HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition

User Guide

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Legal notices

Contents

1 Introduction

The HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition (SMP – P2P) enables physical to ProLiant (P2P) server migrations. This chapter describes the SMP – P2P application and its functionality.

P2P migrations involve migrating an operating system, applications, and data from one server to another, instead of manually redeploying these elements on a new server. P2P migrations are useful when facing the following business challenges:

- Adapting to a new server blade form factor
- Fostering remote server management
- Incorporating new storage controllers
- Increasing server memory scalability
- Dealing with expired server leases or expired server warranties

Until now, facing these challenges meant manually redeploying operating systems, applications, and data onto new servers. This expensive and time-consuming redeployment process involved numerous steps, including:

- Installing the operating system
- Installing the appropriate applications
- Replicating the registry settings
- Reinstalling value-added software, as appropriate
- Customizing application settings
- Replicating customizations over time

Even if these steps were followed precisely, the result of a manual redeployment was not a precise replica of the setup that had served so efficiently and effectively.

SMP – P2P application benefits

The SMP – P2P application provides the following benefits:

- Accurate migrations—The SMP – P2P application automatically removes old drivers and replaces them with new drivers. The SMP – P2P application automatically transfers operating system, applications, and data.
- Automated migrations—The SMP – P2P application uses a wizard-driven process that eliminates the need for manual steps to perform a migration.
- Less time required to perform migrations—The SMP – P2P design enables you to learn and use the tool quickly.

SMP – P2P platform support

For a full list of supported platforms for the SMP – P2P application, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix.*

SMP – P2P components

A P2P migration requires the following components:

- **Application station**—The computer from which the migration is set up and performed
- **Source server**—The server to be migrated
- **Destination server**—The server to which the source server is migrated

Planning a migration strategy

The most difficult challenge when migrating operating systems, applications, and data from one server to another is modifying the migrated operating system to boot on the destination server and to function properly on the hardware. The SMP – P2P application is adept at making the appropriate operating system changes.

To ensure a smooth migration process, a number of items must first be considered to develop an effective migration strategy. Migration strategies vary depending on machine hardware, network landscape, and applications running. To develop a migration strategy, review the following items before beginning your migration.

Hardware and operating system support

Before beginning a migration, verify that the source server operating system is supported on the destination server. To verify if the operating system is supported, see http://www.hp.com/go/ossupport.

Supported destination servers with unsupported embedded controllers are not supported by SMP – P2P. Review the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix* before starting a migration. Verify that the embedded storage controller and network interface card (NIC) options appear on the supported controller list on the support matrix.

Configuration planning

To determine which partitions are to be migrated, review the partition configuration on the source server. Prepare your destination server disks to accommodate the partitions that are to be migrated. You can change the logical disk numbers on the destination server. For example, data on \PhysicalDrive5 on the source server might be reordered to \PhysicalDrive2 on the destination server.

License verification

Some hardware, software, and operating systems license agreements might require you to purchase a new license for the destination server. Before performing a migration, review all hardware, operating system, and application licenses on the source server and acquire all valid licenses necessary for the destination server.

Schedule preparation

Schedule preparation is essential when planning a migration strategy.

- Be sure to include adequate time for copying data. Large volumes take some time to migrate. Under optimal conditions, an SMP – P2P migration requires two to three minutes to migrate 1 GB of data. Using two minutes as a best-case scenario, migrating 1 TB of data can be expected to take more than 34 hours.
- When the migration starts, the source server is rebooted to a minimal configuration so that no updates occur on the source server during migration. Only those services required for the migration are enabled. Applications that normally execute on the server are not available during the migration. After the migration is complete, the source server is restored to its pre-migration state. Schedule the SMP – P2P migration to occur at a time when the source server can be offline.

Memory and CPU resources on the application station

Insufficient memory and CPU resources on the application station can degrade performance and cause errors during the migration. For best results, close all other applications on the application station before the migration. Open the applications after the migration is complete.

Critical or hardware-dependent application preparation

Some hardware applications are bound to the source server and might need reconfiguration to function as expected following a P2P migration. For added safety, manually disable all critical and hardware-dependent applications before migrating a source server. You can then manually re-enable these applications after the migration is complete. Manually disabling such applications prevents them from automatically starting in the destination server before they are properly reconfigured for the destination server.

Some examples of application configurations that should be disabled during migration include:

- Applications that rely on unique hardware serial numbers, BIOS or chassis IDs, NICs, MAC addresses, or devices that authenticate a piece of software.
- Applications that store data on a volume different from that of the operating system—The SMP – P2P application retains drive letters (for example, F:) during the migration process, but hardware differences between the source and destination servers can force the drive letters to change.
- Applications that depend on physical disk identifiers instead of drive letters—Depending on the destination server disk enumeration order and selections made in the SMP – P2P migration wizard, the contents of a physical disk might have a different sequential identifier on the destination server. In these cases, the application must be reconfigured to use the new physical disk identifiers to operate successfully.

Domain controllers

Version 1.40 of the SMP – P2P application supports migration of domain controllers. To migrate a domain controller, reboot the server, press **F8** to boot to Directory Services Restore Mode (DSRM), and launch the SMP – P2P Agent. The migration runs in Directory Services Restore Mode instead of booting into SMP Agent Mode. As a result, CHKDSK does not run before the migration of domain controllers. For more information about preparing a migration of domain controllers, see your HP account manager for the white paper *Performing physical to ProLiant application migrations with the HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition.*

Microsoft Small Business Server

Version 1.40 of the SMP – P2P application supports migrations of Microsoft® Small Business Server operating systems. Small Business Server operating systems include a domain controller on the server. Follow the steps required to migrate a domain controller to ensure successful migration of Small Business Server.

Firewalls

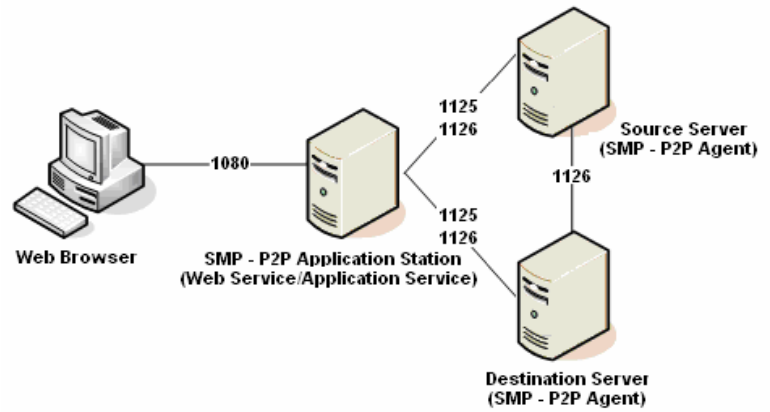
The Microsoft Windows® firewall is automatically disabled when the P2P migration begins and is re-enabled after the migration is completed. Before performing the migration, you might need to manually disable, reconfigure, or uninstall other firewall products. If you reconfigure a firewall product, you might be required to uninstall the product before migration and reinstall it after migration.

If the firewall is not disabled or reconfigured properly on the source server and application station before performing a migration, the source server and application station might not be able to effectively communicate with one another. Resulting symptoms of this problem can include:

- Application station cannot detect the source server SMP – P2P Agent
- Source server hangs after booting in SMP Agent Mode

The following ports, assigned by the Internet Assigned Numbers Authority (IANA), are used for SMP – P2P migration using the TCP protocol. The following ports are used:

- Port 1124—For communication between the SMP – P2P web service and the SMP – P2P application service using Secure Sockets Layer (SSL)
- Ports 1125 and 1126—For communication between the SMP – P2P application service and the SMP – P2P Agent on the source server using SSL
- Ports 1125 and 1126—For communication between the SMP – P2P application service and the SMP – P2P Agent on the destination server using SSL
- Port 1126—For communication between the SMP – P2P Agents on the source server and destination server using SSL



Antivirus software

For optimal performance during migration, verify that no antivirus scans are running or are scheduled to run while the migration is performed.

Dual-boot

In a dual-boot scenario, where one or more operating systems on the boot disk of the source server are not supported, but the operating systems exist on a supported file system:

- A supported operating system must be set as the default operating system for the boot disk.
- The migration wizard enables the migration of all partitions with supported file systems. Unsupported operating systems on those partitions are also enabled for migration, but they are not supported by the SMP – P2P application.
- If unsupported operating systems are migrated, they might be detected, but proper drivers might not be installed, which can leave the unsupported operating system on the destination server unbootable.

Resizing NTFS volumes for migration

Under certain conditions, the SMP – P2P application cannot resize New Technology File System (NTFS) partitions. Some examples include:

- Large NTFS partitions, usually larger than 1 TB, or NTFS partitions with too many clusters, resulting in large volume cluster bitmaps that cannot be resized. In some cases, the volume might be recognized as RAW (partitions in which no file systems exist). While the SMP – P2P application can perform P2P migrations on these volumes, the SMP – P2P application cannot resize them.
- Volumes with bad clusters. If an NTFS volume is detected but cannot be resized, you must run a disk check (for example CHKDSK.exe) to verify the volume has no bad clusters before beginning the migration process. The migration of volumes with bad clusters is not supported by SMP – P2P and requires that you manually migrate volumes with bad clusters to the destination server after a migration.

