## How to set up MPIO in Windows 2008

[Topology]:

Server\_2008(192.168.0.225)-----(192.168.0.240)DSN-1100.

(192.168.0.224)-----

DSN-1100:

| 📧 xStack Storage   |   |   |  |             |  |  |
|--|---|---|--|-------------|--|--|
| File View Tools Network Settings Help  |   |   |  |             |  |  |
| 🖬 🕅 🖳 🕋 🔽  |   |   |  |             |  |  |
| Stack Connections     All 02-106-02-00     Physical Storage     Physical Storage     Storage Administration     Storage Administration | Hetwork Settings     Management Poet-     Mana | 102 168 0 200,<br>line<br>at Connected, Ne<br>up (LAG), Needs<br>Not Connected<br>Not Connected | ok<br>eds Portal IP Address<br>Attention |             |  |  |
|  |   | Ethernet Port   |  |             |  |  |
|  |   | Apply Ca  | ncel                                     |             |  |  |
|  |   | Name:   | Ethernet Port 0                          |             |  |  |
| System Actions   |   | MAC:  | 0012150034F9                             |             |  |  |
| Volume Creation  | the second second   | Admin Status:   | Enabled 👻                                |             |  |  |
| Wizard   | LP 🔰  | Status:   | Needs Portal IP Address                  |             |  |  |
| Add xStack   |   | Port Speed:   | 1 Gbps                                   |             |  |  |
| Remove xStack  | VLAN Support: Disabled  |   |  |             |  |  |
| Save Event History   |   | MTU Size:   | 1500 -                                   |             |  |  |
| Log Out  |   |   |  |             |  |  |
| Create Portal  |   |   |  |             |  |  |
| Group Ports  | Ethernet Port   |   |  |             |  |  |
| Replace Port with<br>VLAN enabled Port   |   |   |  |             |  |  |
| View Event Close Socket - Close session  | n logout request, Socket 0  |   |  | [ 5Q [ II ] |  |  |

1.Search the ISCSI on as follows and click the **iSCSI Initiator**.



2. Then the following information will be popped up and click **Yes**.



3. Click the **Yes** in the following.

| Recyde Bin |   |                 |
|------------|---|-----------------|
|            | Microsoft iSCSI       X         Do you want to unblock the Microsoft iSCSI service so that it can communicate with an Internet storage name service through Windows Firewall?       Yes         Yes       No       Cancel |                 |
|            |   |                 |
| 灯 Start    |   | 🗳 🍖 🗊 🍺 7:30 PM |

4. Then the **iSCSI Initiator Propertie**s will pop up.

| Docudo Bio  |                             |                     |           |                 |
|-------------|-----------------------------|---------------------|-----------|-----------------|
|             | CSI Initiator Properties    |                     | ×         |                 |
|             | Favorite Targets<br>General | Volumes and Devices | RADIUS    |                 |
|             | Target portals              |                     |           |                 |
|             | Address Port                | Adapter I           | P address |                 |
|             | Add Portal                  | Remove Ref          | resh      |                 |
|             |                             |                     |           |                 |
|             |                             | OK Cancel           | Apply     |                 |
| 💐 Start 📗 🛔 | 🛓 📃 🛛 🛛 🙀 iscsi i           | nitiator Proper     |           | 🖉 🏚 📳 🌘 7:31 PM |

5. Make sure the Server can reach 192.168.0.240 via Ping and **add the target portals** .

| Add Target Portal   | ×   |
|---|---|
| Type the IP address or DNS name and<br>to add. To select settings for the disc<br>Advanced. | d port number of the portal you want<br>overy session to the portal, dick |
| IP address or DNS name:<br>[192.168.0.240]  | Port:<br>3260 Advanced  |
|   | OK Cancel   |

| Recyde Bin  |                                  |                    |   |
|---|----------------------------------|--------------------|---|
| ISCSI Initiator Properties<br>Favorite Targets<br>General<br>Target portals | Volumes and Devices<br>Discovery | RADIUS<br>Targets  | Administrator: Command Prompt<br>DHCP Enabled   |
| Address Port  | Default Remove                   | Default<br>Refresh | Tunnel adapter Local Area Connection* 9:<br>Media State Media discor<br>Connection-specific DNS Suffix . :<br>Description   |
| Name  | Remain                           | Jofred             | Reply from 192.168.0.240: bytes=32 time=17ms TTL=64<br>Reply from 192.168.0.240: bytes=32 time<17ms TTL=64<br>Ping statistics for 192.168.0.240:<br>Packets: Sent = 2, Received = 2, Lost = 0 (0% 2)<br>Approximate round trip times in milli-seconds:<br>Minimum = 0ms, Maximum = 17ms, Average = 8ms<br>Control-C<br>CC |
|   | OK Cancel                        | Apply<br>s Apply   | istrator: Comm  |

