

HP StorageWorks Data Protector Express



Installation Guide



Copyright

Copyright © 2005/2006 by Hewlett-Packard Limited. March 2006

Part Number BB116-90024

Hewlett-Packard Company makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

This document contains proprietary information, which is protected by copyright. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Hewlett-Packard. The information contained in this document is subject to change without notice.

Hewlett-Packard Company shall not be liable for technical or editorial errors or omissions contained herein. The information is provided "as is" without warranty of any kind and is subject to change without notice. The warranties for Hewlett-Packard Company products are set forth in the express limited warranty statements for such products. Nothing herein should be construed as constituting an additional warranty.
www.hp.com

Trademarks

Windows® and Windows NT® are registered trademarks of Microsoft Corporation.

NetWare® is a registered trademark of Novell, Inc.

Linux® is a registered trademark of Linus Torvalds. Red Hat® is a registered trademark of Red Hat, Inc. SuSE® is a registered trademark of SuSE Linux Products GmbH, a Novell business.

Table of Contents

Before You Begin	v
Data Protector Express Documentation.....	v
Printable Documentation.....	v
Release Notes.....	vi
Online Help	vi
Windows	vi
Non-Windows	vi
Customer Support.....	vi
Chapter 1. Installation Overview	1
System Requirements	1
Supported platforms	2
Installing a service pack.....	2
Before You Install Data Protector Express	2
Data Protector Express management domain.....	2
HP Data Protector Express Service.....	2
Data Protector Express License	3
Backup Devices	3
Installing Data Protector Express	3
Upgrading Data Protector Express	4
Migrating data to the Data Protector Express catalog.....	4
Installing Data Protector Express with the DPM Agent.....	5
Chapter 2. Windows Operating Systems.....	6
Data Protector Express Installation Manager Overview.....	6
Launch Data Protector Express Installation Manager.....	6
Using Data Protector Express Installation Manager	7
Install Data Protector Express	7
Connect to an Existing Data Protector Express management domain	7
Create a New Data Protector Express management domain	9
Upgrade Data Protector Express	10
Remove Data Protector Express	11
Chapter 3. Non-Windows Operating Systems.....	13
Data Protector Express Installer Overview	13
Launch Data Protector Express Installer	13
NetWare Launch	13
Linux Launch.....	14
Using Data Protector Express Installer	14
Install Data Protector Express	15
Connect to an Existing Data Protector Express management domain	15
Create a New Data Protector Express management domain	16
Upgrade Data Protector Express	17
Remove Data Protector Express	18
Licenses	19
Chapter 4. Installation Notes	21
General Installation Notes	21
Device Buffer Sizes.....	21
Multiple SCSI Buses with Libraries.....	21
NetWare Installation Notes	22

Running Data Protector Express for NetWare for the First Time	22
Users with Adaptec Controllers Must Install the Latest Drivers.....	22
Enabling LUN Support	22
Linux Installation Notes.....	23
Copying the Data Protector Express Installer to a Local Disk.....	23
Graphical User Interface	23
Data Protector Express Icon for the X Window Desktop	23
SCSI Libraries may not be detected	23
IDE/ATAPI Support	24
Libraries missing from Linux distribution.....	25
Recognizing LUNs	26
Appendix A - Troubleshooting Guide	27
Troubleshooting Installation.....	27
I selected 'Join existing Data Protector Express management domain' during installation, but the domain is not displayed in the product.	27
When I try to log on to NDS, Data Protector Express keeps asking for the password.....	27
I can't log on to Data Protector Express.	27
I am using TCP/IP, but it cannot see other servers	27
Troubleshooting Backup Devices	28
I can't see my tape drive on the Device property page.....	28
My SCSI library is not active on the Device or Catalog views.	28
Data Protector Express does not recognize my SCSI library. The tape device is displayed, but not the library. ...	28
Index.....	30

Before You Begin

This *Installation Guide* provides all of the information necessary to effectively install Data Protector Express. It includes system requirements and step-by-step instructions.

In this section

- *Data Protector Express documentation*
- *Printable Documentation*
- *Release Notes*
- *Online Help*
- *Customer Support*

Data Protector Express Documentation

The following documentation is included with Data Protector Express to help you install and use all of Data Protector Express's features and options.

NOTE: In the following sections:

- **<dir>** represents the platform-specific directory on the Data Protector Express CD-ROM, for example, **win** (Windows), **lin** (Linux) and **net** (NetWare).
- **<Lang>** represents the language in which the document is written: **eng** (English), **fre** (French), **ger** (German), **ita** (Italian), **jpn** (Japanese), **spa** (Spanish), **kor** (Korean), **chs** (Simplified Chinese), and **cht** (Traditional Chinese).

Printable Documentation

The **/doc** directory on the Data Protector Express CD-ROM contains the following printable documentation:

- *Quick Start Guide (dpqks.pdf)*: Contains basic information to help you install and run Data Protector Express (multiple languages in one file).
- *Installation Guide (dpins<Lang>.pdf)*: Contains installation information for each supported platform.
- *User's Guide and Technical Reference (dpusr<Lang>.pdf)*: Contains information for configuring and using Data Protector Express.
- *Addendum (dpadd.pdf)*: Contains information on additional features (English only). This manual is provided only when necessary.

NOTE: You can also download these documents from the Data Protector Express website at www.hp.com/go/dataprotectorexpress.

If you require extra copies of these manuals, you can print the PDF file. They were designed to be printed one-sided, with a margin for placing them in a binder. For consistency with this manual, the page numbers, page layout, table of contents and index are the same (except that the PDF file does not have facing pages or odd/even headers).

To view or print this documentation, Adobe Acrobat Reader (version 4.0 or higher) must be installed on your Windows or X Window (Linux) computer. If not currently installed, you can install it from the Adobe Acrobat Reader website at www.adobe.com/products/acrobat/readstep2.html.

NOTE: Adobe Acrobat Reader does not offer versions for DOS or NetWare systems. Therefore, you can only view or print the Data Protector Express documentation on Windows or X Window (Linux) systems.

To print the documentation, open the appropriate file into Adobe Acrobat Reader. Choose **Page Setup...** from the **File** menu and set the proper options for your printer. If your printer supports it, select the **Larger Print Area** option. Then choose **Print...** from the **File** menu and print the document.

Release Notes

Release notes are included with every service pack. Before installing Data Protector Express, please read and print the release notes for additional information. The release notes are available in both HTML (**readme.htm**) and text (**readme.txt**) formats in the root directory of the CD-ROM.

Online Help

Windows

To view online help while using Data Protector Express, select Contents from the Help menu. The online help is displayed in a pop-up window.

For task-related or context-sensitive help while using Data Protector Express, select a topic in the Dynamic Help list.

Non-Windows

You can view online help from most Data Protector Express screens by pressing **F1**.

Customer Support

Customers under a support contract may receive support by phone or by submitting an email.

Country specific details on both options can be found at welcome.hp.com/country/us/en/wwwcontact.html.

If you require support and your support contract has expired, please contact your HP Partner or sales representative for information on obtaining a new HP Data Protector Express support contract.

Chapter 1. Installation Overview

This section describes what you need to do to install Data Protector Express.