Moving SAN LUNs

To move Storage Area Network (SAN) Logical Unit Numbers (LUNs) manually as part of a migration:

1. Stop the applications or services that use the volumes stored on the SAN LUN. Configure the application or service so that it does not automatically restart after a reboot.
2. Use the SMP – P2P application to migrate the operating system and other volumes not stored on the affected SAN LUN.
3. Power down the source and destination servers, and then reconfigure the SAN to disable access from the source server and enable access from the destination server.
4. Restart the destination server, and verify that the volume identifiers match those expected by the application or services.
5. Reconfigure the source server applications or services to their pre-migration state.

ProLiant Support Pack

The SMP – P2P application does not install all drivers (including NIC drivers) on the destination server. To acquire the latest drivers, you must install the HP ProLiant Support Pack (PSP) following migration on the destination server. To download the latest drivers, see **http://www.hp.com/servers/psp**.

Related HP products

The SMP – P2P application enables migration-related tasks to be performed. The following table lists HP products for extending deployment or customizing the migrated server.

Table 1 Related HP products for extending deployment

Product	Description
HP OpenView Change and Configuration Management solutions	Automates the management of software such as operating systems, applications, patches, content, and configuration settings, so that each computing device is maintained in the right configuration.
HP ProLiant Essentials Rapid Deployment Pack	A server deployment solution that facilitates the installation, configuration, and deployment of high volumes of servers through either a GUI-based or a web-based console using either scripting or imaging technology. Server configuration time is reduced, making it possible to quickly scale server deployments to high volumes.
HP ProLiant Essentials Server Migration Pack	Enables physical-to-virtual (P2V), virtual-to-virtual (V2V), and virtual-to-physical (V2P) server migrations.
HP SmartStart CD	Provides step-by-step ProLiant server deployment assistance. From configuring arrays and installing operating systems, to updating optimized ProLiant server support software, SmartStart ensures a stable and reliable configuration. Included in the ProLiant Essentials Foundation Pack, the SmartStart CD works with all ProLiant DL and ML 300, 500, and 700 series, and all ProLiant BL servers.
HP SmartStart Scripting Toolkit	A server deployment product that delivers unattended automated installation for high-volume ProLiant server installations. Available in Win32 and Linux editions, the toolkit supports ProLiant DL and ML 300, 500, and 700 series, and all ProLiant BL servers. The toolkit includes a modular set of utilities and important documentation that describes how to apply these new tools to build an automated server deployment process.

2 Installing and configuring the SMP – P2P application

This chapter describes the procedures to install and configure the SMP – P2P application, the SMP – P2P Agent, and the destination server environment.

SMP – P2P installation requirements

The following table describes SMP – P2P installation prerequisites. The application station and source server have specific prerequisites that must be met before performing the installation.

Table 2 SMP – P2P installation prerequisites

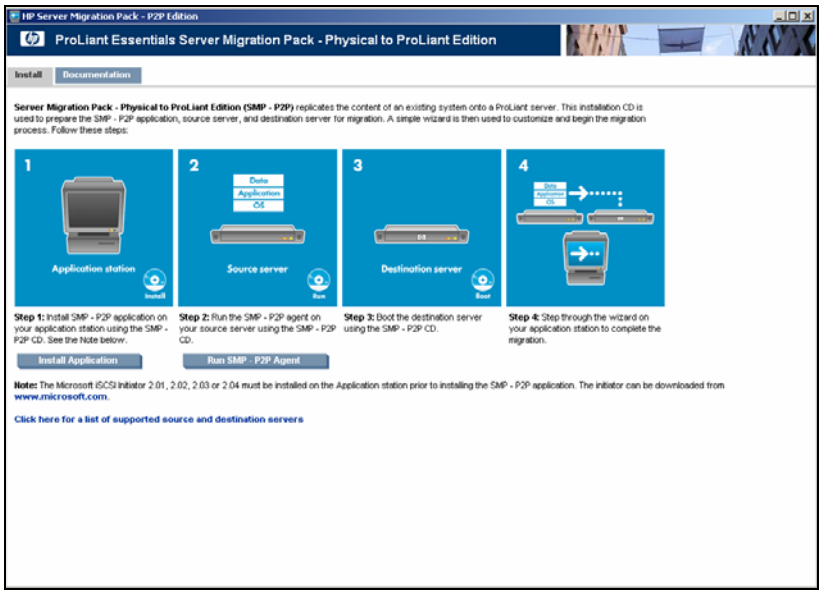
Component	Prerequisite
Application station	A 32-bit version of certain Windows operating systems must be installed. For a list of these operating systems, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*.
	Screen resolution must be 1024 x 768 or higher.
	Available memory must be at least 256 MB.
	Available disk space must be at least 150 MB.
	Ports 1124, 1125, and 1126 must be available.
	Microsoft iSCSI Initiator 2.01, 2.02, 2.03, or 2.04 must be installed. (These can be downloaded and installed from http://www.microsoft.com.)
	Microsoft Internet Explorer 6.0 or Mozilla Firefox 1.5 must be installed.
	The SMP – P2P application must be installed on an NTFS partition.
Source server	Ports 1125 and 1126 must be available.
	Available memory must be at least 256 MB.
	Available disk space must be at least 130 MB.

Understanding the SMP – P2P installation process

To install the SMP – P2P application:

1. Install the SMP – P2P application on the application station.
2. Run the SMP – P2P Agent on the source server.
3. Boot the destination server from the SMP – P2P CD.
4. Run the migration wizard from the application station.

Step 1, the installation of the SMP – P2P application, must be performed only one time. Steps 2, 3, and 4 must be performed for each migration. After inserting the SMP – P2P CD in a Windows server, the following installation screen appears.



From this screen, the following options are available:

- To install the SMP – P2P application, click **Install Application.**
- To run the SMP – P2P Agent, click **Run SMP – P2P Agent.**
- To access the product documentation, click the **Documentation** tab.

Accessing the product documentation

Product documentation provides guidance for effectively using the SMP – P2P application. To access the product documentation, click the **Documentation** tab.

Product documentation available on this tab includes this guide and the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*.

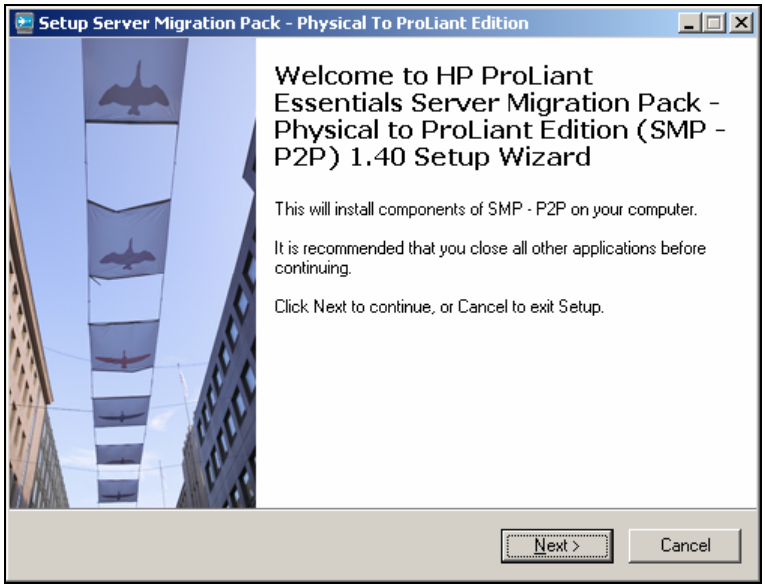
Installing the SMP – P2P application on the application station

NOTE: You must have administrative rights to install the SMP – P2P application. However, any user can access the application after the SMP – P2P application is installed.

The SMP – P2P application must be installed on the application station to perform a SMP – P2P migration.

To install the SMP – P2P application on the application station:

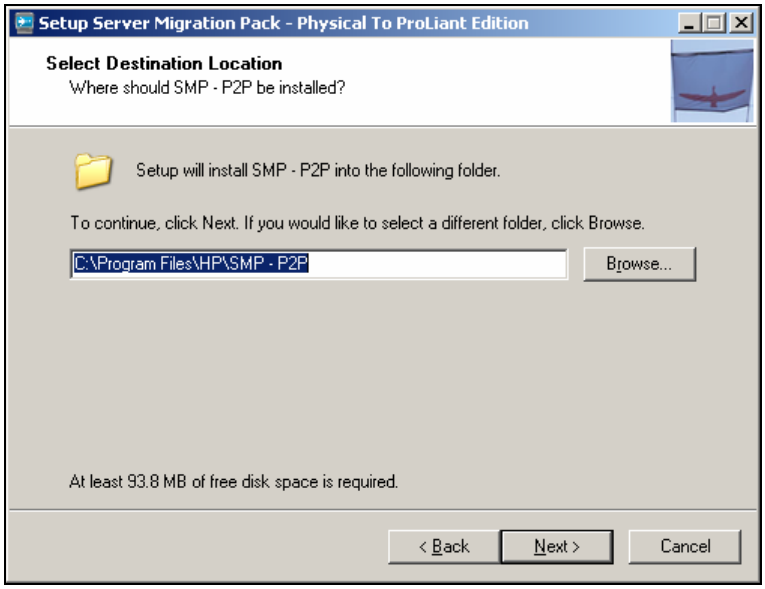
1. Insert the SMP – P2P CD in the CD-ROM drive of the selected application station. The CD autorun utility displays the installation screen.
2. Click **Install Application.** The Welcome screen appears.