6.Check the targets are added under the **Targets** tab.

| iSCSI Initiator Properties  | × |
|---|---|
| Favorite Targets Volumes and Devices RADIUS   | ì |
| General Discovery Targets   |   |
| To access storage devices for a target, select the target and then click<br>Log on.                         | t |
| To see information about sessions, connections, and devices for a target,<br>click Details.                 |   |
| Targets:  |   |
| iqn. 1995-04.com.dlink:file:6-0015e9-020003 Inactive<br>iqn. 1995-04.com.dlink:vmwarestorage:6-001 Inactive | T |
|   | T |
|   |   |
|   |   |
| Details Log on Refresh  |   |
| OK Cancel Apply   |   |

7.Click one of the target and select the **log on...** and the **Log On To Target** will pop up. Then select **enable multi-path**. Do it twice and you can see

## the target has two sessions under Target Property -> Session,

| iSCSI Initiator Properties   | X   |
|--|---|
| Favorite Targets Volumes and Devices RAD                                 | nus I   |
| General Discovery Target   | s<br>Administrator: Command Prompt  |
| To access storage devices for a target, select the target and then       | Log On to Target 🛛 🔀  |
| Log on.  | Target name:  |
| To see information about sessions, connections, and devices for a        | ian 1995-04 com dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97  |
| dick Details.  | a disc  |
|  | Automatically restore this connection when the computer starts  |
| Targets:   | Enable multi-path   |
| Name Status  | Only select this option if iSCSI multi-path software is already installed<br>on your computer.  |
| iqn. 1995-04.com.dlink: file:6-0015e9-020003 Inactive                    |   |
| iqn. 1995-04.com.dlink:vmwarestorage:6-001 Inactive                      | Advanced  |
|  | g statistics for 192.168.0.240:<br>Packets: Sent = 2, Received = 2, Lost = 0 (0%)<br>proximate round trip times in milli-seconds:<br>Mininum = 0ms, Maximum = 1?ms, Average = 8ms |
|  |   |
|  |   |
| Details Log on Refresh   |   |
|  |   |
| OK Cancel  | Apply   |
|  |   |
| iSCST Initiator Properties   | X   |
|  |   |
| Favorite Targets Volumes and Devices                                     | Target Properties   |
| General Discovery "  | Sessions Devices Properties   |
| To access storage devices for a target, select the target and<br>log on. | This target has the following sessions:   |
|  | Identifier  |
| To see information about sessions, connections, and devices f            | fffffff842ca00c-400001370000000b  |
| click Details.   | fffffff842ca00c-400001370000000c  |
|  |   |
| Targets:   |   |
| Name Status  |   |
| ign. 1995-04.com.dlink:file:6-0015e9-020003 Connected                    | Log off Refresh   |
| Ign. 1995-04.com.dlink:vmwarestorage:6-001 Inactive                      |   |
|  | Session Properties  |
|  | Target portal group: 1  |
|  | Status: Connected   |
|  | Connection count: 3   |
|  |   |
|  | Session Connections   |
| Details Log on Re  | this session are load balanced, dick Connections<br>Connections.  |
| OK Cancel  |   |
|  | OK Cancel Apply   |

