GENERAL INFORMATION

Compatibility
HP StorageWorks One-Button Disaster Recovery (OBDR) for ProLiant servers is a standard feature on all HP tape drives and HP DAT autoloaders. However, it can only be used with specific configurations and will only recover your ProLiant server to which the HP tape device is directly connected.

To check whether your ProLiant system (hardware, operating system and backup software) is OBDR compatible and for more information concerning the benefits of OBDR, please refer to our World Wide Web site www.hp.com/go/obdr.

If your system does not support OBDR, you can still use your HP tape device to back up and restore data. However, you must remember to create a separate set of emergency recovery disks for your operating system whenever you change your system configuration.

What does OBDR do?
Using just the HP tape drive or DAT autoloader and the most recent backup cartridge, OBDR allows you to recover from the following types of system disaster:

- Hard disk failures, as long as the replacement hard disk is the same size or larger than the original and uses the same interface (for example, replace a SCSI hard disk with another SCSI disk)
- Hardware failures where the server is replaced by an identical component
- File corruption because of an operating system error
- File corruption because of an application software error
- Viruses that prevent you from booting your system correctly
- User errors that stop you from booting your system correctly

When you run OBDR, your tape device goes through the following sequence:

1. It goes into a special disaster recovery mode that enables it to restore your operating system and reboot. It acts like a bootable CD-ROM. (Your system’s ability to boot from CD-ROM is normally enabled by default. If you have changed this setting, you will need to enable it again. Refer to your system BIOS manual for further details.)
2. It returns to normal tape device mode and restores the data.
Creating the OBDR tape:
The procedure for creating an OBDR tape is simple. Once the ISV's Disaster Recovery option is installed (if required), every full backup with overwrite that is performed will create an OBDR disaster recovery tape. No additional work is required.

Running OBDR
1. Repair or replace the defective hardware
2. If hard disks are replaced, run Option ROM Configuration for Arrays (ORCA) Utility to recreate RAID on Smart Arrays
3. Insert OBDR tape into the tape drive
4. Power on the server
5. Invoke OBDR on tape drive
6. Tape drive boots the tape in CD-ROM mode
7. Bootable mini OS is loaded into memory
8. User must choose one of the following:
   • Proceed with the recovery
   • Exit process
9. Mini OS and backup application files are copied to hard disk
10. Server reboots into mini OS, and tape drive switches back to normal tape mode
11. ISV wizard performs recovery at tape speed (streaming)
12. System reboots and recovery is complete
New simple keyboard shortcut for remotely located ProLiant servers:

- Insert the disaster recovery tape into the drive
- Restart the server and press the <F8> function key at the HP HBA BIOS prompt
- Follow the on-screen instructions to switch the tape drive into OBDR mode
- To perform this function remotely, it requires the HP Integrated Lights-Out (iLO) or Remote Insight Lights Out Edition (RILOE) board
Initiating OBDR at POST; Tape device is connected to an U320 controller

Insert the OBDR tape media into the tape device
Turn on the ProLiant Server
Press the <F8> function key when prompted during POST
Select the tape drive to place into OBDR mode

The ProLiant server will reboot to place the tape drive into OBDR mode. The tape drive now becomes a bootable device.
Initiating OBDR at POST; Tape device is connected to a Smart Array 6i controller

Insert the OBDR tape media into the tape device.
Turn on the ProLiant Server.
Press the <F8> function key at POST to run the Option ROM Configuration for Arrays Utility (ORCA).

1024 MB Initialized / 1024 MB Detected

ProLiant System BIOS - P61 (06/26/2004)
Copyright 1982, 2004 Hewlett-Packard Development Group, L.P.

Processor 1 initialized at 3.20 GHz/800 MHz (1 Mbyte L2)

Advanced Memory Protection Mode: Advanced ECC Support
Redundant ROM Detected - This system contains a valid backup system ROM.
No Legacy Floppy Drive Present

Integrated Lights-Out Advanced 1.62 Aug 05 2004 152.10.10.20

Slot 0 HP Smart Array 6i Controller (64MB, v2.32) 1 Logical Drive
Tape or CD-ROM Drive(s) Detected:
SCSI Port 1, ID 0

Press <F8> to run the Option ROM Configuration for Arrays Utility
Press <ESC> to skip configuration and continue

Select the “Delete Logical Drive” option

Option ROM Configuration for Arrays, version 2.44
Copyright 2009 Hewlett-Packard Development Company, L.P.

Controller: HP Smart Array 6i, slot 0
Direct-Attached Storage

Main Menu
Create Logical Drive
View Logical Drive
Delete Logical Drive
Configure OSA-DA

<Enter> to delete an existing logical drive
<UP/DOWN ARROW> to select main menu options; <ESC> to exit
Note: For more configuration options use the HP Array Configuration Utility
Press <F8> to delete the logical drive

Press <F3> to continue

Create a new logical drive
Save the configuration

You have selected a logical drive with a total data size of 33.3 GB and RAID 1 fault tolerance.