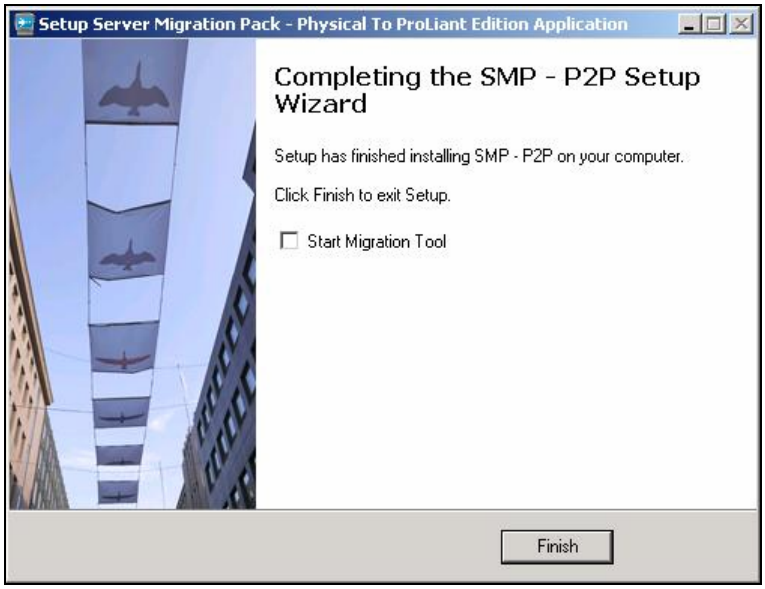
3. Click **Next.**

4. Read the license agreement. Select **I accept the agreement,** and then click **Next.**

5. Select the destination location for the SMP – P2P application. The default location is C:\Program Files\HP\SMP – P2P. Click **Next.**



6. Click **Finish.**



Running the SMP – P2P Agent on the source server

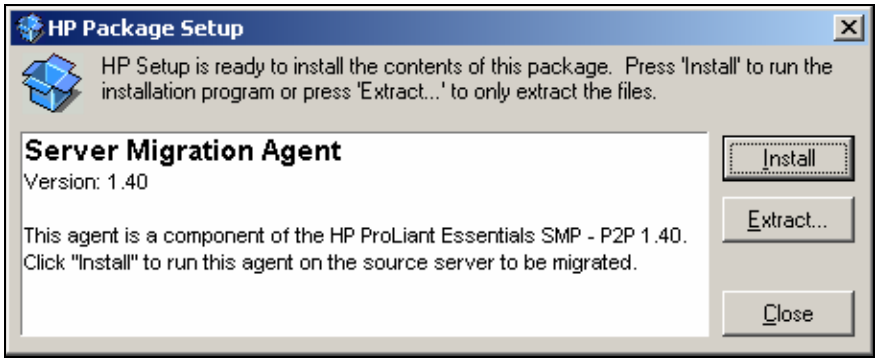
NOTE: You must have administrative rights on the source server to launch the SMP – P2P Agent.

NOTE: Before performing a migration, remove any CDs, floppy disks, USB keys, or any other detachable media from the source server.

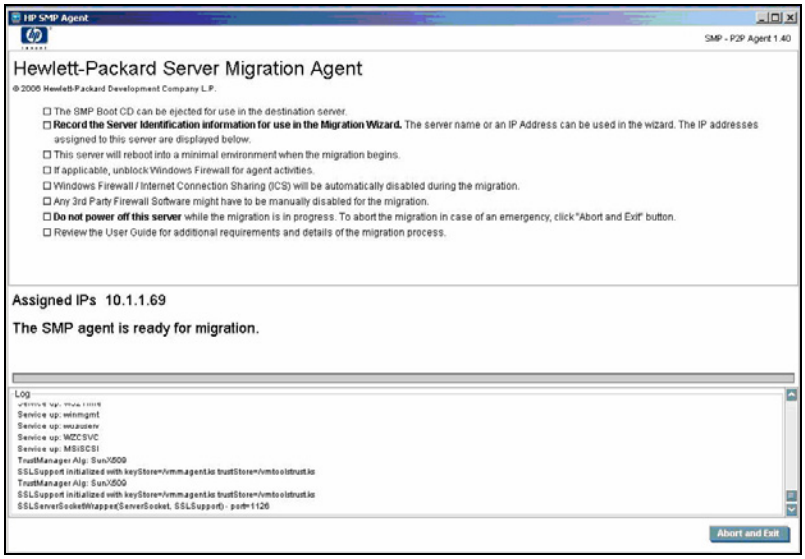
The SMP – P2P Agent enables the P2P migration to be performed on the source server.

To run the SMP – P2P Agent on the source server, use either of the following methods:

- Insert the SMP – P2P CD in the CD-ROM drive of the source server. When the autorun utility appears, click **Run SMP – P2P Agent.** The HP Package Setup window appears. Click **Install.**
- Run the hpp2pagent.exe file remotely from a network drive or through the virtual media capability of HP Integrated Lights-Out (iLO). This file is located on the SMP – P2P CD in the Products directory. The HP Package Setup window appears. Click **Install.**



When the SMP – P2P Agent is ready for migration, the following screen appears. Record the IP addresses listed for the source server entry when using the SMP – P2P application.



NOTE: After completing a migration, the SMP – P2P Agent no longer runs on the source server.

After the application station is connected to the SMP – P2P Agent on these servers, the agent is locked to the application station. To unlock the connection between the application station and the source server, access the source screen, click **Abort and Exit,** and then relaunch the SMP – P2P Agent from the SMP – P2P CD.

NOTE: To stop the source agent, on the source page, click **Abort and Exit.** The SMP – P2P CD must be reinserted to relaunch the source agent.

Deploying the SMP – P2P Agent remotely

If the source server does not have a CD-ROM drive, remotely deploy and then launch the SMP – P2P Agent to that server.

To remotely deploy the SMP – P2P Agent:

1. From the application station, map the drive to the source server.
2. Copy the **hpp2pagent.exe** file from the Products directory of the local CD-ROM on the application station to the source server. Record the location of the copied hpp2pagent.exe file.
3. Log in to the source server and run the **hpp2pagent.exe** file.

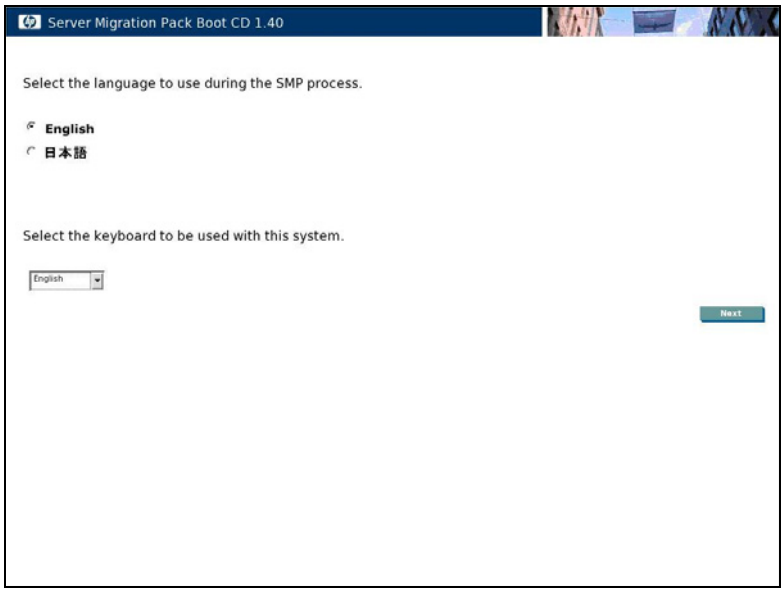
Booting the destination server

To boot the destination server, you must have the ability to reboot the server and load a CD, either manually or through iLO.

The SMP – P2P CD can only boot to supported destination servers and primary storage controllers. For a list of supported servers and storage controllers, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*.