|   |  | <u>?×</u> |  |
|---|--|-----------|--|
| General IPsec   |  |           |  |
| Connect by using  |  | 1         |  |
| Local adapter: Microso  | oft iSCSI Initiator  |           | Session Connections  |
| Source IP: 192.16   | i8.0.225   |           | Add Connection   |
| Target portal: 192.16   | i8.0.240 / 3260  |           | Target name:   |
| -CBC / Chadraum   |  |           | iqn. 1995-04. com. dlink: file: 6-0015e9-0200037f6-4c9c1f2e2e061e97  |
| Data digest   | Header digest  |           |  |
| CHAP logon information  |  |           |  |
| CHAP helps ensure data security   | by providing authentication between a target and an<br>me target CHAP secret that was configured on the target   |           |  |
| for this initiator.   | me target char secret that was to ingared on the target  |           | This session has the following connections : Source Portal Target Portal Status Type Weight C  |
| User name; ign. 1991-05.co  | om.microsoft:win-5mw1fdjoepd.corp.contoso.com  |           | 0.0.0.0/38596 192.168.0.2 Conne Active n/a 0   |
| Target secret:  |  |           | 192.168.0.22 192.168.0.2 Conne Active n/a 0<br>192.168.0.22 192.168.0.2 Conne Active n/a 0   |
| Use RADIUS to generate user   | r authentication credentials   |           |  |
| Perform mutual authentication   |  |           |  |
| To use mutual CHAP either specif<br>RADIUS. The same secret must b  | y an initiator secret on the Initiator Settings page or use<br>be configured on the target.  |           | Add Remove Edit.   |
| Use RADIUS to authenticate  | target credentials   |           |  |
|   |  |           | OK Cancel Apply  |
|   | OK Cancel A  | ply       |  |
| Advanced Settings   |  |           |  |
|   |  | ? ×       |  |
| General IPsec   |  | <u>?×</u> |  |
| General IPsec   |  | ?×        |  |
| General IPsec<br>Connect by using<br>Local adapter: Micros  | oft iSCSI Initiator 💆  | ?×        | Session Connections  |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1  | oft iSCSI Initiator  | ?×        | Session Connections  |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.11<br>Target portal: 192.12  | oft ISCSI Initiator 💌<br>58.0.224 💌<br>68.0.240 / 3260 💌   | ? ×       | Session Connections ? X<br>Add Connection X<br>Target name:  |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1  | oft ISCSI Initiator 🖉<br>58.0.224 👻<br>58.0.240 / 3260 💌   | ? ×       | Session Connections ? X<br>Add Connection X<br>Target name:<br>[gn. 1995-04.com.dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97   |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum  | oft ISCSI Initiator<br>58.0.224<br>58.0.240 / 3260<br>Header digest  |           | Session Connections ? X<br>Add Connection X<br>Target name:<br>Ign. 1995-04.com.dlink:file:6-00.15e9-0200037f6-4c9c.1f2e2e06.1e97  |
| General IPsec Connect by using<br>Local adapter: Micros<br>Source IP: 192.11<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum  | oft ISCSI Initiator  |           | Session Connections ? X<br>Add Connection X<br>Target name:<br>[gn. 1995-04.com.dlink:file:6-00 15e9-0200037f6-4c9c 1f2e2e06 1e97<br>Advanced OK Cancel  |
| General IPaec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum<br>CHAP logon information<br>CHAP helps ensure data security   | ioft ISCSI Initiator   |           | Session Connections ? X<br>Add Connection X<br>Target name:<br>Ign. 1995-04.com.dlink:file:6-00 15e9-0200037f6-4c9c 1f2e2e06 1e97<br>Advanced<br>OK Cancel   |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum<br>CHAP logon information<br>CHAP helps ensure data security<br>initiator. To use it, specify the se<br>for this initiator.  | Initiator  |           | Session Connections       ?       Add Connection       Target name:       Ign. 1995-04.com.dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97       Advanced       OK       Cancel       This session has the following connections :       This session has the following connections :   |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum<br>CHAP logon information<br>CHAP logon information<br>CHAP logon information<br>CHAP logon information<br>Uter parce: Imp. 1991-05.6  | Initiator        58.0.224        68.0.240 / 3260        Image: The second se |           | Session Connections       ? X         Add Connection       XI         Target name:       Ign. 1995-04.com.dlink:file:6-00.15e9-0200037f6-4c9c.1f2e2e06.1e97         Advanced       OK         Cancel       OK         This session has the following connections :         Source Portal       Target Portal         Status       Type         Weight       C         0.0.0/38596       192.168.0.2         Conne       Active       n/a   |
| General IPaec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum<br>CHAP logon information<br>CHAP helps ensure data security<br>initiator. To use it, specify the set<br>for this initiator.<br>User name: Ign.1991-05.c   | oft ISCSI Inibator         58.0.224         58.0.240 / 3260         E         Header digest  |           | Session Connections         ?         X           Add Connection         X           Target name:         [gn. 1995-04.com.dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97           Advanced         OK         Cancel           Advanced         OK         Cancel           This session has the following connections :         Source Portal         Target Portal         Status         Type         Weight         C           0.0.0/38596         192.168.0.2         Conne         Active         n/a         0           192.168.0.22         192.168.0.2         Conne         Active         n/a         0   |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CHAP logon information<br>CHAP logon information<br>CHAP helps ensure data security<br>initiator. To use it, specify the se<br>for this initiator.<br>User name: Iqn. 1991-05.c<br>Target secret:<br>Lise RADIUS to generate use  | ioft ISCSI Initiator   |           | Session Connections         ?         ×           Add Connection         ×           Target name:         Ign. 1995-04.com.dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97           Advanced         OK         Cancel   This session has the following connections :           Source Portal         Target Portal         Status         Type         Weight         C           0.0.0.0/38596         192.168.0.2         Conne         Active         n/a         0           192.168.0.22         192.168.0.2         Conne         Active         n/a         0  |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CRC / Checksum<br>CHAP logon information<br>CHAP logon information<br>CHAP helps ensure data security<br>initiator. To use it, specify the se<br>for this initiator.<br>User name: Iqn.1991-05.c<br>Target secret:<br>Use RADIUS to generate use<br>Perform mutual authentication   | ioft ISCSI Initiator   |           | Session Connections         ?         X           Add Connection         X           Target name:         Ign. 1995-04.com.dlnk:file:6-0015e9-0200037f6-4c9c1f2e2e061e97           Advanced         OK           Advanced         OK           Cancel  |
| General IPsec<br>Connect by using<br>Local adapter: Micros<br>Source IP: 192.1<br>Target portal: 192.1<br>CRC / Checksum<br>CAP helps ensure data security<br>initiator. To use it, specify the security<br>initiator. To use it, specify the security<br>initiator. I user name: Iqn.1991-05.0<br>Target secret:<br>User name: Iqn.1991-05.0<br>Target secret:<br>User RADIUS to generate use<br>Perform mutual authenticatio<br>To use mutual CHAP either speci<br>RADIUS. The same secret must   | ioft ISCSI Initiator   |           | Session Connections         ?         X           Add Connection         XI           Target name:         Ign. 1995-04.com.dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97           Advanced         OK         Cancel           Advanced         OK         Cancel           This session has the following connections :         Source Portal         Target Portal         Status         Type         Weight         C           0.0.0.0/38596         192.168.0.2         Conne         Active         n/a         0           192.168.0.22         192.168.0.2         Conne         Active         n/a         0  |
| General       IPsec         Connect by using       Local adapter:         Local adapter:       Micros         Source IP:       192.1         Target portal:       192.1         CRC / Checksum       Intervention         CHAP logon information       CHAP helps ensure data security initiator, To use it, specify the set for this initiator.         User name:       Iqn.1991-05.0         Target secret:       Intervention         User name:       Iqn.1991-05.0         Target secret:       Intervention         User name:       Iqn.1991-05.0         Target secret:       Intervention         User RADIUS to generate use       Perform mutual authentication         To use mutual (IAP) either spect       To use mutual (IAP) either spect         Vase RADIUS to authenticate       Vase RADIUS to authenticate | ioft ISCSI Initiator   |           | Session Connections         ?         X           Add Connection         X           Target name:         [gn. 1995-04.com.dlink:file:6-0015e9-0200037f6-4c9c1f2e2e061e97]           Advanced         OK         Cancel           Advanced         OK         Cancel           This session has the following connections :         Source Portal         Target Portal         Status         Type         Weight         C           0.0.0.0/38596         192.168.0.2         Conne         Active         n/a         0           192.168.0.22         192.168.0.2         Conne         Active         n/a         0           Image: Add         Remove         Edit         Add         Remove         Edit   |
| General       IPsec         Connect by using       Local adapter:         Local adapter:       Micros         Source IP:       IS2.1         Target portal:       192.1         CRC / Checksum       IS2.1         Data digest       CRC / Checksum         CRC / Checksum       CHAP helps ensure data security initiator.         CHAP helps ensure data security initiator.       To use it, specify the set for this initiator.         User name:       Ign.1991-05.c         Target secret:       Use RADIUS to generate use         Perform mutual authenticatio       To use mutual CHAP either specify the secret must         Use RADIUS to generate use       Vise RADIUS to authenticate         Use RADIUS to authenticate       To use mutual CHAP either specify the secret must                                   | oft ISCSI Initiator  |           | Session Connections         ?         X           Add Connection         XI           Target name:         Ign. 1995-04.com.dlnk:file:6-0015e9-0200037f6-4c9c1f2e2e061e97           Advanced         OK         Cancel           Advanced         OK         Cancel           This session has the following connections :         Source Portal         Target Portal         Status           Source Portal         Target Portal         Status         Type         Weight         C           0.0.0.0/38596         192.168.0.2         Conne         Active         n/a         0           192.168.0.22         192.168.0.2         Conne         Active         n/a         0           Image: Add         Remove         Edit         Med         Apply         Add         Apply |

## Testing result: Copy the file from the Disk E to Disk C

| File Edit View VM  | 1 Team Windows H   | elp<br>] 🖵   🐑 🔤 🚾 🔯 🕻   | <b>b</b>   |   |   |
|--|--|--|--|---|---|
| Organize V Wews<br>avorite Links<br>Documents<br>Pictures<br>Music<br>Recently Changed<br>Searches<br>Public | AutoPlay      Pro     Name     AutoPlay     Pro     AutoPlay     Pro     Pro | Perties Vystem properties Type  Local Disk Local Disk REStorage (2) Floppy Disk Drive CD Drive | Uninstall or change a program Total Size  T.99 GB  T.99 GB  General Statement of the second | Sace V S | 5 |