In this section

- *System Requirements*
- *Supported platforms*
- *Before You Install Data Protector Express*
- *Installing Data Protector Express*
- *Installing a service pack*
- *Installing Data Protector Express with the DPM Agent*

System Requirements

Most operating systems list both *minimum* and *recommended* system requirements. As a general rule, if your system meets the *minimum* requirements for the operating system, it will also meet the minimum system requirements for Data Protector Express. However, for better performance, we recommend that your system meet or exceed the *recommended* system requirements.

For example, Windows XP Professional requires a 233 MHz Pentium or Celeron family or AMD-K6, AMD Athlon or AMD Duron family processor, 64MB of RAM and 1.5GB of available hard disk space. But Microsoft recommends a 300 MHz processor and 128MB of RAM.

Depending on your specific requirements, your system should also meet the following:

- 20 GB of hard disk space
The Data Protector Express Catalog requires additional space. When you install Data Protector Express on the machine that will serve as the master server, HP recommends that you select a hard drive other than the default drive. A disk drive with at least an additional 20 GB is recommended.
- VGA display with 1024x768 resolution, for use with Windows or X Window
- Tape backup device for use with Data Protector Express Bare Metal Disaster Recovery
- CD drive for Data Protector Express installation (recommended)
- CD or DVD writer for use with the Data Protector Express Bare Metal Disaster Recovery (recommended)
- Bootable tape backup device for use with Data Protector Express Bare Metal Disaster Recovery (optional)
- If you are running Data Protector Express under Linux, you must install the sg (SCSI generic) module for device support in Data Protector Express.
- If you are using Data Protector Express with DPM, see www.microsoft.com/windowsserversystem/dpm/evaluation/sysreqs.mspx for a list of hardware and software requirements.

Supported platforms

Data Protector Express is supported and has been tested with many different versions of Windows, NetWare, and Linux operating systems. For a current list of supported platforms, visit www.hp.com/go/dataprotectorexpress.

NOTE: We always recommend that you install the latest service packs and updates for your operating system.

Installing a service pack

Data Protector Express is updated regularly. To ensure optimum performance and communication when you update your installation to a newer service pack, install the same service pack on every machine that is part of a Data Protector Express management domain.

Before You Install Data Protector Express

Even though Data Protector Express is easy to install, you must first make some important decisions about how to implement Data Protector Express. Before you install Data Protector Express, resolve the following issues.

Data Protector Express management domain

When you install Data Protector Express, you will define a Data Protector Express management domain. Each Data Protector Express management domain includes one backup server, a computer that contains the Data Protector Express catalog. Each Data Protector Express management domain may also include other computers, including other PC desktops or servers. Since Data Protector Express is scalable, you can easily upgrade your license whenever you need to expand the Data Protector Express management domain.

To define the Data Protector Express management domain, identify:

- The name of the new Data Protector Express management domain (if creating a new Data Protector Express management domain).
- The computer that will be the backup server.
- The PC desktops or servers that will belong to the Data Protector Express management domain.

For more information about creating and managing Data Protector Express management domains, refer to the *User's Guide and Technical Reference*.

HP Data Protector Express Service

The HP Data Protector Express service lets you schedule jobs to run automatically, whether or not an operator is present. When installed, the HP Data Protector Express service automatically loads at system startup. It runs in the background *without the user interface*. At any time, you can start Data Protector Express. Later, when you close Data Protector Express, the HP Data Protector Express service continues to run in the background.

If the system loses power, the HP Data Protector Express service automatically restarts following system restart. Therefore, your backup jobs still run as scheduled.

You must install either Data Protector Express or the HP Data Protector Express service on each computer that will be included in an automatic backup schedule.

NOTE: HP Data Protector Express service is only available as a service on Windows and X Window (as a daemon) (Linux) platforms. The Data Protector Express Agent is available for NetWare systems.

For information on configuring and using the HP Data Protector Express service, refer to the *User's Guide and Technical Reference*.

Data Protector Express License

When fully implemented, Data Protector Express can work with any network configuration of Windows, NetWare and Linux machines with no limit of PC desktops, servers or backup devices. However, depending on the edition or license that you purchased, the number of servers and the network platform in a Data Protector Express management domain may be limited.

If you purchased a single server license, you can set up one backup server in that Data Protector Express management domain. To add access to multiple servers in a single Data Protector Express management domain, you can purchase an upgrade to your license.

If you purchased a license to install on only one network platform, you cannot install on other network platforms. To install on another network platform, you can purchase an upgrade to your license.

To create additional catalogs, you must purchase additional licenses. You can only create one catalog for each license.

A DPM agent license includes a SQL Server license and a VSS license.

If you plan to restore data directly to the protected production server, the server must have a Data Protector Express client license.

Backup Devices

Data Protector Express supports a wide variety of tape devices, optical devices, storage media and libraries on the market today. Because of the device driver design, you can add support for most new devices and libraries by simply adding a few parameters in the Data Protector Express configuration file.

Data Protector Express automatically detects and recognizes any backup devices or libraries attached to your server or PC desktop. If your machine recognizes it as a valid device, then the device automatically appears in the catalog.

If the device does not appear, make sure your machine or network recognizes the device. Refer to the device documentation for more information.

Data Protector Express also supports backups to virtual devices called D2D libraries. For information on setting up a D2D library, refer to the *User's Guide and Technical Reference*.

Installing Data Protector Express

First, install all of your backup devices according to the manufacturer's directions.

Second, install Data Protector Express on the PC desktop or server that will contain the catalog. This creates a Data Protector Express management domain and identifies the directory in which the Data Protector Express catalog has been installed. Data Protector Express uses this information to configure other machines that belong in this Data Protector Express management domain.

For Windows operating systems, refer to *Chapter 2 - Windows Operating Systems*. For NetWare, and Linux operating systems, refer to *Chapter 3 - Non-Windows Operating Systems*.

Third, install Data Protector Express on the other PC desktops or servers in the Data Protector Express management domain. When the Data Protector Express installer displays available servers and Data

Protector Express management domains, select the server or Data Protector Express management domain to join.

NOTE: When you update Data Protector Express by installing a service pack, always install it on every machine included in the Data Protector Express management domain.

If you have any installation problems, refer to *Appendix A – Troubleshooting Guide*. You can also refer to General Installation Notes and the installation notes for your platform in *Chapter 4 - Installation Notes*.

Upgrading Data Protector Express

Before you install Data Protector Express in place of a pre-existing installation of HP software, consider the following:

- You must upgrade to the same version of Data Protector Express on every machine in the Data Protector Express management domain in order to avoid incompatibilities between older and newer versions of the software.
- Decide whether to install in place of a pre-existing HP installation or to install alongside the pre-existing software.

Upgrading to a new version of Data Protector Express will remove the older software and all related data. Make a full backup of your critical data for future use before you upgrade to Data Protector Express. Installing Data Protector Express alongside a pre-existing installation of any previous versions of the Data Protector Express means that you will have two versions of our software running on the machine simultaneously. Conflicts might arise if the old and new versions of the software are both running as a service. Stop any previous versions of the HP Data Protector Express service on the Data Protector Express backup server before you start the installation process.

CAUTION: If you use the **Upgrade** command to convert any previous versions of the Data Protector Express storage management database immediately, any active previous versions of the Data Protector Express database will no longer be available. If you use the **Install** command to install Data Protector Express alongside any previous versions of Data Protector Express, you will not be able to convert the contents of any previous versions of the Data Protector Express database into the newer Data Protector Express catalog. Instead, you must import the contents of media with Import Media jobs.