To boot the destination server from the SMP – P2P CD:

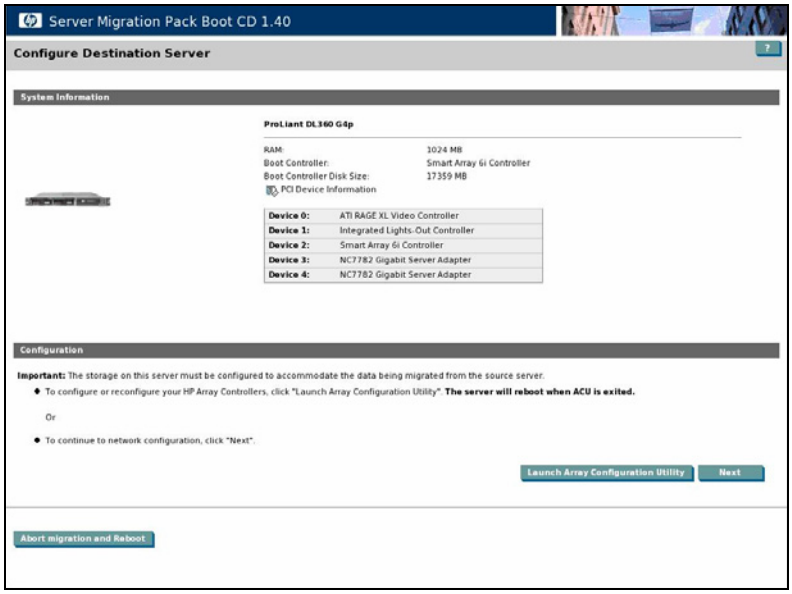
1. Perform one of the following steps:
   - Insert the SMP – P2P CD in the destination server, and reboot the server.
   - Boot the server remotely using the iLO virtual media capability.
2. Select the language and keyboard to use. Click **Next.**



3. Review the system and storage configuration information to ensure the setup is correct. The system information section includes the following information:
   - RAM
   - Boot controller
   - Boot controller disk size
   - PCI device information (collapsed by default)

   If the boot controller disk size is zero or the controller is not supported, then an error message appears under PCI device information.
   - If a bootable drive is not configured on this system, see the "Destination server configuration issues" section in this guide.
   - If the primary controller configured in your system is not supported by this version of the SMP – P2P application, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix* for a complete list of supported controllers for the destination server.

   Configure the storage on this server to accommodate the data to be migrated from the source server.

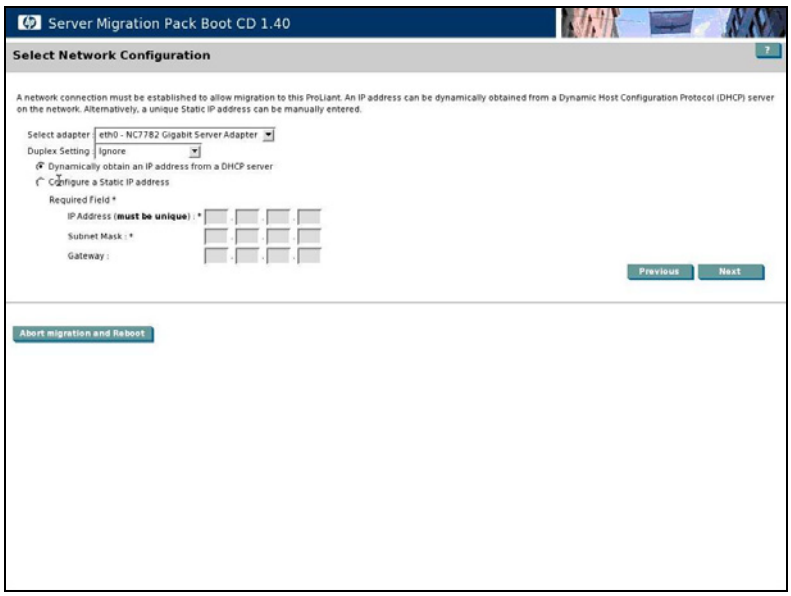


4. (Optional) To configure or reconfigure the HP array controllers, click **Launch Array Configuration Utility.** The Array Configuration Utility appears in a new window. The server automatically reboots after exiting the Array Configuration Utility, regardless of whether changes were made.
5. To proceed with network configuration, click **Next.**

NOTE: To eject the boot CD and reboot the destination server, click **Abort Migration and Reboot.**

6. You can only configure one IP address for the destination server. Ensure that the selected network card is connected to the same network as the application station. Configure the network to enable the SMP – P2P Agent by selecting the adapter from the list. Select one of the following:
   - **Dynamically obtain an IP address from a DHCP server**—This option is the default. The list and boxes are disabled when DHCP (Dynamic Host Configuration Protocol) is selected.
   - **Configure a Static IP Address**—The list displays all available network cards for this system. The Select adapter, IP Address (must be unique), and Subnet mask boxes are required.

   Gateway is not a required box. The Next button is disabled until the content of the required boxes is entered, or if an invalid value for the IP address, subnet mask, or gateway is entered.
7. You can set the duplex settings for the selected card by selecting one of the following from the Duplex Setting list:
   - **Ignore**—This option is selected by default and continues with the current duplex setting for the selected network card from the Selected adapter list.
   - **Auto-negotiate on**—Select this option to enable auto-negotiation for the selected network card.
   - **100 MB Full Duplex**—Select this option to set full duplex to 100 MB. Full duplex is the capability to send data in both directions at the same time.
   - **1000 MB Full Duplex**—Select this option to set full duplex to 1000 MB.
8. To launch the SMP – P2P Agent, click **Next.**



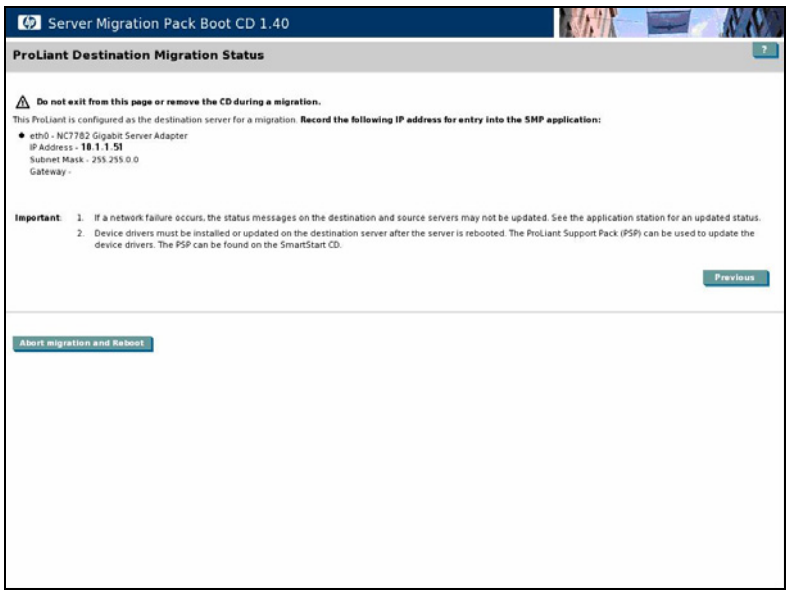
9. When a message appears advising you that the destination server is ready for migration:

CAUTION: Do not exit from this screen or remove the SMP – P2P boot CD. These actions terminate the P2P migration.

a. Record the IP address listed on the screen for the destination server entry when using the SMP – P2P application.

b. Perform the migration from the application station. A message appears on the destination server that reports the migration process when the data copy process begins.

c. After completing the migration, update the device drivers with the PSP. For more information about post-migration steps, see the "Performing post-migration steps on the destination server" section in this guide.



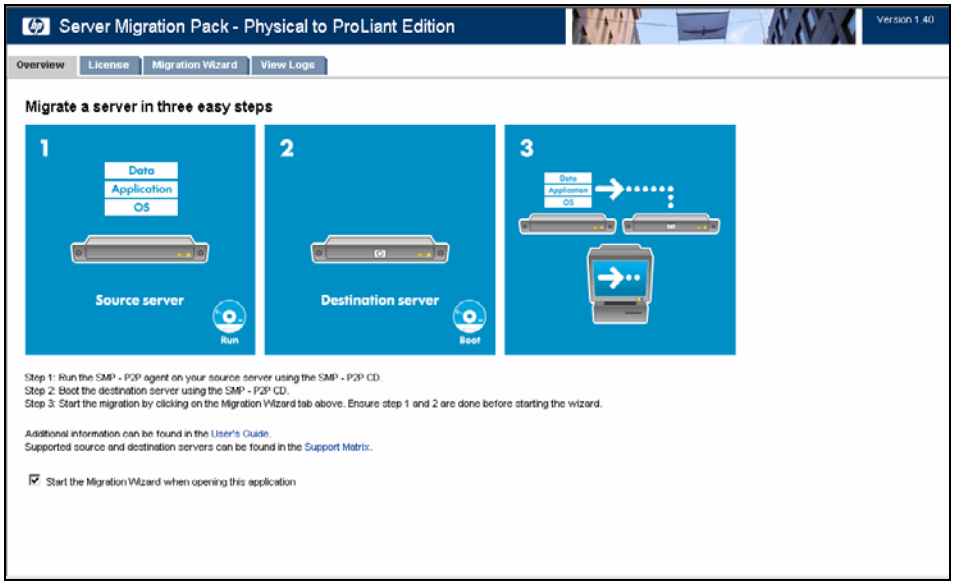
If the SMP – P2P Agent fails to launch, an error message appears on the destination server. Click **Previous** to reconfigure the network. Reboot the destination server if the problem persists.

NOTE: After completing a migration, the SMP – P2P Agent no longer runs on the destination server.

After the application station is connected to the SMP – P2P Agent on the destination server, the agent is locked to the application station. To unlock the connection between the application station and the destination server, click **Abort migration and Reboot.** To relaunch the SMP – P2P Agent, reboot the server to the SMP – P2P CD.

