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ENTERPRISE LEVEL STORAGE OS
for EVERY BUSINESS

How to Connect to a DSS V6 iSCSI Target volume from a Microsoft Windows



DSS V6
DATA STORAGE SOFTWARE

16 TB



Easy to use, GUI based management provides performance and security.



Reliable disk based backup and recovery, along with Snapshot capability enable fast and reliable backup and restore.



Easy to implement remote Replication, at block or volume level, enables cost-effective disaster recovery.



IP based storage management combines NAS and iSCSI functionality for centralized storage and storage consolidation.

Software Version: DSS ver. 6.00 up13

Presentation updated: September 2010

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TO CONNECT TO AN iSCSI TARGET VOLUME OVER A LAN FROM A MICROSOFT WINDOWS SYSTEM, PERFORM THE FOLLOWING STEPS:

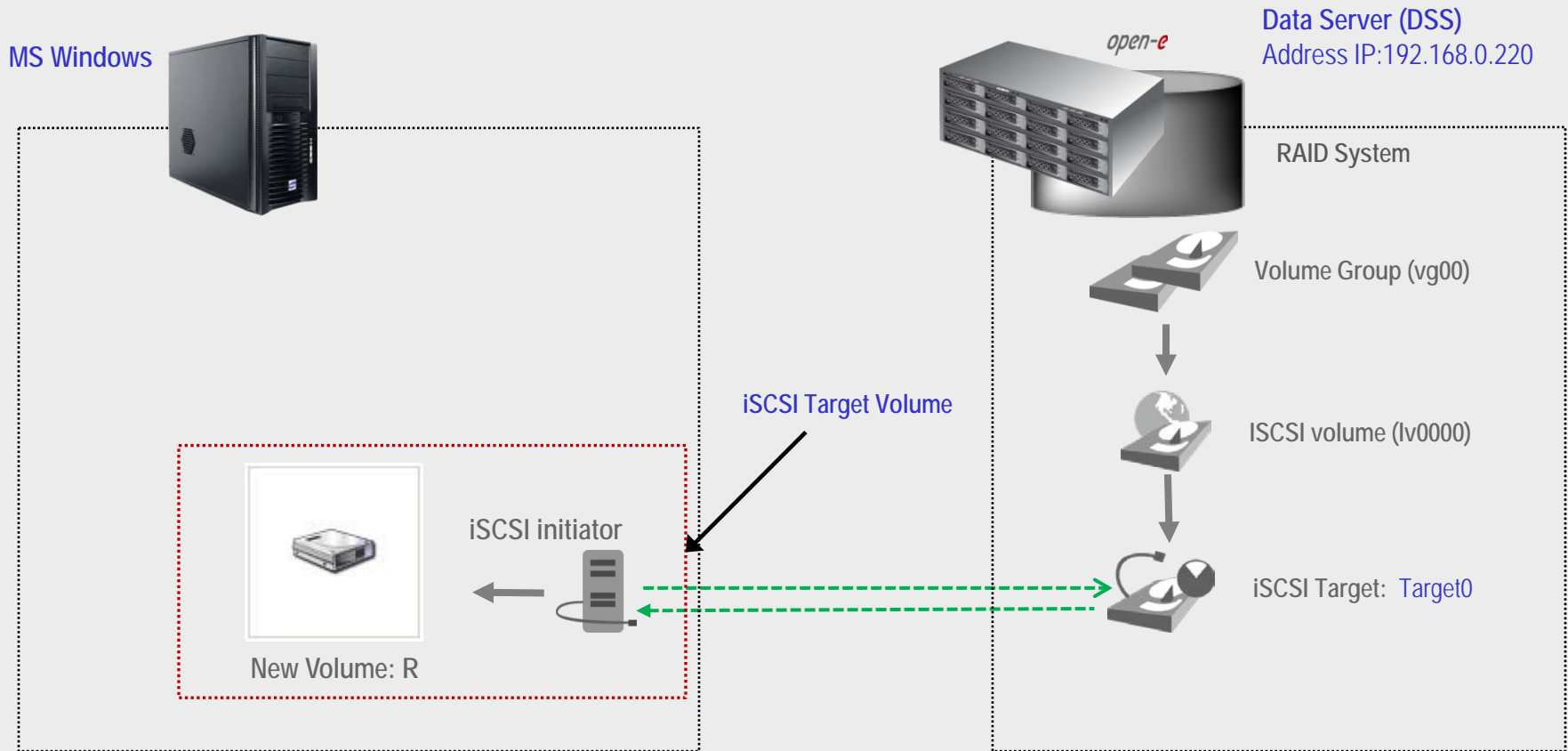
1. Hardware configuration
2. Configure DSS V6:
 - Create a Volume Group, iSCSI volume and target on the DSS V6,
3. Configure iSCSI Target Properties
4. Initialize the disk from iSCSI target
 - Create a partition assign a letter,
 - Format disk,
5. Accessing to the disk

How to Connect to an iSCSI Target Volume over a LAN *open-e*

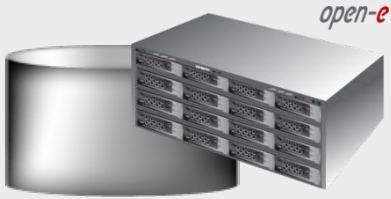
1. Hardware configuration

Hardware Requirements:

To configure an iSCSI Target Volume in MS Windows, a iSCSI Initiator in the MS system is required and one DSS V6 server with an iSCSI target. In this example the DSS V6 system and Windows 2003 with iSCSI Initiator v. 2.08 will be used.