Migrating data to the Data Protector Express catalog

When you upgrade to Data Protector Express, information in the older database about any file objects that were backed up with any previous versions of the Data Protector Express is converted into records in the Data Protector Express catalog. The types of objects that are converted and appended to the Data Protector Express catalog include word processing files, database instances like Microsoft SQL Server, Microsoft Exchange, and other data files. System state information, settings for backup, restore or verify jobs, and user information is not converted.

You may upgrade an older database to the new catalog in either of the following ways:

- Use the **Upgrade** command from the Data Protector Express installer, which must support the operating system on which the database resides (see *Appendix B, Supported Operating Systems by Product Version*)

- Import media created in Data Protector Express into the new Data Protector Express catalog

Each upgrade choice presents specific advantages. Use the **Upgrade** command to convert the database and you can manage all legacy backups performed in any previous versions of the Data Protector Express immediately. Use Import Media jobs later to include information on media created in any previous versions of the Data Protector Express and you can limit the amount of legacy backup data to be managed in Data Protector Express.

Installing Data Protector Express with the DPM Agent

First, install all of your backup devices according to the manufacturer's directions.

Second, install Data Protector Express on the master server that will contain the catalog. This creates a storage management domain and identifies the directory in which the Data Protector Express catalog has been installed. Data Protector Express uses this information to configure other machines that belong in this storage management domain.

You must upgrade the master server in order to use DPM.

When you install Data Protector Express, you automatically install Data Protector Express options that are supported on the operating system. You can use these options during a 60-day evaluation period. After 60 days, you must purchase a license to continue using an optional feature.

Third, install Data Protector Express on the other PC desktops or servers in the storage management domain. When the Data Protector Express installer displays available servers and storage domains, select the server or storage domain to join.

NOTE: When you update Data Protector Express by installing a service pack, always install it on every machine included in the storage management domain.

Chapter 2. Windows Operating Systems

Data Protector Express supports many versions of Windows. (Visit www.hp.com/go/dataprotectorexpress for a current list of supported operating systems). A graphical user interface makes it easy to install and administer Data Protector Express.

In this section

- *Data Protector Express Installation Manager Overview*
- *Launch Data Protector Express Installation Manager*
- *Using Data Protector Express Installation Manager*

Data Protector Express Installation Manager Overview

The Data Protector Express Installation Manager lets you easily install or remove Data Protector Express from the console prompt. Specifically, it:

- Guides you step-by-step through the installation process
- Offers online help
- Automatically detects active backup servers
- Puts all of its files in one directory, unlike other software
- Requires no manual configuration
- Lets you perform a custom installation
- Upgrades Data Protector Express and Data Protector Express options automatically
- Lets you update your license key codes

First, launch the Data Protector Express Installation Manager from the Data Protector Express CD-ROM (see *Launch Data Protector Express Installation Manager*).

Second, use it to install or remove Data Protector Express (see *Using Data Protector Express Installation Manager*).

Launch Data Protector Express Installation Manager

NOTE: If Data Protector Express is running, you must close it before continuing.

To launch the Data Protector Express Installation Manager

1. Insert the Data Protector Express CD-ROM in your CD drive. The Data Protector Express Installation Manager launches automatically.
2. If the Installation Manager does not launch automatically, access the root directory on the Data Protector Express CD-ROM and double-click **setup.exe**.

When the Data Protector Express **Installation Manager** screen appears, you can perform a number of installation tasks (see *Using Data Protector Express Installation Manager*).

To display the Installation Manager screens, options and messages in a different language, select the appropriate language under the **Languages** task bar.

To display an online help topic, click a link in the **Dynamic help** task bar.

Using Data Protector Express Installation Manager

When the Data Protector Express **Installation Manager** screen appears, select one of the following options (refer to the corresponding section):

- *Install Data Protector Express*
- *Upgrade Data Protector Express*
- *Remove Data Protector Express*

When you are finished using the Installation Manager, click **Exit**. The **Data Protector Express Installation** screen closes.

To start and run the Data Protector Express Administrator, refer to the *User's Guide and Technical Reference*.

Install Data Protector Express

Use this option to install Data Protector Express for the first time or to reinstall Data Protector Express. The Data Protector Express installer guides you through each step of the installation process. In general, you should accept the installer's suggested directory locations.

Before you continue, you must identify the role of this computer:

- Administer an existing Data Protector Express management domain on a different computer (see *Connect to an Existing Data Protector Express management domain* below).
- Create a new Data Protector Express management domain on this computer to be a backup server (see *Create a New Data Protector Express management domain*)

Connect to an Existing Data Protector Express management domain

1. Access the Data Protector Express Installation Manager screen (see *Launch Data Protector Express Installation Manager*).
2. Under the **Languages** task bar, select the appropriate language to install.
3. Click **Install** Data Protector Express. The **Destination Location** screen appears.

If the Installation Manager detects an older version of Data Protector Express on your system, you can update Data Protector Express to a new service pack or version using your existing settings.

- a. Click **OK** in the **Already Installed** message.
- b. Click **Cancel** to return to the Thank You screen.
- c. Click the **Upgrade** command. (See *Upgrade Data Protector Express*).

Otherwise, the **Thank You** screen appears.

NOTE: At any point in this process, you can click **Cancel** to return to the **Data Protector Express Installation** screen.

3. Under the **Languages** task bar, select the appropriate language to install and click **Next**. The **Destination Location** screen appears.
4. The default location is C:\Program Files\HP\Data Protector Express. To install Data Protector Express to a different directory, click **Browse**. When the **Choose Directory** screen appears, locate the directory and click **OK**.

It is recommended that you install Data Protector Express in a directory other than the root directory.

5. Click **Next**. The **License Agreement** screen appears.
6. After you accept the Data Protector Express license agreement, click **Next**. The **Select Install Option** screen appears.
7. Select the **Custom** or **Standard** installation option and click **Next**.

In a standard installation, the following options are automatically installed:

- Data Protector Express
- The HP Data Protector Express service
- A shortcut to launch Data Protector Express from your desktop

In a custom installation, you can deselect the above options or select the following options:

- **Disable remote access:** Installs Data Protector Express without remote access support. Other machines cannot perform remote administration and remote backups on this machine.
 - **Remote administration only:** Installs Data Protector Express on the local machine, but does not add the node to the database. This setup allows for only remote administration. Devices, disks, etc. cannot be backed up.
8. The **Create or Join Data Protector Express management domain** screen appears.
 9. Select **Join an existing domain** and click **Next**.

NOTE: If you connect to an existing domain, Data Protector Express uses the key code from the existing catalog. If you are installing Data Protector Express on the domain server, select **Create a new Data Protector Express domain**.

10. Enter the hostname or IP address for the Data Protector Express domain server machine and click **Next**.
11. Once Data Protector Express has enough information, you can begin the installation.
 - Click **Yes** to install Data Protector Express. The Installation Manager copies Data Protector Express to the installation directory.
 - Click **No** to cancel installation. The Data Protector Express **Installation Manager** screen appears.
12. When the installation complete message appears:
 - Click **Yes** to start Data Protector Express.
 - Click **No** to return to the **Data Protector Express Installation** screen.
 - Click **Exit** to quit the installation process.

When you start Data Protector Express, it has no password for the Admin user, which has access to all data inside the Data Protector Express management domain. To set a password for the Admin user:

1. Log onto Data Protector Express as the Admin user.
2. Select **View → Administration → Security**.
3. Click the Admin icon.