SMP – P2P overview screen

The overview screen appears after the installation of the SMP – P2P application is complete.



The SMP – P2P overview screen has four tabs:

- Overview—This tab includes introductory information about the SMP – P2P application. This tab appears by default when the application is opened. To enable the Migration Wizard tab to start by default, select **Start the Migration Wizard when opening this application.**
- License—This tab reports the number and types of licenses available and enables you to enter new license keys. For more information about licensing, see the "Licensing the SMP – P2P application" chapter in this guide.
- Migration Wizard—This tab enables you to perform the P2P migration. In summary, a P2P migration consists of the following tasks:
  - Identifying the source server
  - Selecting the volumes to migrate
  - Identifying the destination server
  - Testing the network connections
  - Specifying destination disks and resizing NTFS partitions
  - Selecting additional migration options, as necessary
  - Confirming and performing the P2P migration
  - Reviewing the migration progress

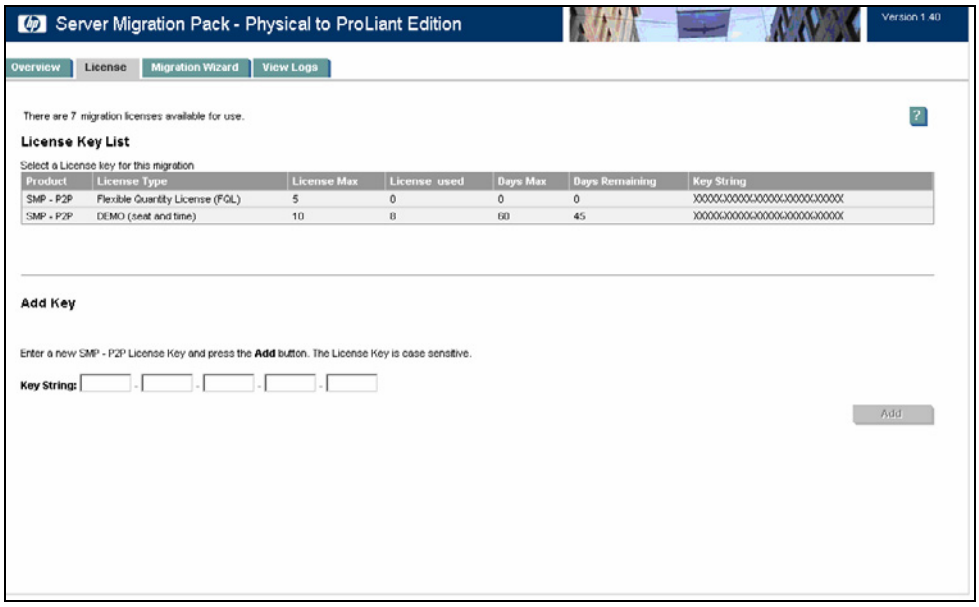
  For more information about the migration wizard, see the "Using the SMP – P2P application" chapter in this guide.
- View Logs—This tab enables you to view the details and results of attempted migrations and to delete migration results. For more information about viewing logs, see the "Viewing migration logs" chapter in this guide.

3 Licensing the SMP – P2P application

This chapter describes how to license the SMP – P2P application. One license is required for each complete P2P migration. The license is consumed after a successful P2P migration.

Adding licenses

To add a license key to the SMP – P2P application, click the **License** tab, and then enter a license key. Click **Add.**



NOTE: On a physical SMP – P2P application kit, the license key is located on the back of the kit. License keys are case sensitive.

SMP – P2P licensing

The licensing key list on the License tab reports the numbers and types of SMP – P2P license keys available and enables you to enter new license keys.

The following options are available for purchasing SMP – P2P licenses:

- Subscription license—This option enables the consumption of an unlimited number of migrations for one year. The subscription period begins after the first license is consumed.
- Demo license—This option enables a specific number of migrations for a certain period. The subscription period begins after the first license is consumed.
- Flexible Quantity license—This option enables the consumption of a license from one of the available license keys each time a migration is successfully completed.

NOTE: If several keys are installed, the licenses are processed in the following order: Subscription license, then Demo license, and then Flexible Quantity license.

For more information or to purchase licenses, see **http://www.hp.com/go/p2p**.

4 Using the SMP – P2P application

This chapter describes how to use the SMP – P2P application.

Understanding the P2P migration process

IMPORTANT: If you click the Migration Wizard tab and no license key is available, you are prompted to add a license key. For more information on licensing, see the "Licensing the SMP – P2P application" chapter in this guide.

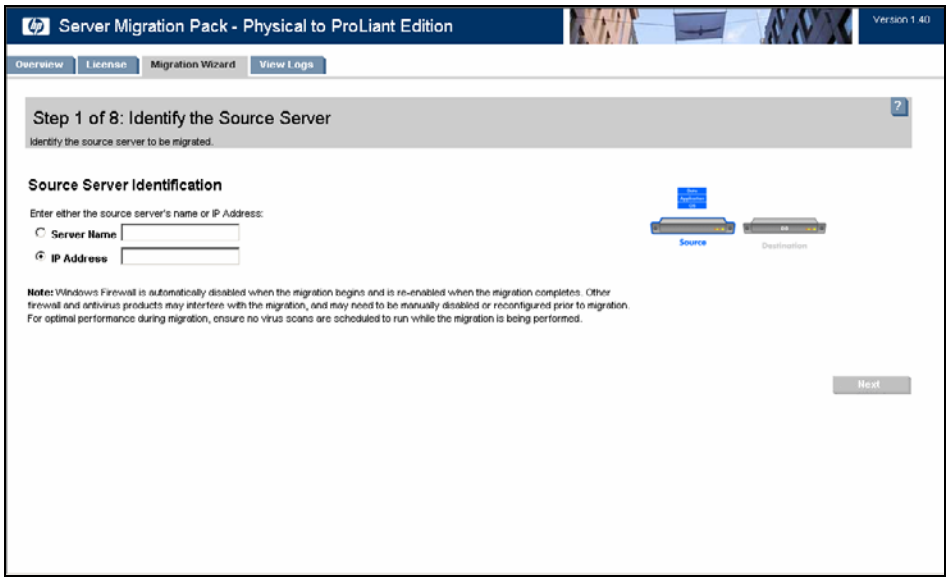
The SMP – P2P migration wizard enables you to perform P2P migrations for server consolidation. The P2P migration wizard includes the following steps:

1. Identify the Source Server.
2. Select volumes to migrate.
3. Identify the destination server.
4. Test network connections.
5. Specify destination disks and resize NTFS partitions.
6. Select additional migration options.
7. Confirm migration.
8. View migration progress.

After beginning the P2P migration, you can review the migration logs. For more information, see the "Viewing migration logs" chapter in this guide.

Performing a P2P migration

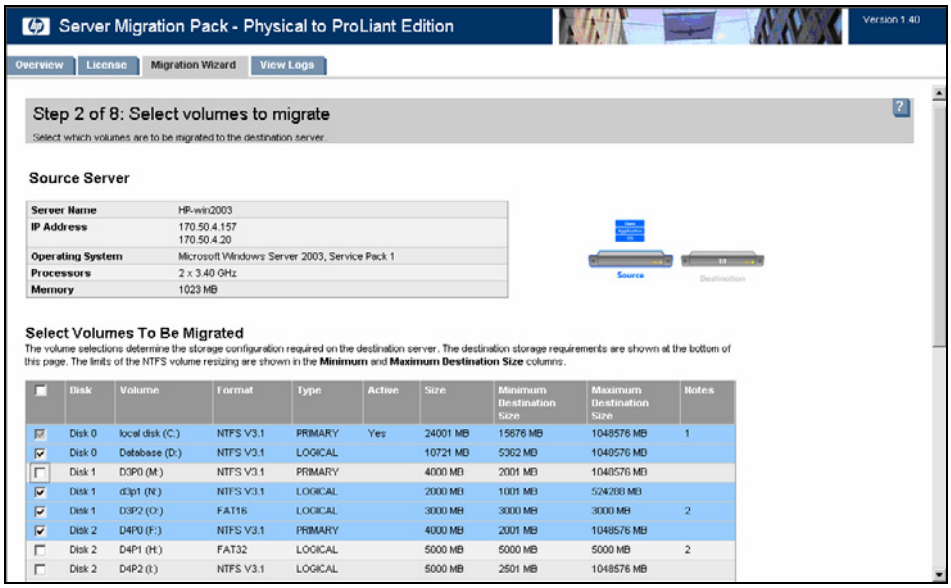
1. Access the migration wizard by performing one of the following steps:
   - Double-click the SMP – P2P desktop icon.
   - Select **Start>Programs>SMP – P2P>SMP – P2P.**
2. Enter the source server name or four-part IP address that you identified when running the SMP – P2P Agent on the source server. If the server is in a domain, specify a Fully Qualified Domain Name (FQDN), and then click **Next.** For more information about identifying the source server name or four-part IP address, see the "Running the SMP – P2P Agent on the source server" section in this guide.