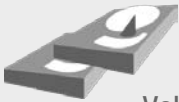
How to Connect to an iSCSI Target Volume over a LAN *open-e*



Data Server (DSS)
IP Address: 192.168.0.220

2. Configure DSS V6

Under the "CONFIGURATION" tab, select "volume manager" and next Vol. Groups.



Volume Groups (vg00)

In Unit manager add the selected physical units (Unit MD0 or other) to create a new volume group (in this case, vg00) and click **apply** button.

The screenshot shows the open-e web interface with the following elements:

- Header: open-e | ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS | DATA STORAGE SOFTWARE V6
- Navigation tabs: SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP
- Breadcrumb: You are here: CONFIGURATION > volume manager > Vol. groups
- Left sidebar: Vol. groups (selected), Vol. replication
- Main content area:
 - Unit rescan: rescan button
 - Unit manager:

Unit	Size (GB)	Serial number	Status
<input checked="" type="checkbox"/> Unit MD0	230.08	N/A	available

Action: new volume group (dropdown)
Name: vg00 (input field)

apply button

Please apply changes or press "reload" button to discard
 - Drive identifier:

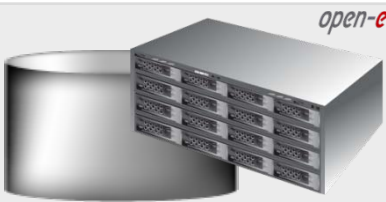
Unit	Serial number	Status
<input type="checkbox"/> Unit S000	N/A	

apply button

Event Viewer: [icon]

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Data Server (DSS)
IP Address: 192.168.0.220

2. ... Continue

Select the appropriate volume group (vg00) from the list on the left. In **Action** select a **new iSCSI volume** of the required size. This logical volume will be the iSCSI Target .

Select the appropriate volume Next , select the required size of iSCSI volume. In this eg. Adding 200 GB for the iSCSI volume.

After assigning an appropriate amount of space for the iSCSI volume, click the **apply** button.

System volumes	Size (GB)
Reserved Pool	4.00
Reserved for snapshots	0.00
Reserved for system	1.00
Reserved for replication	0.00
Free	225.03

Action: new iSCSI volume
Options: Just create volume

Use volume replication

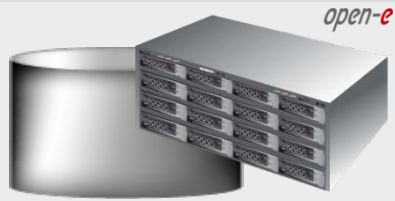
File I/O
 Block I/O

0 225.03
add: 200.00 GB

apply

Please apply changes or press "reload" button to discard

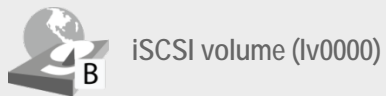
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IP Address: 192.168.0.220

2. ... Continue

The destination iSCSI Volume Block I/O is now configured.



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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > volume manager > Vol. groups > vg00

Vol. groups

- vg00

Vol. replication

Volume manager

Info
Logical volume lv0000 has been created successfully.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	B				N/A	200.00
System volumes						Size (GB)
Reserved Pool						4.00
Reserved for snapshots						0.00
Reserved for system						1.00
Reserved for replication						0.00
Free						25.03

Action: new NAS volume

Use volume replication
 WORM

0 25.03

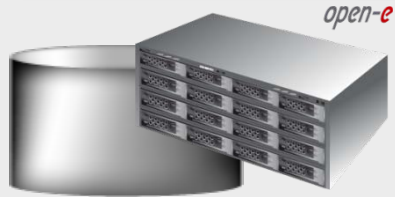
add: 0.00 GB

apply

Event Viewer: [icon]

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Data Server (DSS)
IP Address: 192.168.0.220

2. ... Continue

Choose "CONFIGURATION",
"iSCSI target manager" and
"Targets" from the menu

In the Create new target, click
the **apply** to confirm



iSCSI targets

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SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP

You are here: CONFIGURATION > iSCSI target manager > Targets

Targets

Create new target

Target Default Name

Name: iqn.2010-02:dss1.target0

Alias: target0

apply

Discovery CHAP user access

Enable CHAP user access authentication

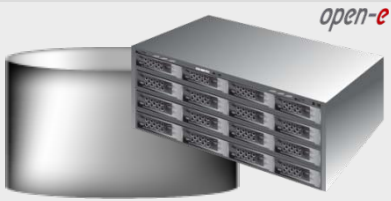
apply

CHAP users

Event Viewer: [icon]

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Data Server (DSS)
IP Address: 192.168.0.220

2. ... Continue

Select target0 within the Targets field.



iSCSI targets

To assign a volume to the target, click the  button located under **Action**.

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SETUP CONFIGURATION MAINTENANCE STATUS HELP

You are here: CONFIGURATION > iSCSI target manager > Targets > iqn.2010-02:dss1.target0 (target0)



Targets

- target0

Target volume manager

Info
Currently there are no LUN's added to this target. In order to add a LUN, click on the plus "+" sign in the "Action" column for this LUN.

Info
Please note that in order to access iSCSI-enabled data from an initiator, the target needs to have a LUN 0, otherwise the data in all other LUNs will be inaccessible. The data will also be inaccessible if you select an inactive snapshot or a destination volume (volume replication) as LUN 0.