4. Click **Change Password**.
5. Enter the old, new, and verify passwords.
6. Click **OK**.

Create a New Data Protector Express management domain

1. Access the Data Protector Express Installation Manager screen (see *Launch Data Protector Express Installation Manager*). The **Thank You** screen appears.
2. Under the **Languages** task bar, select the appropriate language to install.
3. Click **Install** Data Protector Express. The **Destination Location** screen appears.

If the Installation Manager detects an older version of Data Protector Express on your system, you can update Data Protector Express to a new service pack or version using your existing settings.

- a. Click **OK** in the **Already Installed** message.
- b. Click **Cancel** to return to the Thank You screen.
- c. Click the **Upgrade** command. (See *Upgrade Data Protector Express*)

Otherwise, the **Thank You** screen appears.

4. The default location is C:\Program Files\HP\Data Protector Express. To install Data Protector Express to a different directory, click **Browse**. When the **Choose Directory** screen appears, locate the directory and click **OK**.

It is recommended that you install Data Protector Express in a directory other than the root directory.

5. Click **Next**. The **License Agreement** screen appears.
6. After you accept the Data Protector Express license agreement, click **Next**. The **Select Install Option** screen appears.
7. Select the **Custom** or **Standard** installation option and click **Next**.

In a standard installation, the following options are automatically installed:

- Data Protector Express
- The HP Data Protector Express service
- A shortcut to launch Data Protector Express from your desktop

In a custom installation, you can deselect the above options or select the following options:

- **Disable remote access:** Installs Data Protector Express without remote access support. Other machines cannot perform remote administration and remote backups on this machine.
- **Remote administration only:** Installs Data Protector Express on the local machine, but does not add the node to the database. This setup allows for only remote administration. Devices, disks, etc. cannot be backed up.

8. The **Create or Join Data Protector Express management domain** screen appears.
9. Select **Create a new domain** and click **Next**.
10. When the **Create New Data Protector Express management domain** screen appears, enter the **Data Protector Express management domain name** of the new Data Protector Express management domain and click **Next**.
11. When the **Licenses** screen appears, select the appropriate option.

- Choose **No, I want to use an evaluation key** if you intend to install the software for a 60-day evaluation period.
 - Choose **Yes, I have a valid license key** if you have already purchased a license. Enter the license key.
12. When the confirmation message appears, confirm the installation:
 - Select **Yes** and click **Next** to install Data Protector Express. The Installation Manager copies Data Protector Express to the installation directory.
 - Select **No** to cancel installation. The **Data Protector Express Installation** screen appears.
 13. When the installation complete message appears:
 - Click **Yes** to start Data Protector Express.
 - Click **No** to return to the **Data Protector Express Installation** screen.
 - Click **Exit** to quit the installation process.

When you start Data Protector Express, it has no password for the Admin user, which has access to all data inside the Data Protector Express management domain. To set a password for the Admin user:

1. Log onto Data Protector Express as the Admin user.
2. Select **View → Administration → Security**.
3. Click the Admin icon.
4. Click **Change Password**.
5. Enter the old, new, and verify passwords.
6. Click **OK**.

Upgrade Data Protector Express

NOTE: You do not have to uninstall Data Protector Express before upgrading to a newer version.

Select this option to upgrade Data Protector Express, all installed Data Protector Express options and the catalog.

Access the Data Protector Express Installation Manager screen (see *Launch Data Protector Express Installation Manager*).

1. Select the language that you have already installed on your machine.
2. Click **Upgrade**. The **Warning** screen appears.
3. Review the warning before you proceed. This screen displays the current installation directory. If this is correct, click **Next** to proceed with the upgrade.

TIP: To cancel the upgrade process, click **Back** until you return to the first screen of the Installation Manager. Then use the Install command to install Data Protector Express in a different directory.

4. Select the **Custom** or **Standard** installation option and click **Next**.

In a standard installation, the following options are automatically installed:

- Data Protector Express
- The HP Data Protector Express service
- A shortcut to launch Data Protector Express from your desktop

In a custom installation, you can deselect the above options or select the following options:

- **Disable remote access:** Installs Data Protector Express without remote access support. Other machines cannot perform remote administration and remote backups on this machine.
 - **Remote administration only:** Installs Data Protector Express on the local machine, but does not add the node to the database. This setup allows for only remote administration. Devices, disks, etc. cannot be backed up.
5. When the **Create Data Protector Express management domain** screen appears, enter the **Data Protector Express management domain name** of the new Data Protector Express management domain or existing domain (if not already displayed) and click **Next**.
 6. When the **Licenses** screen appears, select the appropriate option.
 - Choose **No, I want to use an evaluation key** if you intend to install the software for a 60-day evaluation period.
 - Choose **Yes, I have a valid license key** if you have already purchased a license. Enter the license key.
 7. When the confirmation message appears, confirm the installation:
 - Select **Yes** and click **Next** to install Data Protector Express. The Installation Manager copies Data Protector Express to the installation directory.
 - Select **No** to cancel installation. The **Data Protector Express Installation** screen appears.
 8. When the installation complete message appears:
 - Click **Yes** to start Data Protector Express.
 - Click **No** to return to the **Data Protector Express Installation** screen.
 9. Click **Exit** to quit the installation process.

Remove Data Protector Express

NOTE: You do not have to uninstall Data Protector Express before upgrading to a newer version.

Select this option to uninstall Data Protector Express, all installed Data Protector Express options and the catalog.

1. To remove Data Protector Express, access the Data Protector Express Installation Manager screen (see *Launch Data Protector Express Installation Manager*).
2. Click **Remove** Data Protector Express. The **Installation Location** screen appears.

NOTE: At any point in this process, you can click **Cancel** to return to the **Data Protector Express Installation** screen.

3. The default location is c:\Program Files\HP\Data Protector Express. To remove Data Protector Express from a different directory, click **Browse**. When the Select Target Location screen appears, locate the directory and click **OK**.
4. Select the packages to remove:
 - The backup catalog
 - The D2D device and storage pools
5. Click **Next**.
6. When the remove Data Protector Express confirmation screen appears, confirm removal:
 - Click **Yes** to remove Data Protector Express. The Installation Manager erases all Data Protector Express files from the installation directory.
 - Click **No** to cancel removal. The Data Protector Express **Installation Manager** screen appears.

7. When the removal complete message screen appears, click **OK**.
8. Click **Exit**.
The **Data Protector Express** Installation screen closes.
9. Reboot your workstation.

Chapter 3. Non-Windows Operating Systems

Data Protector Express supports many versions of NetWare and Linux (refer to *Chapter 1 – Installation Overview* for a list of supported operating systems). It uses a common text interface to make it easier to administer Data Protector Express on different platforms. While the installer for these platforms uses a text interface, the Linux versions can also operate from the graphical user interface under X Window. For a current list of supported platforms, visit www.hp.com/go/dataprotectorexpress.

In this section

- *Data Protector Express Installer Overview*
- *Launch Data Protector Express Installer*
- *Using Data Protector Express Installer*

Data Protector Express Installer Overview

The Data Protector Express installer lets you easily install or remove Data Protector Express and any Data Protector Express options from the console prompt. Specifically, it:

- Guides you step-by-step through the installation process.
- Offers online help.
- Automatically detects an active management domain.
- Puts all of its files in one directory, unlike other software.
- Requires no manual configuration.
- Upgrades Data Protector Express and Data Protector Express options automatically.
- Lets you update your license key codes.

