Installation and Recovery Instructions

Replacement Flash Drive
for Adaptec OnTarget™

These instructions describe how to replace the Adaptec OnTarget flash drive in your iSCSI Storage Appliance. It also describes how to recover from a flash drive failure.

Note: If you are recovering from a flash drive failure in a mirrored environment, see .

Step 1: Preparing to Replace the Flash Drive (Non-failed Flash Drives Only)

If you are replacing a functioning flash drive, complete the steps in this section. If you are replacing a failed flash drive, skip to the next section, *Step 2: Shutting Down the Appliance*.

Before you begin to replace the flash drive, record the iSCSI Storage Appliance configuration settings:

1 Connect to the iSCSI Storage Appliance using either a monitor and keyboard or a serial cable connected to a system running a terminal emulation program.

2 Log in to the Command Line Interface (CLI) as Administrator.

3 Type `network list`, then press **Enter.**

4 Record all the settings listed, including the interface settings for each Ethernet port.

   Note: Record the settings carefully; you will need to re-enter them accurately once the new flash drive is installed.

5 Type `y` to finish, then exit the CLI and disconnect from the iSCSI Storage Appliance.

For more information, refer to the *iSCSI Storage Appliance User's Guide* on the Adaptec Storage Manager Installation CD.

Step 2: Shutting Down the Appliance

1 In the Enterprise View of Adaptec Storage Manager, select the iSCSI Storage Appliance.

2 From the **Actions** menu, select **Shut down enclosure**.

3 Click **Yes** to shut down the appliance.

Step 3: Replacing the Flash Drive

⚠️ **Caution:** Electrostatic discharge (ESD) can damage the flash drive and your iSCSI Storage Appliance. Follow standard anti-ESD precautions to avoid exposing the flash drive and your iSCSI Storage Appliance to static charge.

1 When the iSCSI Storage Appliance is powered down, disconnect the power cable, then open the cabinet, following the manufacturer's instructions.

2 Discharge any static electricity from your body by touching a grounded metal object (such as the exposed metal parts on the back of your computer).

3 If you have an IDE flash drive, disconnect the flash drive from the power connector.

4 Carefully remove the flash drive from its IDE or internal USB connector.

5 Insert the new flash drive into the IDE or internal USB connector from which you removed the old flash drive.

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6 Connect the flash drive directly to a standard floppy disk drive power connector, or use an adapter cable to connect the flash drive to a standard 5.25 floppy disk drive connector.

7 Close the appliance cabinet and reconnect the power cable.

⚠️ **Caution:** Do not re-use the old flash drive.

Step 4: Configuring the iSCSI Storage Appliance

Note: When configuring your iSCSI Storage Appliance, use settings that are identical to the previous configuration, if possible. Using identical settings increases the likelihood that the iSCSI initiators on your IP SAN will automatically discover and reconnect to existing iSCSI targets.

⚠️ **Caution:** To avoid permanent data loss, *do not* modify the default BIOS settings of the RAID controller. To safely configure or modify the iSCSI Storage Appliance, use either the CLI or Adaptec Storage Manager.

1 Connect to the iSCSI Storage Appliance using either a monitor and keyboard or a serial cable connected to a system running a terminal emulation program.

2 Power on the iSCSI Storage Appliance.

The CLI Installation Wizard opens and prompts you to enter values for your iSCSI Storage Appliance. (If the Wizard doesn't open, use the system BIOS to set the flash drive as the primary boot device.)

3 Enter each value when prompted. If possible, use values that are *identical* to the previous configuration.

If you don't have a record of the previous configuration settings (either from *Step 1* on page 1 or from the initial setup), enter values as if you are configuring a new iSCSI Storage Appliance.

Note: For more information, refer to the Command Line Interface section of the *iSCSI Storage Appliance User's Guide* on the Adaptec Storage Manager Installation CD.

When the configuration is complete, the host name of the iSCSI Storage Appliance displays.

4 Use the `interface manage` commands configure the interface settings for each Ethernet port on your iSCSI Storage Appliance. As in Step 3, use settings that are *identical* to the previous configuration, if possible.