Press <F5> to save the configuration
Press <F6> to cancel

Note: For more configuration options use the HP Array Configuration Utility
Select the “Configure OBDR” option

Accept the setting

Press <F8> to place the tape drive into OBDR mode
The tape drive is now in OBDR mode

1024 MB Initialized / 1024 MB Detected

ProLiant System BIOS - FSL (08/26/2004)
Copyright 1992, 2004 Hewlett-Packard Development Group, L.P.

Processor 1 initialized at 3.20 GHz/800 MHz/1 MByte L2

Advanced Memory Protection Mode: Advanced KIC Support
Redundant DOM Detected - This system contains a valid backup system DOM.
No Legacy Floppy Drive Present

Integrated Lights-Out Advanced 1.62 Aug 05 2004 122.10.10.20

Slot 0: HP Smart Array 6i Controller (64MB, v2.32) 1 Logical Drive
Tape or CD-ROM Drive(s) Detected:
SCSI Port 1: SCSI ID 0

The system will boot from Tape/CD/OBDR device attached to Smart Array.
Lsi Logic Corp. 5.06.2000
Copyright 1995-2005 LSI Logic Corp.
MITBIO-5.06.18.03
EH Build
Using OBDR with HP StorageWorks Data Protector Express (DPX)
Standard or Single Server Edition

General Information:
- DPX Standard Edition is available at www.hp.com/go/dataprotectorexpress
- DPX Single Server Edition ships free with all HP DAT and Ultrium tape drives and DAT autoloaders.
- Both editions have a free evaluation period of 60 days.
- A permanent license key can be obtained after registering DPX

Creating the OBDR Backup Tape
Log into the DPX Domain

![Login Screen](image_url)

You must log on to the Data Protector Express storage management domain, which tracks all Data Protector Express objects, including jobs, media, and scheduling rotation schemes. The default user is ADMIN with no password.

- **Host name (or IP address):** `localhost`
- **User name:** `admin`
- **Password:**

[Image of login screen]
Select Devices and Double-click “Server”

Double-Click “Devices”
Select the tape drive you want to create the OBDR tape with and Erase Media.

Click “Next”
Select Elements, Click “Next”

Erase Options, Click “Next”
Schedule Job, Click “Next”

Job Completed, Click “OK”
Select the “Backup” wizard, Double-Click “Backup Local Machine”

“Backup Local Machine Wizard” appears
“Device Options” (Ensure tape device is checked), Click “Next”

Make sure the Backup mode is “full” and the Write mode is “Overwrite all media”
Encryption/Decryption (Select “Off” and Click “Next”)

Schedule Job to Run Now and Click “Next”
Copy Policy (Leave as Default, Click "Finish")

Job Status (Once State shows Completed, Click OK then Shutdown server to prepare for OBDR recovery.

Once the OBDR tape has been created, it should be stored in a safe and secure location in case it is needed to restore your ProLiant server
Performing an OBDR restore

Insert the OBDR tape media into the HP tape drive or DAT autoloader

Place the HP tape drive or DAT autoloader into OBDR mode using one of the following methods:
1. Hold the eject button and power cycle the tape device if it is externally connected to your ProLiant server
2. Hold the eject button and power cycle the ProLiant server if the tape device is internally connected
3. Press the <F8> function key at POST and follow the on-screen prompts

The tape device has been successfully placed into OBDR mode, and the restore process started when the following screen appears:

![Screen showing OBDR restore process]

---

10/15/2009
Recover Entire System

Yes, Recover the Entire System
Overwrite Partitions, Click “F10”

Last Chance, Are you Sure?
Mini-OS Installation from Tape (No user intervention required)

No user intervention required
Microsoft (R) Windows (R) Version 5.2 (Build 3790: Service Pack 2)  
2 System Processors [1022 MB Memory] MultiProcessor Kernel

No user intervention required

Windows is verifying files and folders... 
File and folder verification is complete. 
Windows has checked the file system and found no problems. 
4193600 KB total disk space. 
384 KB in 6 hidden files. 
1408 KB in 22 folders. 
179328 KB in 1333 files. 
4012480 KB are available. 
65536 bytes in each allocation unit. 
65525 total allocation units on disk. 
62695 allocation units available on disk. 
Converting drive C: to NTFS... 
Convert will take some time to process the files on the volume. 
When this phase of conversion is complete, the computer will restart. 
Determining disk space required for file system conversion... 
Total disk space: 4194304 KB 
Free space on volume: 4012480 KB 
Space required for conversion: 111626 KB 
Converting file system

No user intervention required
More Media to Recover? Click “No”
OBDR Completed, Click “OK.” Server will automatically reboot.

Server has now been recovered.