First, launch the Data Protector Express installer from the Data Protector Express CD-ROM (see *Launch Data Protector Express Installer*).

Second, use it to install or remove Data Protector Express and any Data Protector Express options (see *Using Data Protector Express Installer*).

Launch Data Protector Express Installer

NetWare Launch

NOTE: Be sure a CD drive is attached to your NetWare Server before using the following installation instructions. If a CD drive is not attached, you must either access the Data Protector Express CD-ROM over the network or copy the CD directory to your local hard drive.

You must have administrator rights in NetWare Directory Services (NDS) to install Data Protector Express. After installation, when you log in to Data Protector Express for the first time, you must log in to

NDS with the NDS administrator user name and password. For more information, refer to *Running Data Protector Express for NetWare for the First Time*.

1. Insert the Data Protector Express CD-ROM.
2. If the CD drive does not load automatically, type **load cdrom** at the console prompt and press **Enter**. Wait a moment for NetWare to mount the CD-ROM.
3. Load `install.nlm` in the root of the installation CD and press **Enter** to run the installation program. The main installation screen appears (see *Using Data Protector Express Installer* below).

Linux Launch

You must have root access to install Data Protector Express because it installs itself as a service (or daemon).

Be sure a CD drive is attached to your Linux machine before using the following installation instructions. If a CD drive is not attached to the machine, you must copy the CD to your local hard drive.

Run all installation commands from a terminal window. Do NOT open the installation program directly from an X Window desktop.

1. Insert the Data Protector Express CD-ROM.
2. If auto-mount is not enabled on your system, you must mount the CD-ROM yourself. Refer to the following example for some Linux systems:
 - a. Access a terminal window.
 - b. Type `mount /dev/cdrom /mnt/cdrom` and press **Enter**.
 - c. Wait a moment for Linux to mount the CD-ROM.
3. Access the root directory on the CD-ROM. For example, on some Linux systems, type `cd /mnt/cdrom` and press **Enter** to access the root directory on the installation CD-ROM.

NOTE: If Data Protector Express is running, you must close it before continuing.

4. To run the installation program, type `./install` as the root user and press **Enter**.

The installation program detects the environment that you are running. If you run `./install` from inside of an X Windows desktop, the installation program launches the gui installer. If you run `./install` from outside of an X Windows desktop, the installation program launches the cui installer.

The main installation screen appears (see *Using Data Protector Express Installer* below).

Using Data Protector Express Installer

When the installation main screen appears, select one of the following options (refer to the corresponding section below):

- *Install Data Protector Express*
- *Upgrade Data Protector Express*
- *Remove Data Protector Express*

NOTE: Once launched, the Data Protector Express Installer runs the same under NetWare and Linux.

When you are finished using the Data Protector Express character-based installer, press **Esc**. Then select **Yes** and press **Enter** when the exit confirmation screen appears. As soon as the console prompt appears, remove and store the Data Protector Express CD-ROM.

NOTE: On some platforms, you must unmount the CD drive to remove the Data Protector Express CD-ROM.

To start the Data Protector Express Administrator, refer to the *User's Guide and Technical Reference*.

Install Data Protector Express

Use this option to install Data Protector Express for the first time or to reinstall Data Protector Express. The Data Protector Express installer guides you through each step of the installation process. In general, you should accept the installer's suggested directory locations.

Before you continue, you must identify the role of this computer:

- Administer an existing Data Protector Express management domain on a different computer (see *Connect to an Existing Data Protector Express management domain* below).
- Create a new Data Protector Express management domain on this computer to be a backup server (see *Create a New Data Protector Express management domain*).

Connect to an Existing Data Protector Express management domain

1. Start the Data Protector Express installer (see *Launch Data Protector Express Installer*).
2. Select a language then select **Install** and press **Enter**. The Install To screen appears.

NOTE: At any point in this process, you can press **Esc** to back up to a previous screen.

3. Enter the name of the installation directory and press **Enter**. The default is:

- SYS:\HP\DPX (NetWare)
- /usr/local/hp/dpx (Linux)

It is recommended that you install Data Protector Express in a directory other than the root directory.

4. Review and accept the license agreement, then select **Next** to continue to the next screen.
5. Choose the installation type then select **Next** to continue to the next screen.

In a standard installation, the following options are automatically installed:

- Data Protector Express
- The HP Data Protector Express service
- A shortcut to launch Data Protector Express from your desktop

In a custom installation, you can deselect the above options or select the following options:

- **Disable remote access:** Installs Data Protector Express without remote access support. Other machines cannot perform remote administration and remote backups on this machine.
 - **Remote administration only:** Installs Data Protector Express on the local machine, but does not add the node to the database. This setup allows for only remote administration. Devices, disks, etc. cannot be backed up.
6. When the **Data Protector Express management domain** screen appears, select **Join an existing domain** and press **Enter**.

NOTE: If you connect to an existing backup server, Data Protector Express uses the key code from the existing catalog.

7. Enter the host name or IP address of the Data Protector Express management domain and press **Next**.
The host address takes the a.b.c.d form, such as 192.168.0.49.
The address varies according to your system.

The host name resolves to a host address using the DNS or a file on your local machine, depending on your system configuration

SYS:\ETC\hosts for NetWare, /etc/hosts for Linux.
8. When the Licenses screen appears, select the appropriate option.
 - Choose **No, I want to use an evaluation key** if you intend to install the software for a 60-day evaluation period.
 - Choose **Yes, I have a valid license key** if you have already purchased a license. Enter your license when prompted for it.
9. When the Install Data Protector Express... screen appears, confirm installation:
 - Select **Yes** to install Data Protector Express. The installation program copies Data Protector Express to the installation directory.
 - Select **No** to cancel installation. The previous screen appears. Press **Esc** repeatedly until the Installation Options screen appears.
10. When the installation complete message appears:
 - Click **Yes** to start Data Protector Express.
 - Click **No** to return to the **Data Protector Express Installation** screen.
 - Click **Exit** to quit the installation process.

NOTE: When you install Data Protector Express, you automatically install Data Protector Express options that are supported on the operating system. You can use these options during a 60-day evaluation period. Before the end of these 60 days, you must purchase a license to continue using an optional feature.

When you start Data Protector Express, it has no password for the Admin user, which has access to all data inside the Data Protector Express management domain. To set a password for the Admin user:

1. Log onto Data Protector Express as the Admin user.
2. Select **View → Administration → Security**.
3. Click the **Admin** icon.
4. Click **Change Password**.
5. Enter the old, new, and verify passwords.
6. Click **OK**.

Create a New Data Protector Express management domain

1. Start the Data Protector Express installer (see *Launch Data Protector Express Installer*).
2. Select a language then select Install and press **Enter**. The Install To screen appears.

NOTE: At any point in this process, you can press **Esc** to back up to a previous screen.

3. Enter the name of the installation directory and press **Enter**. The default is:

- SYS:\HP\DPX (NetWare)
- /usr/local/hp/dpx (Linux)

It is recommended that you install Data Protector Express in a directory other than the root directory.