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	Oz2GlkfaWGpM6yiH	0	<input type="checkbox"/>	<input type="checkbox"/>	 

Discovery CHAP user access


Enable CHAP user access authentication

apply

Target IP access

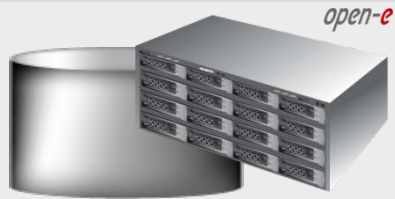
Deny access:

Allow access:

Event Viewer: 

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Data Server (DSS)
IP Address: 192.168.0.220

2. ... Continue

The destination iSCSI target is now configured.



iSCSI targets (target0)

The screenshot shows the open-e web interface for configuring an iSCSI target. The breadcrumb path is: CONFIGURATION > iSCSI target manager > Targets > iqn.2009-12:dss2.target0 (target0). The interface is divided into several sections:

- Targets:** A list showing 'target0'.
- CHAP users:** A section for managing CHAP users, currently empty.
- Target volume manager:** Contains an info box and a table of volumes.
- Discovery CHAP user access:** A checkbox for 'Enable CHAP user access authentication' with an 'apply' button.
- Target IP access:** Input fields for 'Deny access:' and 'Allow access:' with an 'apply' button.

Volume	SCSI ID	LUN	RO	WB	Action
lv0000	FyRms6oko1mk0CL	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="button" value="+"/> <input type="button" value="-"/>

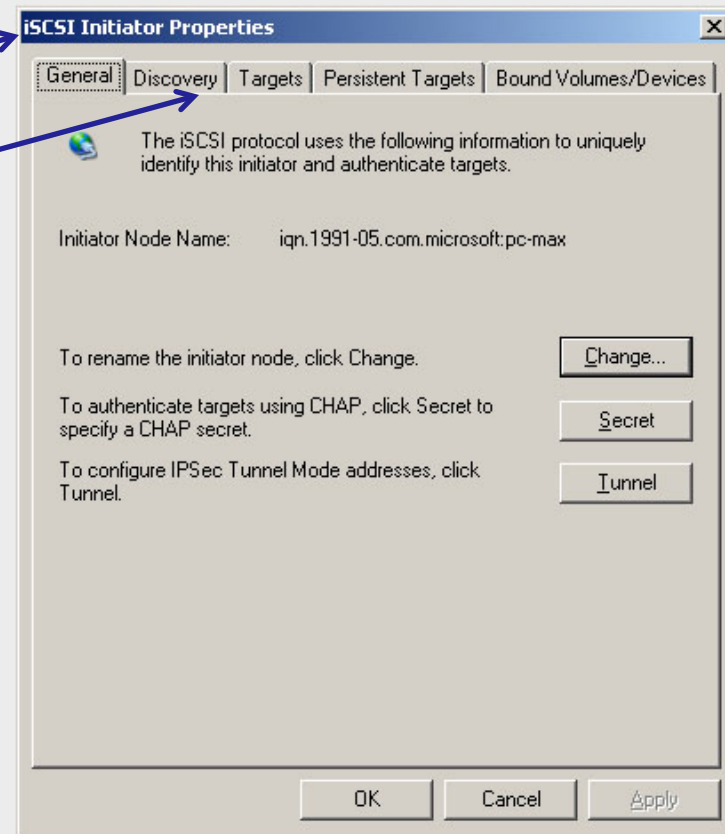
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MS Windows



3. Configure iSCSI Target Properties

In the MS Windows Environments run "iSCSI Initiator Properties". After running the program click on the "Discovery" tab.



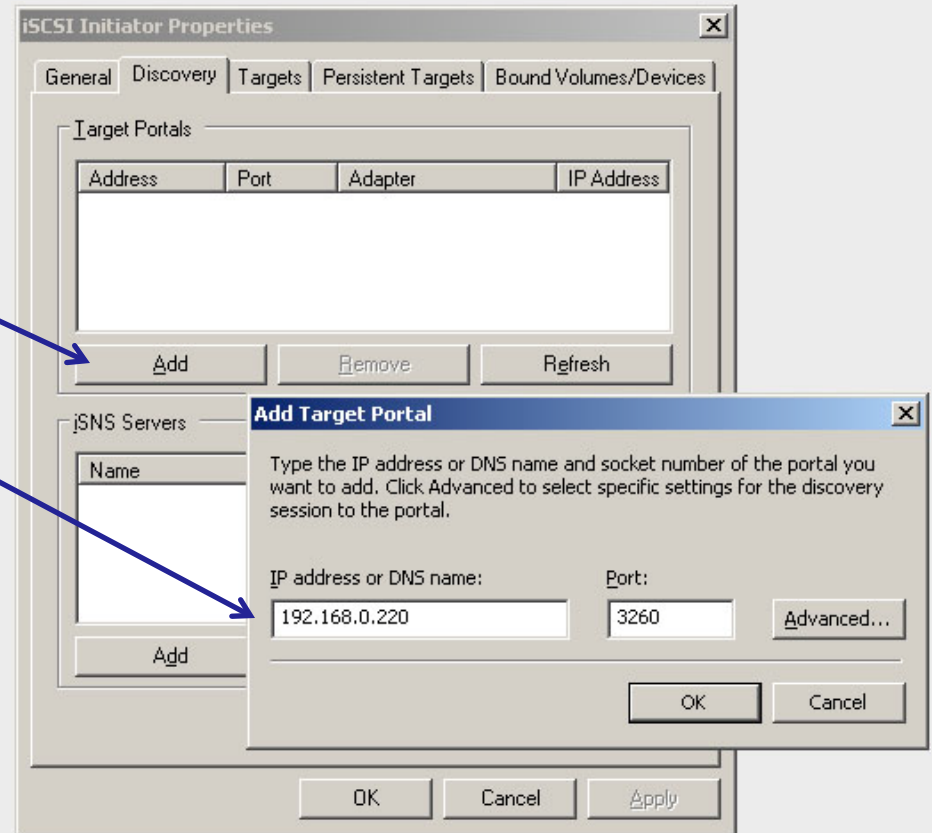
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MS Windows



3. ... Continue

Next, click on "Add" button. In "Add Target Portal" windows then enter the IP address of the DSS V6 server and click on the "OK" button.