5 Type `quit`, then press **Enter** to log out of the CLI.

Step 5: Reconnecting with the iSCSI Storage Appliance

1 Open Adaptec Storage Manager.

2 In the Enterprise View, select the Management Service to which your iSCSI Storage Appliance was connected.

3 If the Management Service automatically reconnects to the iSCSI Storage Appliance, skip to *Step 6: Reconnecting Your iSCSI Initiators and iSCSI Targets* on page 3.

If the Management Service can't automatically reconnect to the iSCSI Storage Appliance, you must remove that appliance from the Management Service then add it back in:

a Right-click the Management Service, select **Remove**, then select the name of the iSCSI Storage Appliance.

b Right-click the Management Service, then select **Add enclosure**.

The Add Enclosure dialog box opens.

c Enter the IP address of the iSCSI Storage Appliance, then click **Add**.

d If prompted, enter the administrator password you set while configuring your iSCSI Storage Appliance, but *don't* enter a user name.

The iSCSI Storage Appliance appears in the Enterprise View, under the Management Service.

4 If your iSCSI targets come back online, the recovery is complete.

If you used new settings while configuring your iSCSI Storage Appliance, or if you used settings that were identical to the previous configuration but your iSCSI targets failed to come back online, continue with *Step 6: Reconnecting Your iSCSI Initiators and iSCSI Targets* on page 3.

Step 6: Reconnecting Your iSCSI Initiators and iSCSI Targets

Follow the instructions in this section if you used new settings while configuring your iSCSI Storage Appliance, or if you used settings that were identical to the previous configuration but your iSCSI targets failed to come back online.

You must complete the tasks in this section for each full-support and basic-support system on your IP SAN:

- For systems running Microsoft® Windows® Server 2003 (*full-support systems*), see the next section.
- For systems running all other operating systems (*basic-support systems*), see .

Full-support System Recovery

Follow the steps in this section to reconnect each full-support system in your IP SAN. (Only systems running Windows Server 2003 are full-support systems. For all other operating systems, see *Basic-support System Recovery* on page 4.)

Enabling Authentication

If any of the iSCSI targets on your iSCSI Storage Appliance have CHAP enabled, complete this task. Otherwise, skip to the next section, *Removing iSCSI Targets and Adding the Appliance IP Address*.

1. If you have disconnected from the iSCSI Storage Appliance, reconnect to it using either a monitor and keyboard or a serial cable connected to a system running a terminal emulation program.
2. Log in to the CLI as Administrator.
3. Type `authentication add auth1`, then press **Enter**.
4. Type a new authentication password, then press **Enter**.
5. Retype the authentication password as confirmation, then press **Enter**.

Removing iSCSI Targets and Adding the Appliance IP Address

1. On the full-support system, go to the **Start** menu and open **Microsoft iSCSI Initiator**.

    The iSCSI Initiator Properties window opens.
2. Click the **Targets** tab, then log off any iSCSI target whose status is 'Reconnecting'.
3. Click the **Persistent Targets** tab, then remove any iSCSI target whose status is 'Inactive'.
4. Click the **Discovery** tab.
5. From the list of IP addresses, remove any address that does not belong to the iSCSI Storage Appliance.
6. Click **Add**.
7. Enter the IP address for the iSCSI data port on your iSCSI Storage Appliance (as set in *Step 4: Configuring the iSCSI Storage Appliance* on page 2), then click **OK**.

    If your iSCSI Storage Appliance has two iSCSI data ports, repeat this step for the other port.

Logging into the iSCSI Targets

1. In the iSCSI Initiator Properties program, click the **Targets** tab.
2. Select an iSCSI target, then click **Log On...**.
3. Select **Automatically restore this connection...**.

    If CHAP is enabled on this iSCSI target, click **Advanced**, select **CHAP logon information**, enter the user name and password ('target secret') for that iSCSI target, then click **OK**.

    Note: The target secret is the password you set in *Removing iSCSI Targets and Adding the Appliance IP Address*.
4. Click **OK** to log on to the iSCSI target.

Reconnecting Mirrored Volumes

Before you begin, ensure that you are connected to each iSCSI Storage Appliance that hosts the mirrored volumes, using either a monitor and keyboard or a serial cable connected to a system running a terminal emulation program.

Note: In these steps, the iSCSI Storage Appliance with the replaced flash drive is called Appliance A; the iSCSI Storage Appliance that contains the mirrored volumes is called Appliance B.

1   Use Appliance B's CLI to ensure that Appliance B is logged in to Appliance A.

    If Appliance A does not have a new IP address, skip to Step d below.