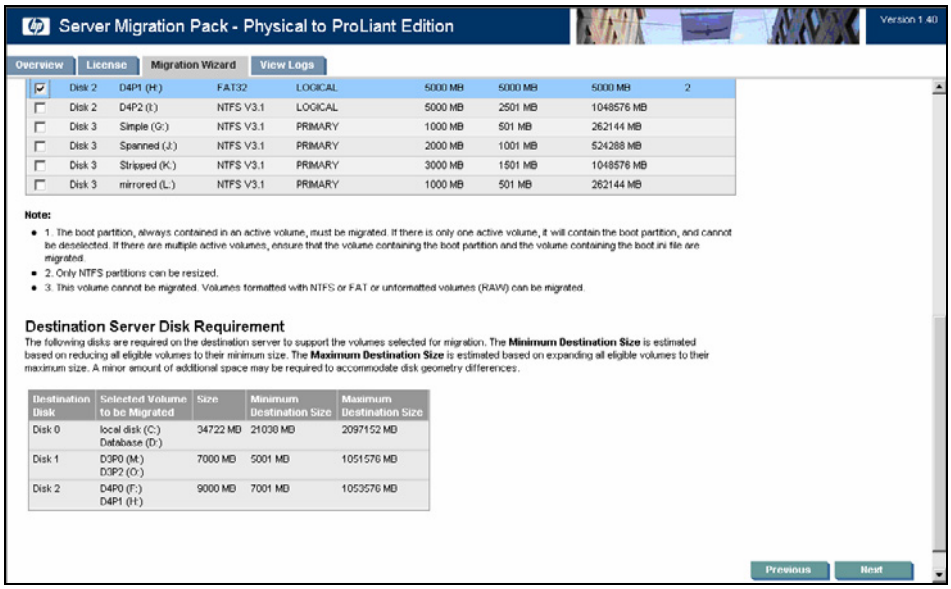
3. Select the volumes to be migrated. Volumes marked as active are selected by default. You cannot migrate or select unsupported file systems.

   The boot partition must be migrated. The boot partition is always contained in an active volume. If only one active volume exists, by default it contains the boot partition and cannot be cleared. If multiple active volumes exist, ensure that the volume containing the active boot partition (which contains the boot.ini, NTLDR, and NTDETECT.com files) is migrated to the target boot disk. Additional bootable partitions might be contained in other active volumes, but the partitions do not need to be migrated. The operating system must be stored on the boot disk and loaded using NT Boot Loader (NTLDR).

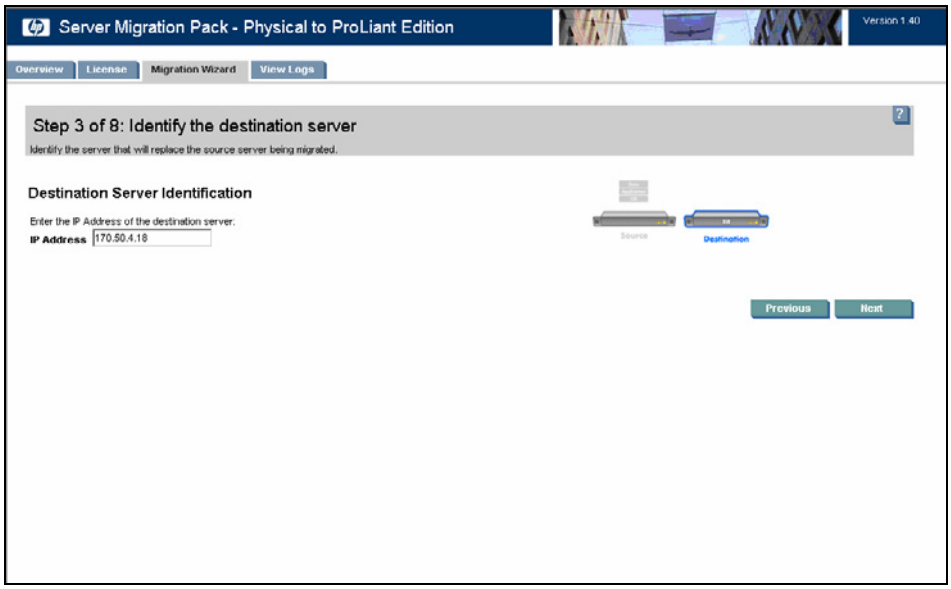
Volumes on dynamic disks are migrated to partitions on basic disks. Volumes that span multiple dynamic disks (including spanned, striped, mirrored, and RAID 5 volumes) are migrated to a single contiguous partition. All volumes stored on a common source disk must also be stored on a common destination disk. You can only resize NTFS partitions.



The table on the lower part of the screen lists the disks required on the destination server to support the migrated volumes. The Size and Minimum Destination Size values in this table are updated dynamically as volumes are selected or cleared for migration in the upper table. The Minimum Destination Size is estimated based on reducing all eligible volumes to their minimum size during migration. Additional space might be required to accommodate disk geometry differences. Click **Next.**



4. Enter the four-part IP address for the destination server (that was identified when booting the destination server), and click **Next.** For more information about booting the destination server, see the "Booting the destination server" section in this guide.



5. Test the network connections and latency between the source-to-destination server and the application-station-to-destination server. The results of a 2-second test initially appear.
6. Select a test time in the lower portion of this wizard screen to perform additional tests, and then click **Test.** The following test times are available:
   - 2 seconds
   - 5 seconds
   - 10 seconds
   - 30 seconds
   - 60 seconds

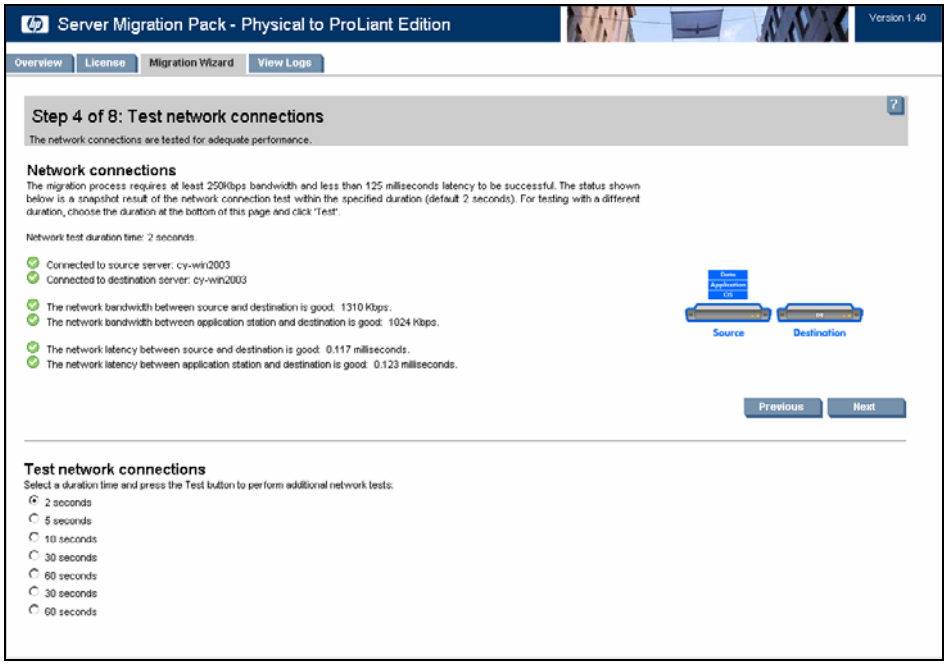
   If the source-to-destination or application-station-to-destination connection cannot be established, the Next button is disabled. Ensure that ports 1125 and 1126 are open between the source and destination servers.

   If the source-to-destination or application-station-to-destination connection is established but the network reports a transfer speed below 250 kbps, the Next button is disabled.

   If the source-to-destination or application-station-to-destination connection is established and the network test reports a transfer speed of at least 250 kbps, the Next button is enabled.

NOTE: If the application-station-to-destination latency is less than 125 milliseconds, continue with the migration. Latency exceeding 125 milliseconds during driver installation can cause the driver installation to fail. Before continuing with the migration, verify the proper duplex setting in the destination server using step 7 of the "Booting the destination server" section in this guide, and check the latency again.

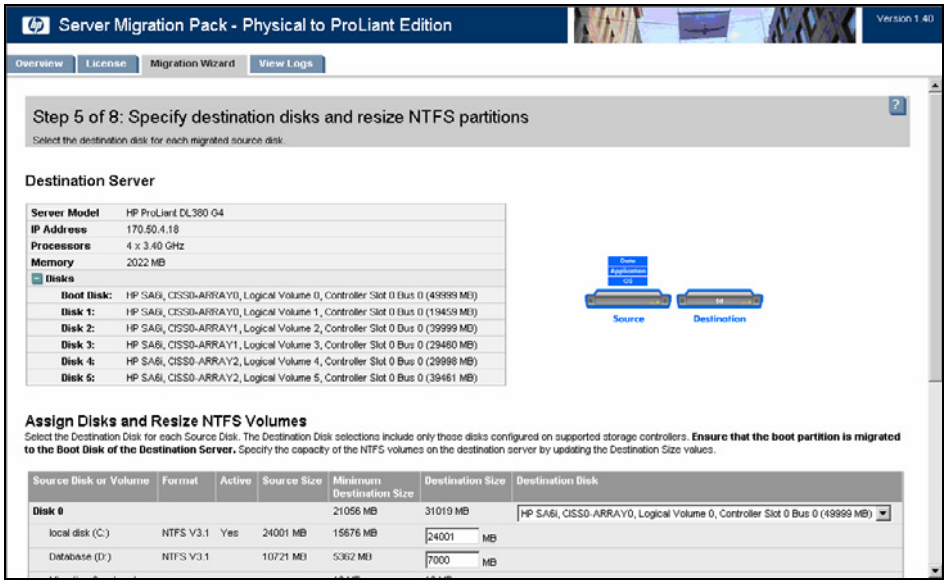
7. Click **Next.**



8. Map source disks to destination disks. Ensure that all migrated volumes fit on their mapped destination disks. Select the size of the migrated volumes on the destination server.