4. Review and accept the license agreement, then select **Next** to continue to the next screen.

5. Choose the installation type then select **Next** to continue to the next screen.

In a standard installation, the following options are automatically installed:

- Data Protector Express
- The HP Data Protector Express service
- A shortcut to launch Data Protector Express from your desktop

In a custom installation, you can deselect the above options or select the following options:

- **Disable remote access:** Installs Data Protector Express without remote access support. Other machines cannot perform remote administration and remote backups on this machine.
- **Remote administration only:** Installs Data Protector Express on the local machine, but does not add the node to the database. This setup allows for only remote administration. Devices, disks, etc. cannot be backed up.

6. When the **Data Protector Express management domain** screen appears, select **Create a new Data Protector Express management domain** and press **Next**.

7. Enter the **Data Protector Express management domain name** of the new backup server and click **Next**.

8. When the Licenses screen appears, select the appropriate option.

- Choose **No, I want to use an evaluation key** if you intend to install the software for a 60-day evaluation period.
- Choose **Yes, I have a valid license key** if you have already purchased a license..

9. When the installation complete message appears:

- Click **Yes** to start Data Protector Express.
- Click **No** to return to the **Data Protector Express Installation** screen.
- Click **Exit** to quit the installation process.

When you start Data Protector Express, it has no password for the Admin user, which has access to all data inside the Data Protector Express management domain. To set a password for the Admin user:

1. Log onto Data Protector Express as the Admin user.

2. Select **View → Administration → Security**.

3. Click the **Admin** icon.

4. Click **Change Password**.

5. Enter the old, new, and verify passwords.

6. Click **OK**.

Upgrade Data Protector Express

NOTE: You do not have to uninstall Data Protector Express before upgrading to a newer version.

Select this option to upgrade Data Protector Express, all installed Data Protector Express options and the catalog.

1. Access the Data Protector Express Installation Manager screen (see *Launch Data Protector Express Installer*).
2. Select the language that you have already installed on your machine.
3. Click **Upgrade**. The **Warning** screen appears.
4. Review the warning before you proceed. This screen displays the current installation directory. If this is correct, click **Next** to proceed with the upgrade.

TIP: To cancel the upgrade process, click **Back** until you return to the first screen of the Installation Manager. Then use the Install command to install Data Protector Express in a different directory.

5. Select the **Custom** or **Standard** installation option and click **Next**.

In a standard installation, the following options are automatically installed:

- Data Protector Express
- The HP Data Protector Express service
- A shortcut to launch Data Protector Express from your desktop

In a custom installation, you can deselect the above options or select the following options:

- **Disable remote access:** Installs Data Protector Express without remote access support. Other machines cannot perform remote administration and remote backups on this machine.
 - **Remote administration only:** Installs Data Protector Express on the local machine, but does not add the node to the database. This setup allows for only remote administration. Devices, disks, etc. cannot be backed up.
6. When the **Create Data Protector Express management domain** screen appears, enter the **Data Protector Express management domain name** of the new Data Protector Express management domain or existing domain (if not already displayed) and click **Next**.
 7. When the **Licenses** screen appears, select the appropriate option.
 - Choose **No, I want to use an evaluation key** if you intend to install the software for a 60-day evaluation period.
 - Choose **Yes, I have a valid license key** if you have already purchased a license. Enter the license key.
 8. When the confirmation message appears, confirm the installation:
 - Select **Yes** and click **Next** to install Data Protector Express. The Installation Manager copies Data Protector Express to the installation directory.
 - Select **No** to cancel installation. The **Data Protector Express Installation** screen appears.
 9. When the installation complete message appears:
 - Click **Yes** to start Data Protector Express.
 - Click **No** to return to the **Data Protector Express Installation** screen.
 10. Click **Exit** to quit the installation process.

Remove Data Protector Express

Select this option to remove Data Protector Express, all installed Data Protector Express options and the catalog.

NOTE: You do not have to remove Data Protector Express before upgrading to a newer version.

To remove Data Protector Express

1. Start the Data Protector Express installer (see *Launch Data Protector Express Installer*).
2. Select Remove Data Protector Express and press **Enter**. The Data Protector Express Installation Directory screen appears.

NOTE: At any point in this process, you can press **Esc** to back up to a previous screen.

3. Enter the name of the installation directory and press **Enter**. The default is:
 - SYS:\HP\DPX (NetWare)
 - /usr/local/hp/dpx (Linux)
4. Select the packages to remove
 - The backup catalog
 - The D2D device and storage pools
5. When the **Remove Data Protector Express...** screen appears, confirm the removal:
 - Select **Yes** and press **Enter** to remove Data Protector Express. The installation program erases all Data Protector Express files from the installation directory.
 - Select **No** and press **Enter** to cancel removal. The previous screen appears. Press **Esc** repeatedly until the **Installation Options** screen appears.
6. When the removal complete message screen appears, press **Enter**. The command prompt appears.

Licenses

Data Protector Express uses a system of key codes that represent your license to use all Data Protector Express features as well as its options. When you purchase and install Data Protector Express key codes, you can use Data Protector Express and all licensed options. When you install Data Protector Express as an evaluation, all optional features are installed that are supported on the current operating system. You can use these features during a 60-day evaluation period. Before the end of the 60 days, you must purchase a license in order to continue using them.

When you enter a license key, the applicable features or options are changed from evaluation to permanent licenses. The opposite happens if a license is deleted and the 60 days have not yet passed.

For reference, each license key has a type and serial number, which is assigned to your order. You can see all attributes of a license key in the License Window (see below).

To enter a new key code

1. Start Data Protector Express.
2. To go to the License window:
 - a. In the gui, select the **Help → Licenses** menu item.
 - b. In the cui, select Administration → Catalog → Licenses.
3. Select the command **New...** to add a new license.

A new license object is created, which is listed as a new item in the License window.
4. To see a summary of all installed licenses:

- a. Deselect any licenses and select the **Properties** command to open the Properties of Licenses window.
- b. Select the **Status** command to see a list.

Chapter 4. Installation Notes

In this section

- *General Installation Notes*
- *Linux Installation Notes*

General Installation Notes

Device Buffer Sizes

To maintain optimal performance, Data Protector Express sets a default buffer size that is allocated evenly between each device attached to your computer. For example, if two devices are attached to your computer, the buffer size is 32MB and the available free memory is 32MB or more, Data Protector Express allocates 16MB to each device.

The default (recommended) device buffer size is 25% of physical memory. If this amount is 32MB or more, Data Protector Express sets the buffer size to 32MB. If the 25% is not exactly equal to 16MB, 8MB, 4MB, 2MB or 1MB, Data Protector Express sets the buffer size to the next lower setting.

For example, if 96MB is installed, 25% is 24MB. As a result, Data Protector Express sets the buffer size to the next lowest setting (16MB).

Setting this value higher can enhance performance, especially if more than two devices are attached to your system. Data Protector Express can buffer more data in memory by reading larger amounts of data from the disk at a time. However, do not set the buffer size to exceed available system memory or your performance will decrease due to excessive disk operations.

To change the device buffer size

1. Start Data Protector Express and open the Device view.
2. Select the device whose buffer size you want to change.
3. Open the **Configuration** property page and select a new buffer size in the I/O buffer size field.
Buffer sizes can be set between 512 KB and 256 MB.
4. You can also change the default block size.
Block sizes can be set between 512 bytes and 64 KB.
5. Click **Apply** or **OK** to save your changes.