NOTE:

The port number of 3260 will already be there as this is the default iSCSI port number.

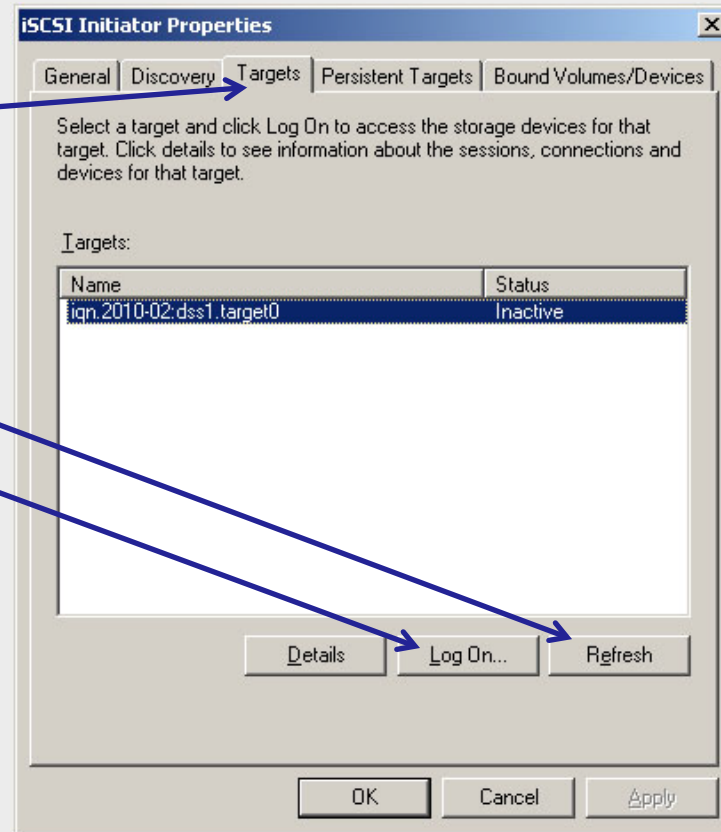
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MS Windows



3. ... Continue

Go to the "Targets" tab and click „Refresh". You should see the name of your iSCSI Target in the list. Select your target server and click „Log On".



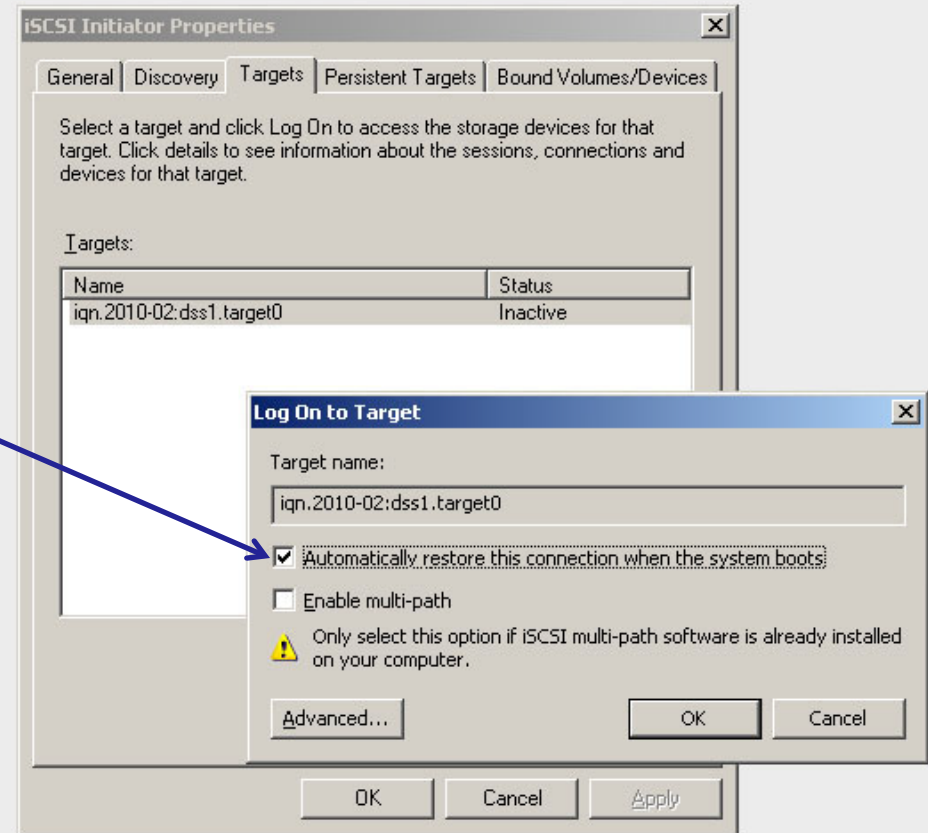
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MS Windows



3. ... Continue

In „Log On to Target“ windows please check to „Automatically restore this connection when the system boots and click „OK“.