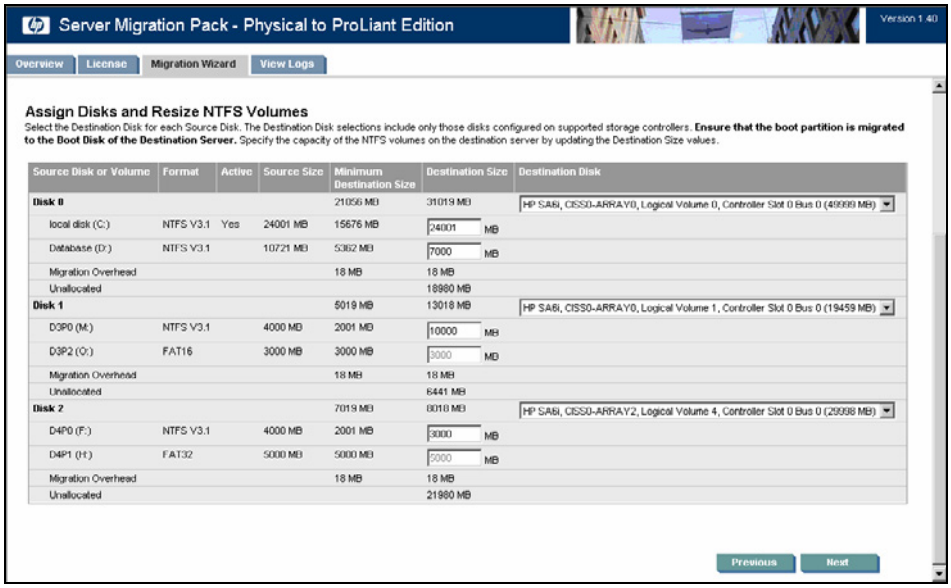
   The boot partition must be migrated to the first volume of the boot controller. If one active volume is migrated and the boot controller on the destination server can be identified, the boot partition is migrated to the first volume of the boot controller. If more than one active volume is migrated, or the boot controller cannot be identified, verify that the boot partition is migrated to the first volume of the boot controller.

   All migrated volumes are converted to partitions on basic disks. Boot partitions that span multiple dynamic disks on the source server are migrated to a single contiguous partition on a basic disk. All volumes stored on a common source disk must also be stored on a common destination disk.



The following screen (which is a scroll-down from the previous screen) shows a view of the Assign Disks and Resize NTFS Volumes table.

9. Scroll down, and then click **Next.**

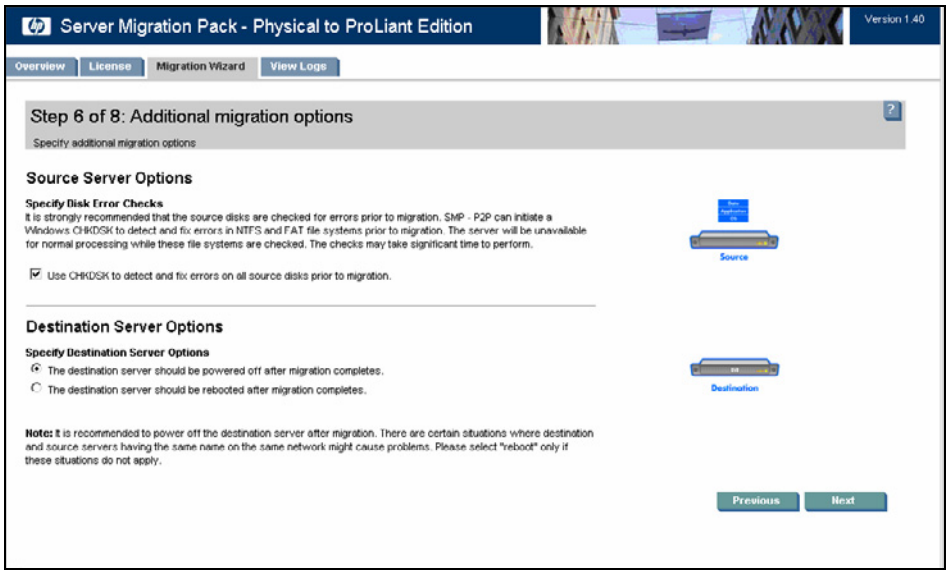


Some of the columns and rows from the Assign Disks and Resize NTFS Volumes table are described as follows:

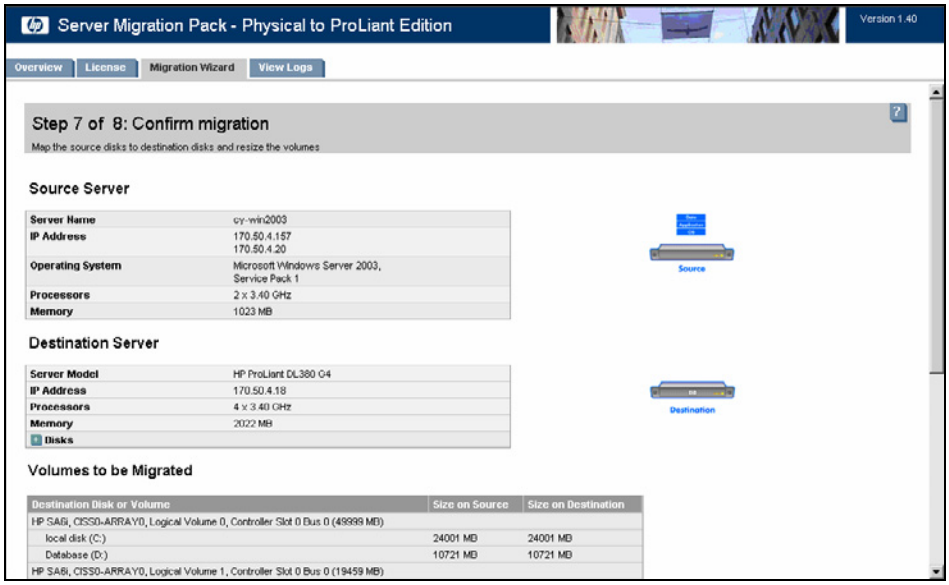
- Minimum Destination Size—This column displays the minimum size to which a partition or disk can be resized for the destination disk.
- Destination Size—This column displays the desired partition resize or disk resize on the destination disk.
- Migration Overhead—This row displays the additional space that must be reserved on the destination disk to accommodate disk geometry differences.
- Unallocated—This row displays the available space remaining on the destination disk after the migration is complete. The value of Unallocated should be either 0 (zero) or a positive number to proceed to the Next wizard page.
- Disk 0, Disk 1, Disk2, and so on—For each row, the value in the Minimum Destination Size and Destination Size columns represents the sum of all partition sizes and migration overhead space for the disk.

10. Select the following migration options as appropriate:
    - Select whether the SMP – P2P application must perform disk-error checks on the source server before migration. The "Use CHKDSK to detect and fix errors on all source disks prior to migration" checkbox is selected by default.
    - Select the reboot action that the destination server must perform, by choosing one of the following options:
        - The destination server should be powered off after migration is complete.
        - The destination server should be rebooted after migration is complete.

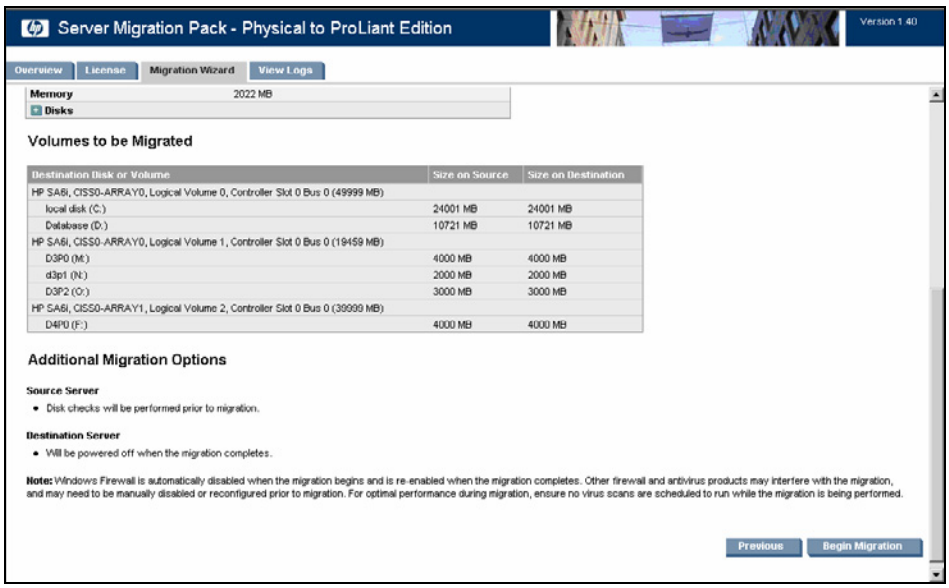
    By default, the destination server is powered down after migration is complete.