Multiple SCSI Buses with Libraries

If your library and its devices are connected to different SCSI buses, the device driver may become confused as to which device is contained within the library. If the library and its devices use either the

SCSI-2 serial number or the new SCSI-3 identifier protocol, all devices will be correctly identified. However, if the library supports neither the SCSI-2 serial number nor the SCSI-3 identifier protocol, you must connect the library and its devices to the same SCSI bus. You can also configure the drivers manually as follows:

1. Log in to Data Protector Express.
2. From the **Device** view, select the library.
3. Open the **Configuration** property page.
4. Update device information as required.
5. To enable or disable a device driver, select the **Driver Control** page for the library.
6. Save your changes.
7. Restart Data Protector Express.
8. Access the **Device** page again to verify the name of the library and its devices.

NetWare Installation Notes

Running Data Protector Express for NetWare for the First Time

When you run Data Protector Express the first time after installing Data Protector Express on a NetWare Server, NetWare asks you to enter the NetWare Directory Services (NDS) login user name and password for the administrator. You must enter this password before you can log in to Data Protector Express.

The default NDS information provided by Data Protector Express may not be correct for your NDS installation. If the NDS login displays something like:

```
cn=admin.ou=organizationalunit.o=organization
```

Try changing the path to:

```
cn=admin.o=organization
```

After you successfully log on to NDS, the normal Data Protector Express display login screen appears.

NOTE: You are only asked to enter the NDS login password once. After you enter the password, the normal Data Protector Express login screen always appears.

Users with Adaptec Controllers Must Install the Latest Drivers

Some NetWare users with Adaptec controllers may be using outdated drivers, which will affect Data Protector Express operation. Therefore, if you have an Adaptec controller, please update your drivers before installing Data Protector Express.

Enabling LUN Support

CAUTION: The command and procedures to enable LUN support on SCSI adapters vary. Always consult the manufacturer's documentation for the correct command for your device. The following steps serve as a guide to illustrate the process.

1. Locate the HAM driver for your device in the `STARTUP.NCF` file. For example, the following line appears for an Adaptec 29160 SCSI card:

```
load ADPT160M.HAM
```

2. Add a driver switch to the driver command line in the startup.ncf file. Depending on your driver version, add one of the following driver switches:
 - `load ADPT160M.HAM SLOT=<XX> LUN_ENABLE=FF`
 - `load ADPT160M.HAM SLOT=<XX> /LUN`

Consult your manufacturer's documentation for the correct statement.
3. Restart the NetWare server and load Data Protector Express.
4. Access the **Device** view to verify that the device appears

Linux Installation Notes

Copying the Data Protector Express Installer to a Local Disk

If you copied the installation files from the Data Protector Express CD-ROM and the installation failed, you must change the executable attribute on the files.

NOTE: In the following sections, `<install_dir>` represents the directory where you copied the installation files.

1. Enter the following from the command prompt:

```
cd <install_dir>
chmod -R 755 *
```

2. Then try the install again.

Graphical User Interface

The graphical user interface of Data Protector Express has the look and feel of the KDE desktop. However, it does not require that you install KDE or GNOME. You can run Data Protector Express from any window manager.

Data Protector Express Icon for the X Window Desktop

Many users choose to put a Data Protector Express icon on the desktop so they can start Data Protector Express with a single click. To do so, select a custom installation and select Create Backup Desktop Shortcut.

SCSI Libraries may not be detected

By default, most Linux kernels do not enable LUN support. To support libraries, you must enable LUN support and recompile your Linux kernel. Once enabled, you must update the configuration file to force the kernel to scan multiple LUNs.

To update the configuration file and verify the configuration (LILO)

1. Add the following line to the end of *each* boot selection section in the `/etc/lilo.conf` file:

```
append="max_scsi_luns=2"
```

NOTE: Set `max_scsi_luns` to the value required by your library. In most cases, this value is 2.

2. Update your system configuration, using the following command:


```
lilo
```
3. Save the file and reboot your system.
4. Verify that the change has been implemented, using the following command:


```
cat /proc/cmdline
```
5. If `max_scsi_luns=2` does not appear, you did not update the configuration file correctly. Start over with step 1 above.
6. Verify that your system detects the library, using the following command:


```
cat /proc/scsi/scsi
```

To update the configuration file and verify the configuration (GRUB)

1. Locate the `grub.conf` file. This file may also be called `menu.lst`. Possible locations include `/boot/grub` and `/etc`.
2. Add the following text to the end of each kernel image line in the `grub.conf` file:


```
max_scsi_luns=2
```

 Each kernel image line will read similar to the following:


```
kernel /vmlinuz-2.2.6-2 ro root=/dev/hda3 max_scsi_luns=2
```
3. Save the file and reboot your system.
4. Verify that the change has been implemented, using the following command:


```
cat /proc/cmdline
```
5. If `max_scsi_luns=2` does not appear, you did not update the configuration file correctly. Start over with step 1 above.
6. Verify that your system detects the library, using the following command:


```
cat /proc/scsi/scsi
```

IDE/ATAPI Support

Data Protector Express supports the use of IDE/ATAPI tape devices. If your Linux distribution compiled the `ide-tape.o` module into the kernel, update the configuration file and verify the configuration to access these devices.

NOTE: When Data Protector Express runs, it loads the `ide-scsi` module. This may cause the `ide-cdrom` module to fail to load, which may affect CD operation. To work around this problem, mount the CD as a SCSI device, even though it is an IDE device.

To update the configuration file and verify the configuration (LILO)

1. Add the following line to the end of each boot selection section in the `/etc/lilo.conf` file:


```
Master on primary IDE    append="hda=ide-scsi"
Slave on primary IDE     append="hdb=ide-scsi"
Master on secondary IDE  append="hdc=ide-scsi"
Slave on secondary IDE   append="hdd=ide-scsi"
```
2. Update your system configuration, using the following command:

```
lilo
```

3. Save the file and reboot your system.
4. Verify that the change has been implemented, using the following command:

```
cat /proc/cmdline
```
5. If `hda=ide-scsi` (or similar) does not appear, you did not update the configuration file correctly. Start over with step 1 above.
6. Verify that your system detects the tape device, using the following command:

```
cat /proc/scsi/scsi
```

To update the configuration file and verify the configuration (GRUB)

1. Locate the `grub.conf` file. This file may also be called `menu.lst`. Possible locations include `/boot/grub` and `/etc`.
2. Add the appropriate text from the following to the end of *each* kernel image line in the `grub.conf` file:

```
Master on primary IDE    hda=ide-scsi
Slave on primary IDE     hdb=ide-scsi
Master on secondary IDE  hdc=ide-scsi
Slave on secondary IDE   hdd=ide-scsi
```

Each kernel image line will read similar to the following:

```
kernel /vmlinuz-2.2.6-2 ro root=/dev/hda3 hda=ide-scsi
```

3. Save the file and reboot your system.
4. Verify that the change has been implemented, using the following command:

```
cat /proc/cmdline
```
5. If `hda=ide-scsi` (or similar) does not appear, you did not update the configuration file correctly. Start over with step 1 above.
6. Verify that your system detects the tape device, using the following command:

```
cat /proc/scsi/scsi
```

Libraries missing from Linux distribution

Problem: I cannot launch the X Window version of Data Protector Express. It gives me the following message:

```
error while loading shared libraries libstdc++.so.5
```

Cause: Either the `libstdc++` library is missing from your version of Linux distribution or the wrong version of the library is installed.

Solution: Install the missing library.