    If Appliance A has a new IP address:

    a   Type `controller manage Appliance_A ip remove oldIPaddress`, then press **Enter**.

    b   Type `controller manage Appliance_A ip add newIPaddress`, then press **Enter**.

    c   Appliance B logs in to Appliance A. (This may take a few moments.)

    d   Type `controller list`, then press **Enter**. Confirm that Appliance A's controller is listed.

2   Use Appliance A's CLI to reconnect Appliance A to Appliance B.

    a   Type `controller discover IPaddress_of_applianceB`, then press **Enter**.

    b   Type `controller add IPaddress_of_applianceB`, then press **Enter**.

    c   Type `controller list`, then press **Enter**. Confirm that Appliance B's controller is listed.

3   Use Appliance A's CLI to update the IP addresses of remote plexes in Appliance A's mirrors.

    a   Type `mirror manage m1 plex 0/1 IPaddress_of_ApplianceB_iSCSI_interface`, then press **Enter**.

    b   Repeat Step 1 for each mirror.

4   Use Appliance B's CLI to update the IP addresses of remote plexes in Appliance B's mirrors.

    a   Type `mirror manage m1 plex 0/1 IPaddress_of_ApplianceA_iSCSI_interface`, then press **Enter**.

    b   Repeat Step 1 for each mirror.

Last Step

In the **View** menu of Adaptec Storage Manager, select **Refresh**. All iSCSI Storage Appliances, iSCSI targets, and mirrored volumes should appear online, connected, and in normal status. The recovery of each full-support system is complete.

Basic-support System Recovery

This section provides a general overview of the steps required to reconnect to each basic-support system in your IP SAN. For specific instructions, refer to the documentation provided with your iSCSI initiators.

1   Remove all iSCSI target sessions from the iSCSI initiator.

2   Remove all iSCSI Storage Appliance data ports from the iSCSI initiator.

3   Add the IP address(es) of the data port(s) on your iSCSI Storage Appliance.

4   Your iSCSI initiator may automatically discover the iSCSI targets on your iSCSI Storage Appliance. If not, manually add the iSCSI targets to the iSCSI initiator.

The recovery of each basic-support system is complete.

Recovering from a Flash Drive Failure in a Mirrored Environment

Follow the instructions in this section if a flash drive fails in an iSCSI Storage Appliance that is part of a mirror.

1   Complete these tasks, as described in previous sections:

    a   Shut down the iSCSI Storage Appliance (see page 1).

    b   Replace the flash drive (see page 1).

    c   Power on and configure the iSCSI Storage Appliance (see page 2).

    Note: When configuring your iSCSI Storage Appliance, use settings that are *identical* to the previous configuration, if possible.

2 In the CLI, ensure you are logged on as Administrator. (If you are, a '#' appears at the prompt.)

3 Type this command, then press **Enter**:

```
controller discover IP_address_of_remote_iSCSI_Storage_Appliance
```

4 Type this command, then press **Tab**:

```
controller add <Tab>
```

The list of controllers to be added appears.

5 Type this command, then press **Enter**:

```
mirror <Tab> plex 1 ip add mirror_plex_IP_address
```

6 Type this command, then press **Enter**:

```
mirror info
```

Plex 0 Local and Plex 1 Remote should both appear as Synchronized Online.

All iSCSI target, pool, and logical drive information appears online in Adaptec Storage Manager.

7 Check the iSCSI initiator to ensure that the iSCSI target connection is re-established. If the iSCSI initiator and iSCSI target are not reconnected:

a In the CLI, enter this command, then press **Enter**:

```
logical manage volume_name authentication none
```

b Manually log in to the iSCSI target from the iSCSI initiator. (CHAP is not used.)

The recovery is complete.

Troubleshooting

If the iSCSI Storage Appliance does not boot:

- Ensure that the new flash drive is installed in the same IDE connector as the old one.
- Ensure that the IDE controller is enabled and the flash drive is selected as the primary boot device.
- Ensure that the flash drive is discovered on the primary IDE channel within the motherboard BIOS.

  If the BIOS does not discover the flash drive, power down the iSCSI Storage Appliance, then ensure that the flash drive is properly installed and that the power cable is properly connected to it.

If you still need help, contact your Adaptec Field Application Engineer.