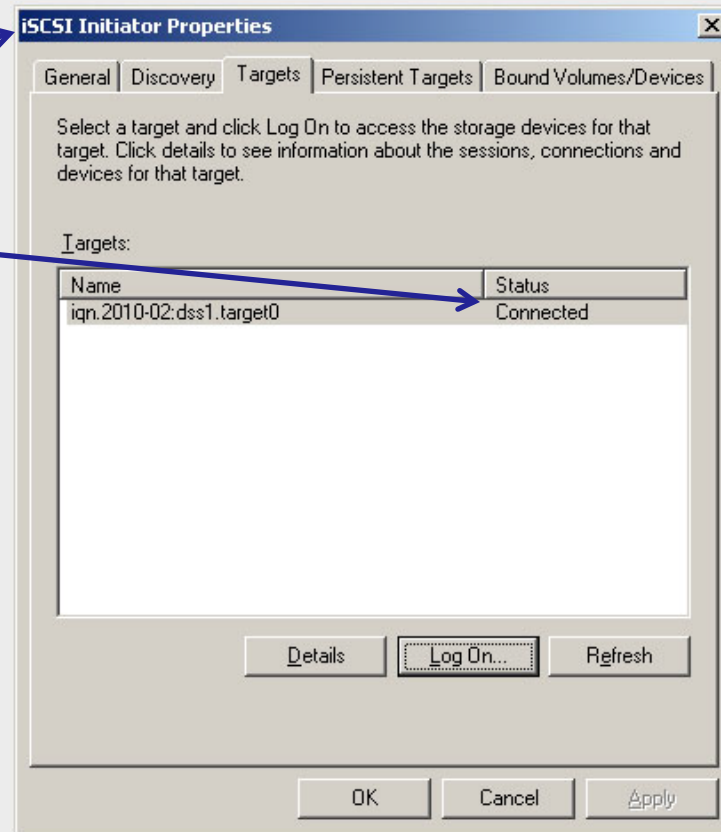
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MS Windows



3. ... Continue

You should now see that you are „Connected“.
Click „OK“ and close out the
iSCSI Initiator Properties.



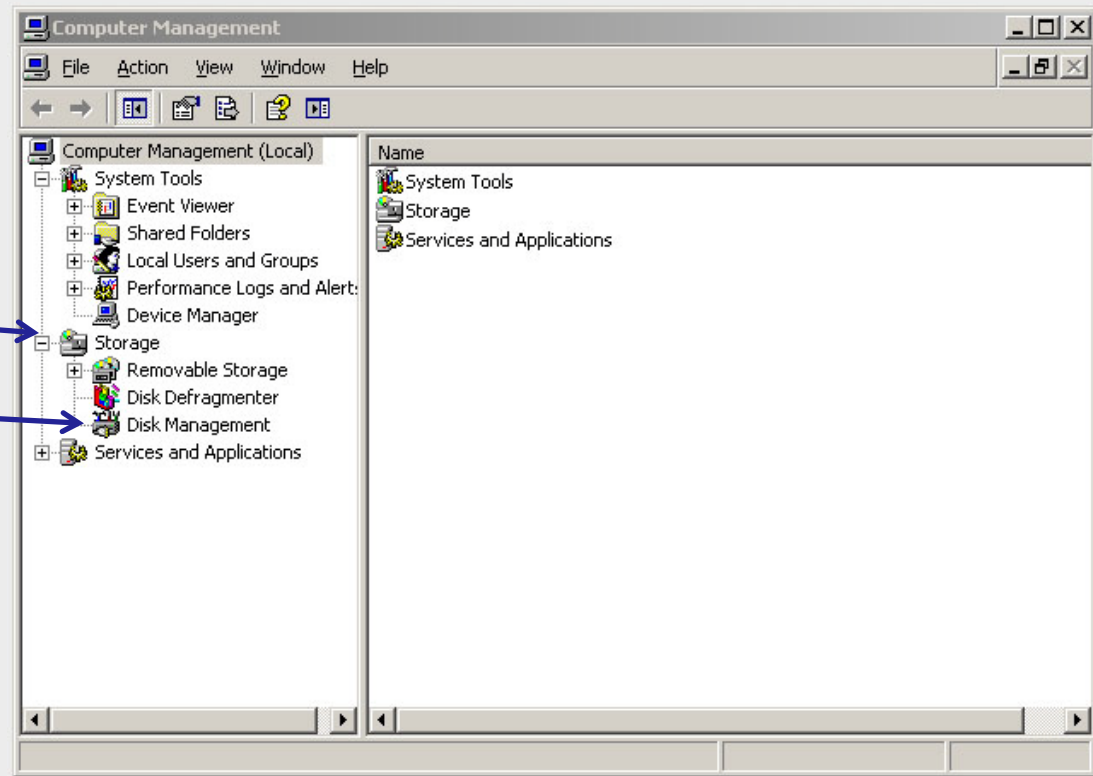
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4. Initialize the disk from iSCSI target

Now click on „Administrative Tools“, open „Computer Management“, and click on „Storage“ -> „Disk Management“. You will have to initialize the disk if it hasn't been used before.



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4. ... Continue

After connecting to Logical Disk Manager in „Disk Management“ there will appear „Initialize and Convert Disk Wizard“. In this example, before you connect to the basic disk, please click „Cancel“ button.

