portal, the **Add Host** dialog shows.



Type the **IP address or NDS name** of an iSCSI SAN server and press the **OK** button to continue.



Select a suitable target from **iSCSI Discovery Targets** list.

If the target needs **CHAP** authorization, please select **CHAP logon**, and specify CHAP **User Name** and **Target Secret**.

Press the **OK** button to continue.

Create Replication Wizard

Remote Replication Setting
Specify parameters for remote iSCSI SAN replication.

Remote Portal

Target: iqn.2006-03.com.kemsafe:kemstorage.iscsireplication Select

Portal: 192.168.0.3 Port: 3260

Local Portal

Portal: 192.168.0.101 Port: 63261

Synchronize Options

Replication Type: Synchronous Initialize Type: Full Synchronize

< Back Next > Cancel

Specify **iSCSI target Portal** and **Port** which you want to used for mirror data traffic. Specify **Local Portal** and **Port**, if you want to set specified NIC to transmit mirror data, you need to set the address in the local **Portal**.

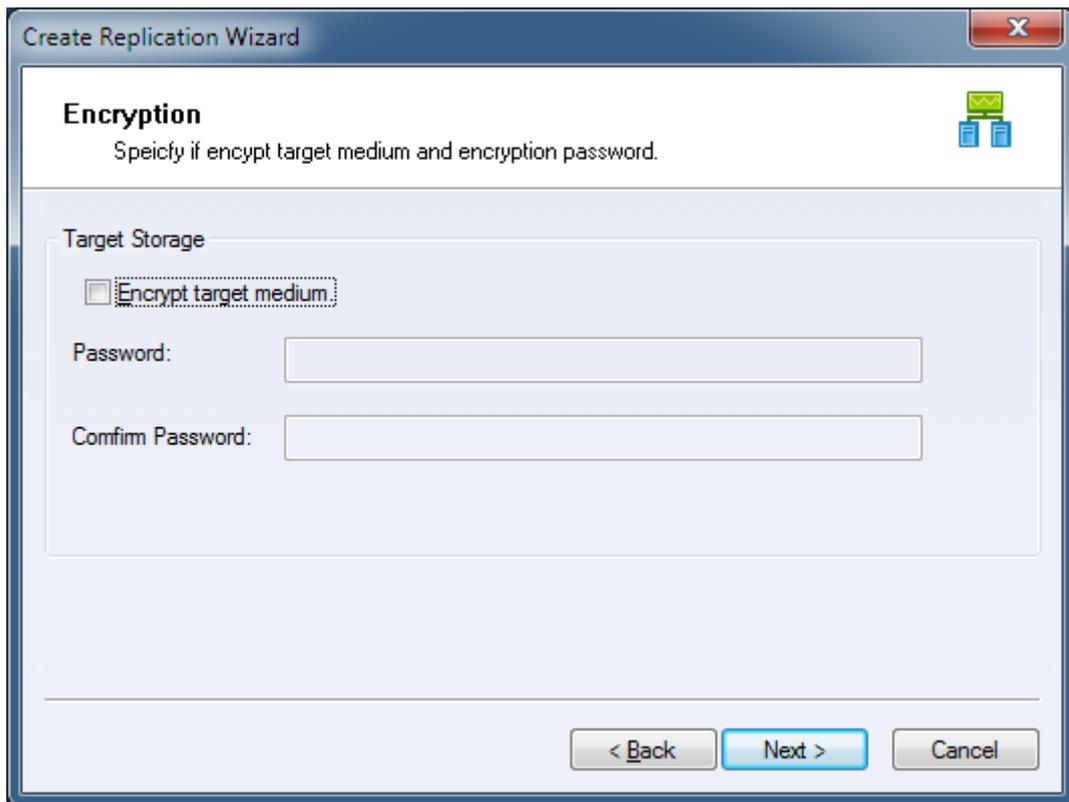
Choose **Synchronous** or **Asynchronous**, for learn difference between synchronous and asynchronous replication, please read the topic: synchronous and asynchronous.

Choose **Full Synchronize** as Initialize Type, if you reach to the following conditions, you can select **Don't Synchronize** to save your time:

1. Source storage is a completely empty hard disk (even not initialized in windows disk management console).
2. The source storage and target storage was synchronized before, they are consistent already.

Except the above two conditions, you much select **Full Synchronize**.

Click the **Next** button to continue.