1. Identify the required version of the library:
 - a. Navigate to the Data Protector Express directory in a terminal window. The default directory is `/usr/local/hp/dpx`.
 - b. Type **ldd dpadmin.bin** from the command prompt and press **Enter**. A list of libraries required for Data Protector Express appears.

The name of the missing `libstdc++` library will be similar to `libstdc++.so.5`.

2. Contact your Linux distributor for the missing library.

NOTE: If you are using RedHat Linux EL 4, you can use an RPM package called "compat-libstdc++.rpm" to install the necessary library.

3. Install the library according to the documentation provided by your distributor.
4. Try to launch the X Window version of Data Protector Express. It should work properly.

Recognizing LUNs

Some Linux systems do not immediately recognize all LUNs for a library.

To verify that all LUNs are recognized

1. Enter the following command

```
cat /proc/scsi/scsi
```
2. If a LUN does not appear, force the system to recognize it with the following command:

```
echo "scsi add-single-device w x y z" > /proc/scsi/scsi
```

Where the parameters are as follows:

 - w is the host adapter ID where the first adapter is zero (0)
 - x is the SCSI channel of the host adapter, where the first channel is zero (0)
 - y is the SCSI ID of the device
 - z is the LUN number of the missing LUN, where the first LUN is zero (0)
3. Once the device has been detected properly, stop and restart Data Protector Express and the HP Data Protector Express service if it is running.

Appendix A - Troubleshooting Guide

Troubleshooting Installation

I selected 'Join existing Data Protector Express management domain' during installation, but the domain is not displayed in the product.

First, make sure the designated backup server is running. Also, make sure that the necessary networking software is installed and operating properly. You can verify this by using the **Catalog** view. Open the **Network** folder on that page and select the machine you intended to be the Data Protector Express management domain. If that machine has been configured for network operation, you will see a driver named **Xpt-...** in the detail area of the page (on the right side). If you don't see that driver, you must reinstall Data Protector Express on the backup server in order to add networking support.

Second, if you are running TCP/IP, Data Protector Express will only display servers on your local subnet. If you are not on the same subnet as the backup server, you must specifically add the backup server's host address or host name during installation.

When I try to log on to NDS, Data Protector Express keeps asking for the password.

When you run Data Protector Express the first time after installing Data Protector Express on a NetWare Server, NetWare asks you to enter the NetWare Directory Services (NDS) login password for the administrator. Refer to *Running Data Protector Express for NetWare for the First Time* for details.

I can't log on to Data Protector Express.

If this is a new Data Protector Express installation, try to log on as the ADMIN user, which is automatically created during installation. Initially, there is no password for the ADMIN user.

If the message **Error 25 — Service not available** appears, you may not have installed Data Protector Express correctly. Data Protector Express requires a Data Protector Express management domain to be active in order for you to log on. During installation, make sure you select **Create a new Data Protector Express management domain** on one of the machines you are installing. Then start Data Protector Express on that machine before installing it on other machines.

I am using TCP/IP, but it cannot see other servers

.Under some conditions, the TCP/IP driver will not be able to display other Data Protector Express management domains on the TCP/IP network. Make sure you entered a valid TCP/IP default gateway, or specify the server address in the Data Protector Express host address dialog box during installation.

Troubleshooting Backup Devices

I can't see my tape drive on the Device property page.

Data Protector Express automatically recognizes any backup device attached to your server or PC desktop. If the device does not appear, first try the following:

All devices and platforms

Use the manufacturer instructions to verify that you installed the device correctly.

- Refer to *General Installation Notes* for information about some platform-specific issues.

SCSI devices

- Make sure the most current SCSI drivers are installed.
- Make sure there are no SCSI ID conflicts.
- On Linux systems, remove and reload the SCSI drivers.

IDE devices

1. Make sure the hardware jumpers are correctly set on the device. That is, set it to Master instead of Slave.
2. If the devices are correctly installed, make sure your system recognizes them. For example, on Windows platforms, you can use Windows Explorer or the Device Manager; on Linux platforms, you can use the `cat /proc/scsi/scsi` command.
3. Check to see if any device drivers failed when loading Data Protector Express. Access the Messages screen: on Windows and X Window systems, select the Messages option on the Tools menu; on NetWare and Linux systems, press Ctrl-F8. See *Restarting Failed Devices* in *Chapter 10 — Managing Devices and Media* in the *User's Guide and Technical Reference* for additional information on reinitializing failed devices.
4. Check for other errors or messages in the `dptrace.txt` file. This file is located in your Data Protector Express directory.
5. If your device is listed as **Dev-Unrecognized device...**, you are using a backup device that is not yet supported by Data Protector Express. Contact our technical support department at www.hp.com/support or visit us online at www.hp.com/go/dataprotectorexpress to see if your device is now supported.

My SCSI library is not active on the Device or Catalog views.

Check the **Device** view. If the library has an exclamation point icon (Windows or X Window) or if it is grayed out (other platforms), the library may be initializing. The **Diagnostics** property page for the library will display the loader status or error. If it is initializing, wait a minute and then refresh the device list.

Data Protector Express does not recognize my SCSI library. The tape device is displayed, but not the library.

1. Make sure that no other backup programs are installed. Other backup programs often install drivers that are incompatible with Data Protector Express.
2. Check the following (Windows NT (or later)): Disable the library drivers in the Device Manager screen. Sometimes these drivers conflict with the Data Protector Express drivers.

NetWare

Run **dpSCSI.NLM** from the command line to force a scan of all SCSI devices. If this works, you should add this command to the **STARTUP.NCF** file.

Linux

Refer to *SCSI Libraries may not be detected*

Index

Backup devices	
troubleshooting	28
Customer support.....	vi
Data Protector Express management domain	
installation and	3
Desktop	
X Window	23
Devices	
troubleshooting	28
Documentation	
additional.....	v
DPM Agent	
installing.....	5
license	3
IDE/ATAPI support	
Linux	24
Installation	
and catalogs.....	3
as a Windows service.....	2
configuration	3
copy installer to disk	23
installing catalog server first	3
multiple platforms	3
NetWare installation notes	22
number of servers.....	3
troubleshooting	27
Installation instructions	
NetWare installation procedure	14
on Windows machines	7
Installation manager window	7
Installing	
DPM Agent	5
service pack.....	5
Libraries	
Linux SCSI.....	23
NetWare using multiple SCSI buses with libraries	22
Linux	
copy installer to disk	23
IDE/ATAPI support	24
installation procedure	14
libraries missing from Linux distribution	25
LUN	26
SCSI libraries.....	23
Linux or UNIX	
upgrade procedure	18
LUN.....	26
LUN support.....	22
NetWare	
installation.....	14
installation notes	22
installation procedure.....	14
NDS password	22
running for the first time.....	22
upgrade procedure	18
using multiple SCSI buses with libraries	22
Removal instructions	
on a Windows machine.....	11
Service pack, installing.....	5
Service, Windows.....	2
TCP/IP	27
Troubleshooting	
backup devices.....	28
installation.....	27
libraries missing from Linux distribution	25
SCSI libraries with Linux	23
TCP/IP	27
Update license	19
Upgrade procedure	
migrating the catalog data.....	4
on a Linux or UNIX machine	18
on a NetWare machine.....	18
on a Windows machine.....	10
overview	4
Windows	
installation procedure.....	7
uninstall procedure.....	11
upgrade procedure	10
X Window	
desktop.....	23