Computer Management

Volume	Layout	Type	File System	Status	Capacity	Free Space
(C:)	Partition	Basic	NTFS	Healthy (System)	149,04 GB	30,03 GB

Initialize and Convert Disk Wizard

Welcome to the Initialize and Convert Disk Wizard

This wizard helps you to initialize new disks and to convert empty basic disks to dynamic disks.

You can use dynamic disks to create software-based volumes that can be mirrored, or they can be striped or spanned across multiple disks. You can also expand single-disk and spanned volumes without having to restart the computer.

After you convert a disk to dynamic, you can only use Windows 2000 and later versions of Windows on any volume of that disk.

To continue, click Next.

< Back **Next >** Cancel

How to Connect to an iSCSI Target Volume over a LAN *open-e*

MS Windows

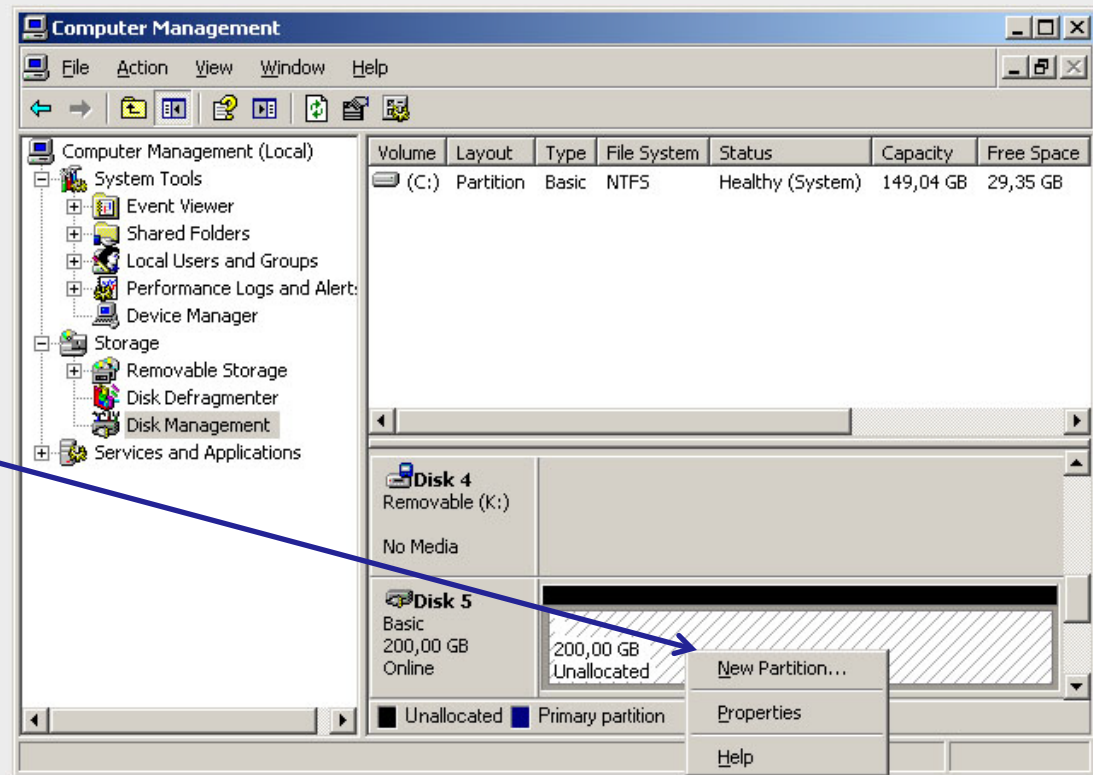


4. ... Continue

Right click on the disk 5 and click on „New Partition“.

NOTE:

In this example Windows OS has assigned the Disk number 5. Please note, in other system this number can differ!



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MS Windows



4. ... Continue

In „New partition Wizard“
click „Next“ button.

Computer Management

File Action View Window Help

Computer Management (Local)

- System Tools
 - Event Viewer
 - Shared Folders
 - Local Users and Groups
 - Performance Logs and Alerts
 - Device Manager
- Storage
 - Removable Storage
 - Disk Defragmenter
 - Disk Management
- Services and Applications

Volume	Layout	Type	File System	Status	Capacity	Free Space
(C:)	Partition	Basic	NTFS	Healthy (System)	149,04 GB	29,35 GB

New Partition Wizard

Welcome to the New Partition Wizard

This wizard helps you create a partition on a basic disk.

A basic disk is a physical disk that contains primary partitions, extended partitions, and logical drives.

Partitions created on Master Boot Record (MBR) disks can be accessed from any version of Windows or MS-DOS.

Partitions created on GUID Partition Table (GPT) disks can only be accessed from Windows Server 2003 Service Pack 1 or later, or from any 64-bit version of Windows.

To continue, click Next.

< Back **Next >** Cancel

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MS Windows



4. ... Continue

Please select „Primary partition“ and click the „Next“ button.

The screenshot shows the Windows Computer Management console with the 'Disk Management' tool selected. A 'New Partition Wizard' dialog box is open, displaying the 'Select Partition Type' step. The wizard lists three options: 'Primary partition' (selected), 'Extended partition', and 'Logical drive'. A description box below explains that a primary partition is a volume created using free space on a basic disk, and that up to 128 primary partitions can be created on a GPT basic disk, while up to four primary partitions or three primary partitions and an extended partition can be created on an MBR basic disk. The 'Next >' button is highlighted.

Volume	Layout	Type	File System	Status	Capacity	Free Space
(C:)	Partition	Basic	NTFS	Healthy (System)	149,04 GB	29,35 GB

How to Connect to an iSCSI Target Volume over a LAN *open-e*

MS Windows



4. ... Continue

In order to use the maximum disk space on the disk click the „Next“ button.