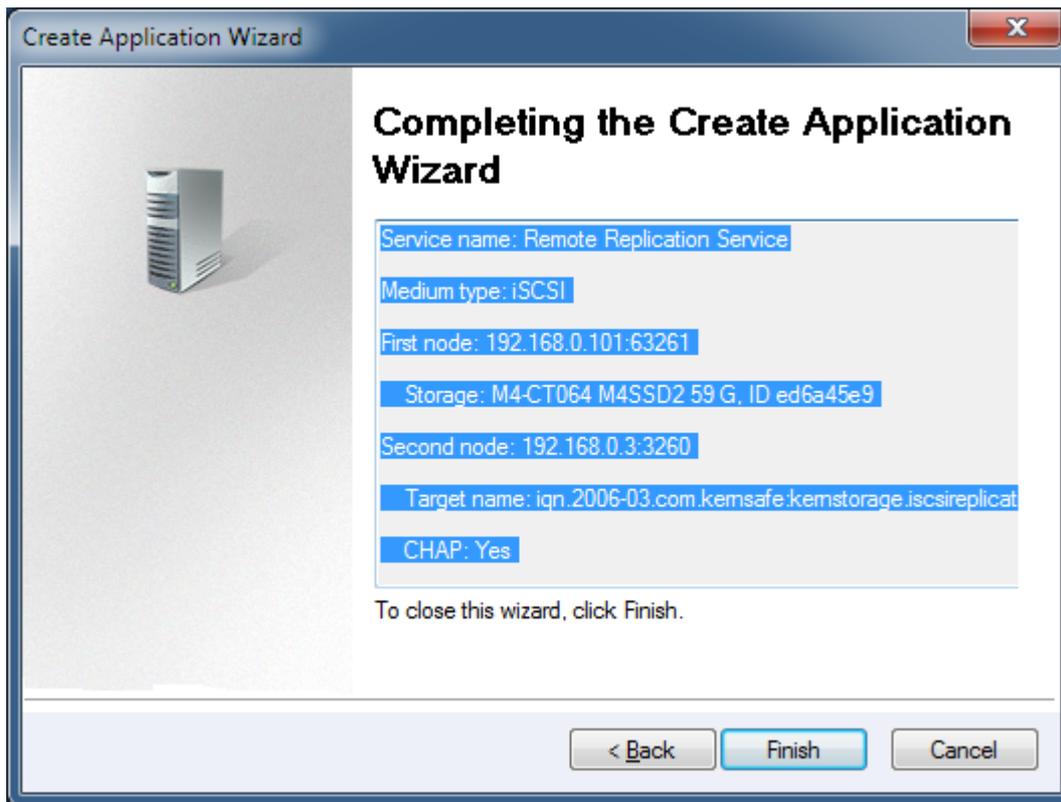


Choose if target medium will be encrypted.

If you want to encrypt target medium, select the **Encrypt target medium** option, and then input **Password** and **Confirm Password**.

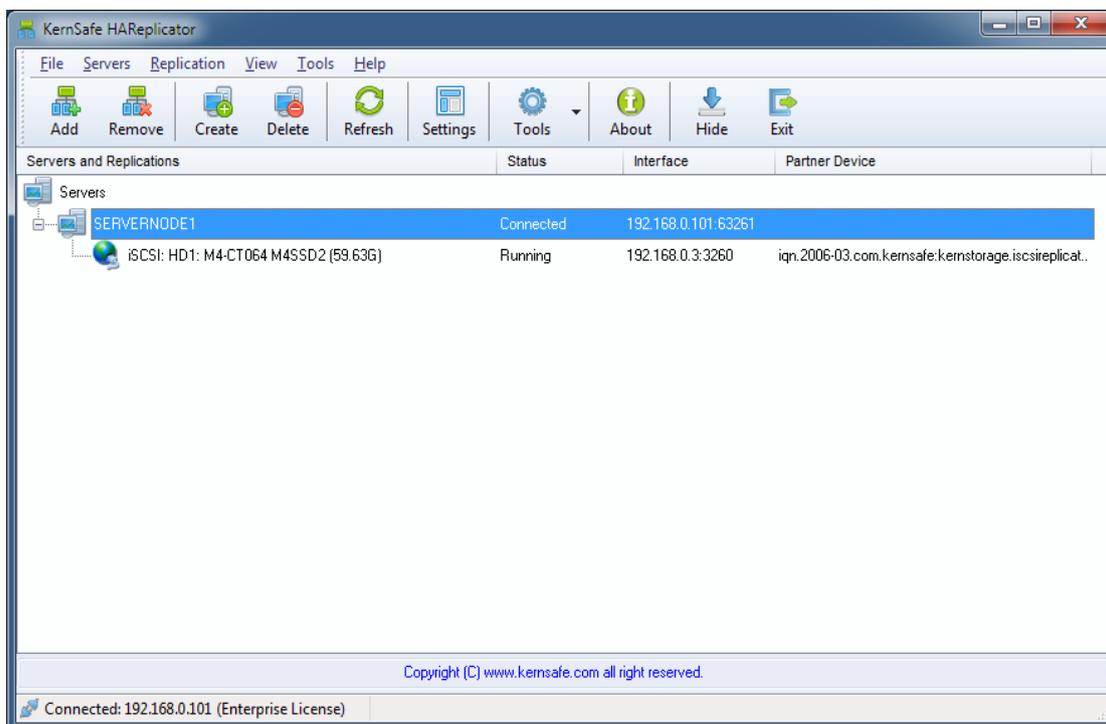
Click the **Next** button to continue.

Complete the Application Creation.



Please check if all settings are correct, press the **Back** button if you need to modify something or click Cancel to cancel application creation.

Press the **Finish** button to complete application creating.



Now, everything changed to the Local disk drive will be synchronized to the remote iSCSI SAN automatically.

Contact

Support: support@kernsafe.com

Sales: sales@kernsafe.com

Marketing: marketing@kernsafe.com

Home Page: <http://www.kernsafe.com>

Product Page: <http://www.kernsafe.com/product/hareplicator.aspx>

Licenses <http://www.kernsafe.com/product/hareplicator/license-compares.aspx>

Forum: <http://www.kernsafe.com/forum>



KernSafe Technologies, Inc.

www.kernsafe.com

Copyright © KernSafe Technologies 2006-2013. All right reserved.