Computer Management

File Action View Window Help

Computer Management (Local)

- System Tools
 - Event Viewer
 - Shared Folders
 - Local Users and Groups
 - Performance Logs and Alerts
 - Device Manager
- Storage
 - Removable Storage
 - Disk Defragmenter
 - Disk Management
 - Services and Applications

Volume	Layout	Type	File System	Status	Capacity	Free Space
(C:)	Partition	Basic	NTFS	Healthy (System)	149,04 GB	29,35 GB

New Partition Wizard

Specify Partition Size
Choose a partition size that is between the maximum and minimum sizes.

Maximum disk space in megabytes (MB): 204797

Minimum disk space in MB: 8

Partition size in MB: 204797

< Back Next > Cancel

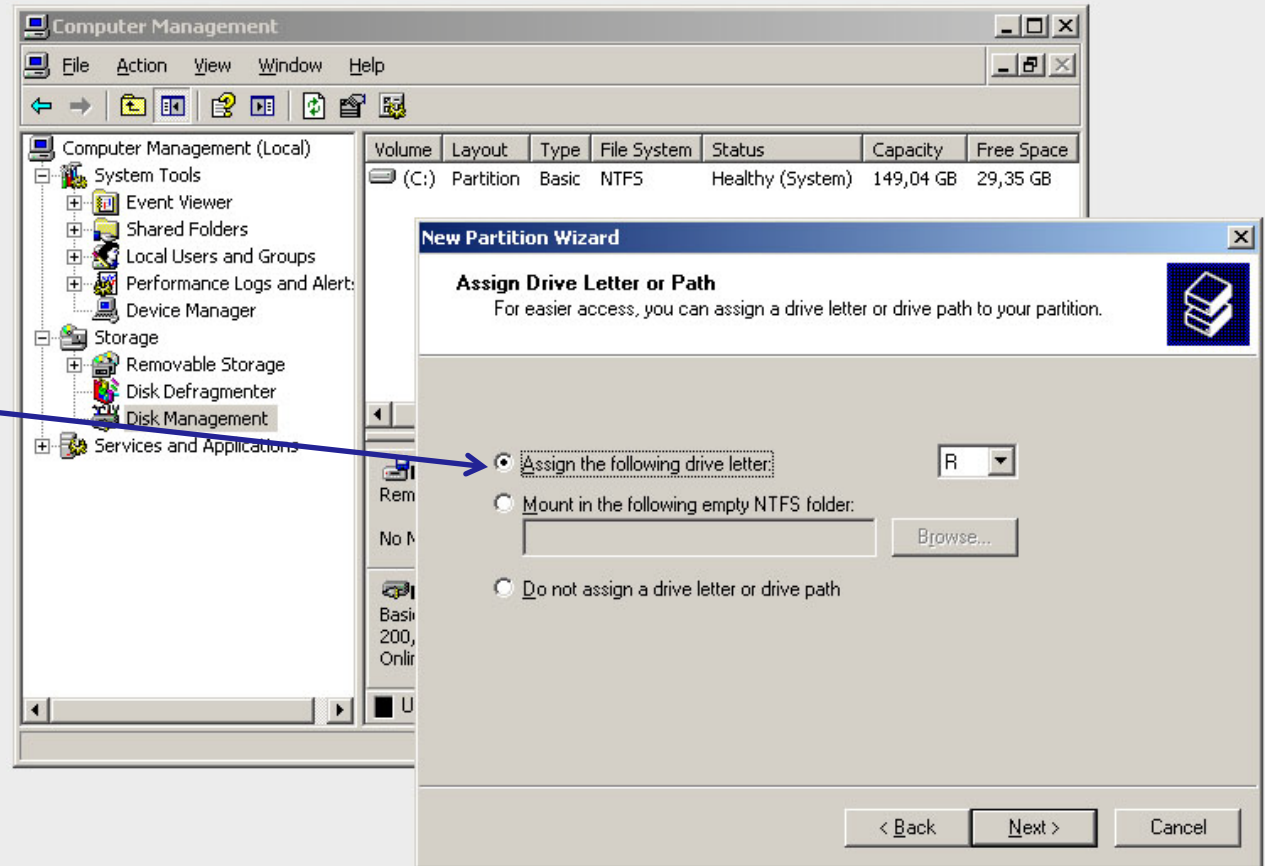
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MS Windows



4. ... Continue

Next assigning the drive letter (in this example as R), and click the „Next“ button.



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MS Windows



4. ... Continue

In the MS Windows New Partition Wizard select the format of choice, in this example we will use the NTFS File system then check the Perform a quick format and click „Next” to complete the format.

The screenshot shows the 'Computer Management' window with the 'Disk Management' tool selected. A 'New Partition Wizard' dialog box is open, displaying the 'Format Partition' step. The wizard indicates that the partition must be formatted first. It offers two options: 'Do not format this partition' and 'Format this partition with the following settings:'. The second option is selected, and the settings are: File system: NTFS, Allocation unit size: Default, and Volume label: New Volume. The 'Perform a quick format' checkbox is checked, and 'Enable file and folder compression' is unchecked. The 'Next >' button is highlighted, indicating the next step in the process.

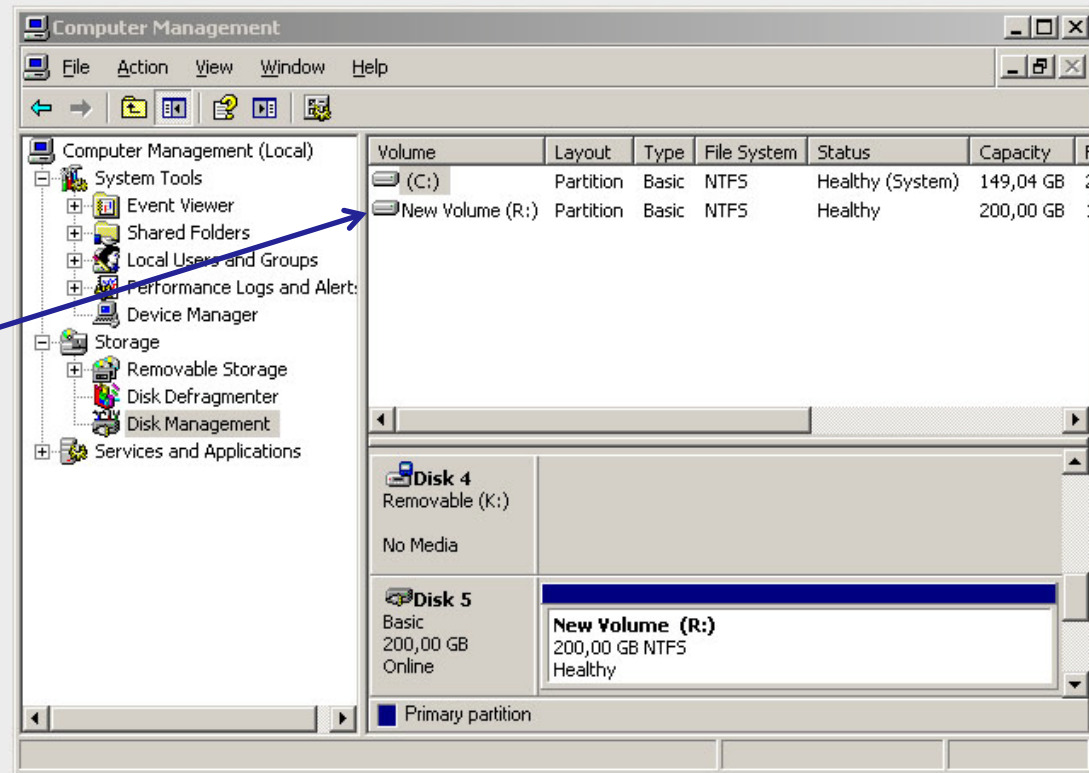
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MS Windows



4. ... Continue

When you are done, your disk manager should look like this:

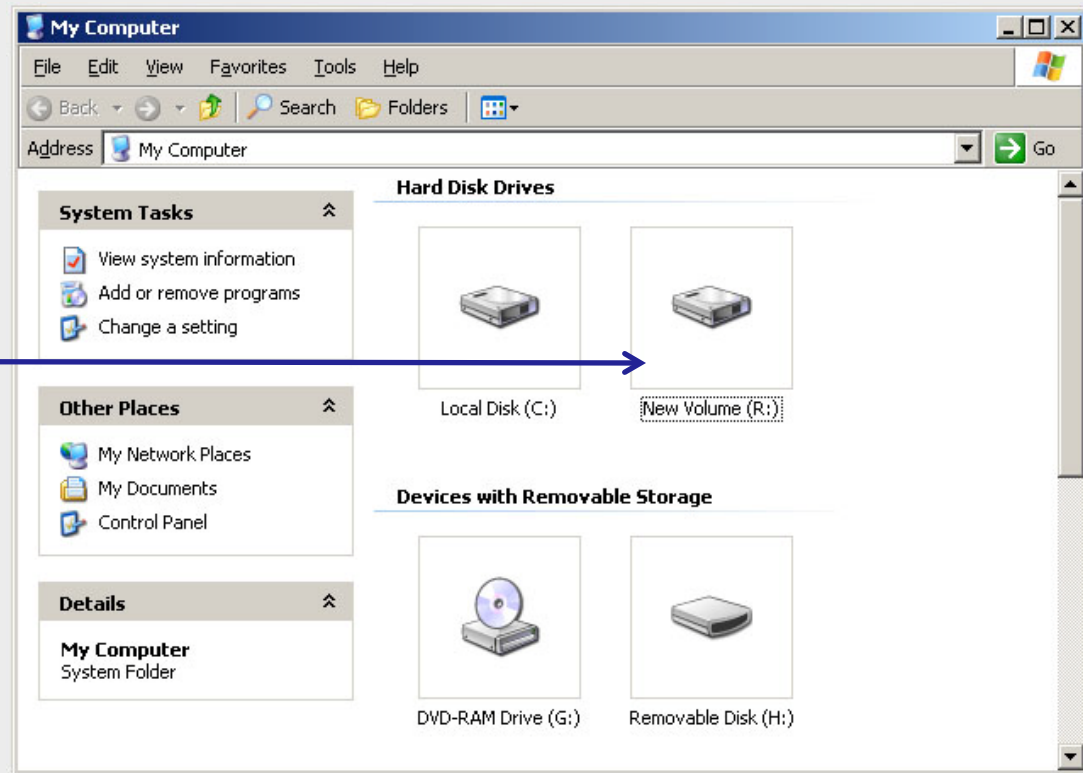


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MS Windows



5. Accessing to the disk



You can now access your shared iSCSI disk in „My Computer“ as a drive letter R.

The configuration of connecting to an iSCSI Target Volume in MS Windows is now complete.

Thank you!