11. Click **Next.**
12. Review and confirm the migration details, scroll down, and then click **Begin Migration.**

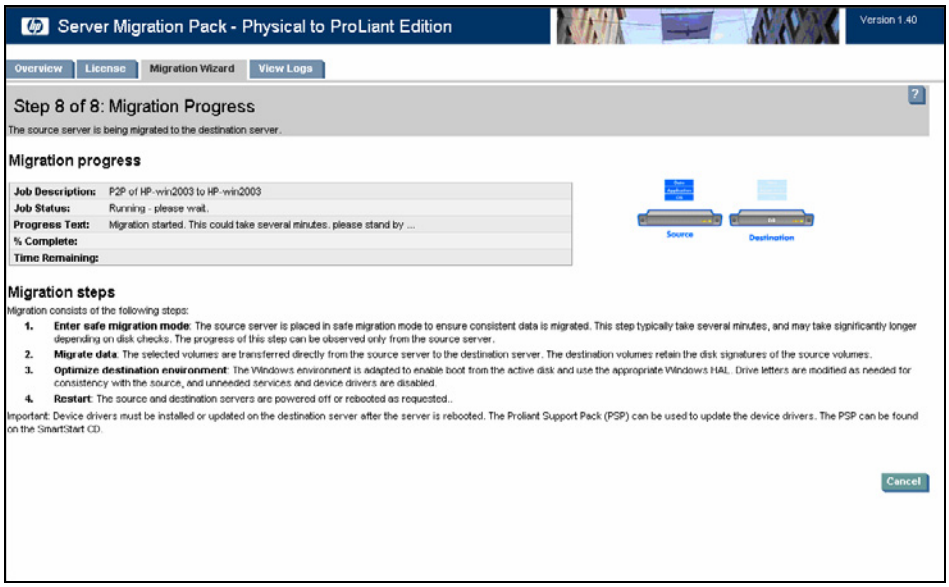


The following screen (which is a scroll-down from the previous screen) shows a view of the migration details.



The SMP – P2P Agent automatically performs a final network check when you click **Begin Migration.** If the network check fails, an error message appears. Fix the network problem, and then click **Begin Migration** again to continue the migration process.

13. Review the migration progress details. To cancel the migration, click **Cancel.** `Reboot the source and destination servers` after the entry in the Job Status field indicates the migration has been cancelled.



14. After the migration is complete, to return to the first screen of the wizard to perform additional P2P migrations, click **Begin New Migration.**

Performing post-migration steps on the destination server

After performing a P2P installation, perform the following post-migration steps:

1. Log in with administrative rights.
2. To locate device drivers, answer all prompts from the Plug and Play Manager.
3. Install the latest PSP. The PSP is located on the SmartStart CD. For more detailed steps on installing the PSP using Windows 2000, see the "Windows 2000 post-migration steps" section in this guide, and for Windows 2003, see the "Windows 2003 post-migration steps" section in this guide.
4. View the Windows event log on the destination server and disable any services or drivers that might have failed.
5. If necessary, check the network connections. If NIC teaming is required on the destination server, NIC teaming must be re-established on the destination server after the migration and installation of the PSP.
6. If the source and destination servers must be on the network at the same time:
   a. Change the host name of either server or consider reconfiguring the applications.
   b. If the IP addresses are static, reassign them.
7. If necessary, reassign drive letters to former dynamic disk partitions.
8. If necessary, convert basic disks to dynamic disks. During migration, all dynamic disks are migrated to the destination server as basic disks. Therefore, if dynamic disks are preferred on the destination server, basic disks can be manually converted back to dynamic disks.
9. Edit the **boot.ini** file, and update the boot entry with necessary switches. The /bootlog and /sos options can be removed.

   For proper booting of the destination server, the SMP – P2P application adds a new entry to the boot.ini file. The original boot entry is preserved with a different name. The new boot entry contains functions to make disk checking more informative and to increase logging during the boot operation. These functions help you determine the success of the migration and can be disabled at any time after migration by modifying the boot.ini file.
10. If the Windows license is not a volume license, reactivate it.
11. The mouse and keyboard might not be immediately active after the migration. Wait until all required drivers are automatically installed by the guest operating system, and then reboot when prompted.

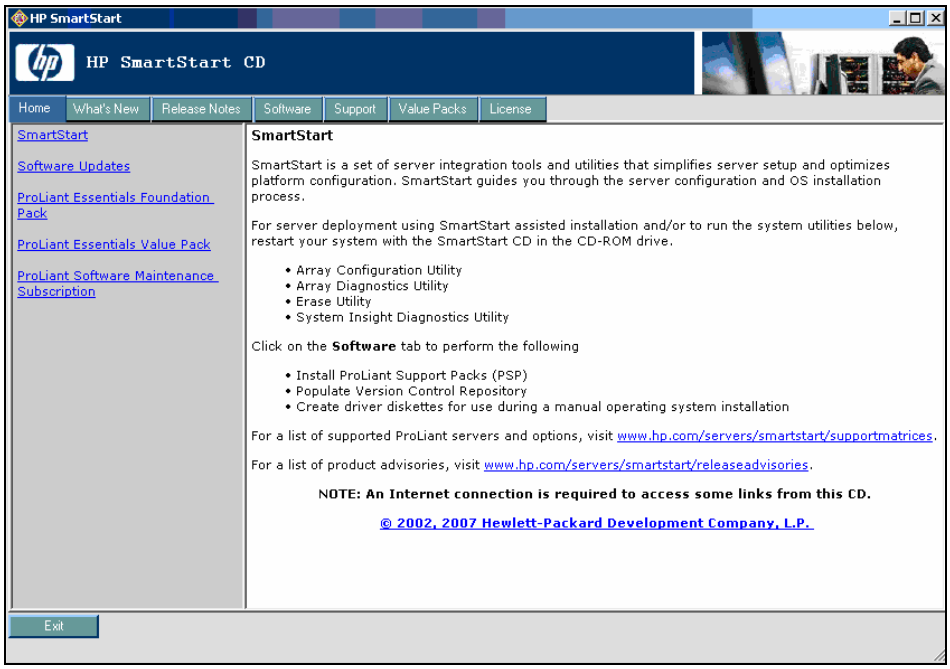
Performing post-migration steps for Windows 2000 and Windows 2003

After performing an SMP – P2P migration, the PSP must also be installed. Depending on your operating system, follow the Windows 2000 post-migration steps or the Windows 2003 post-migration steps in the following sections.

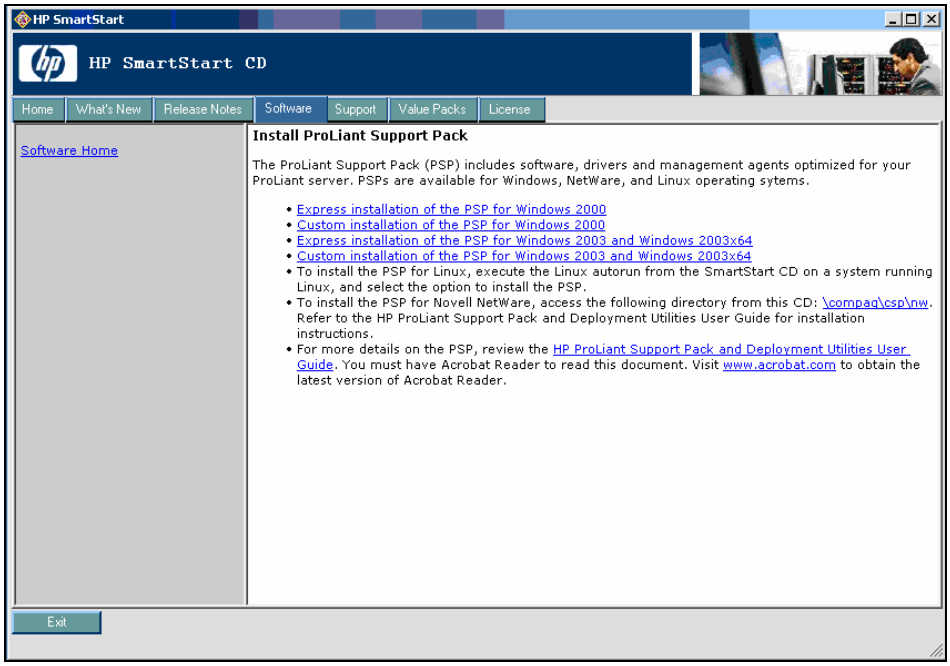
Windows 2000 post-migration steps

To install PSP with Windows 2000:

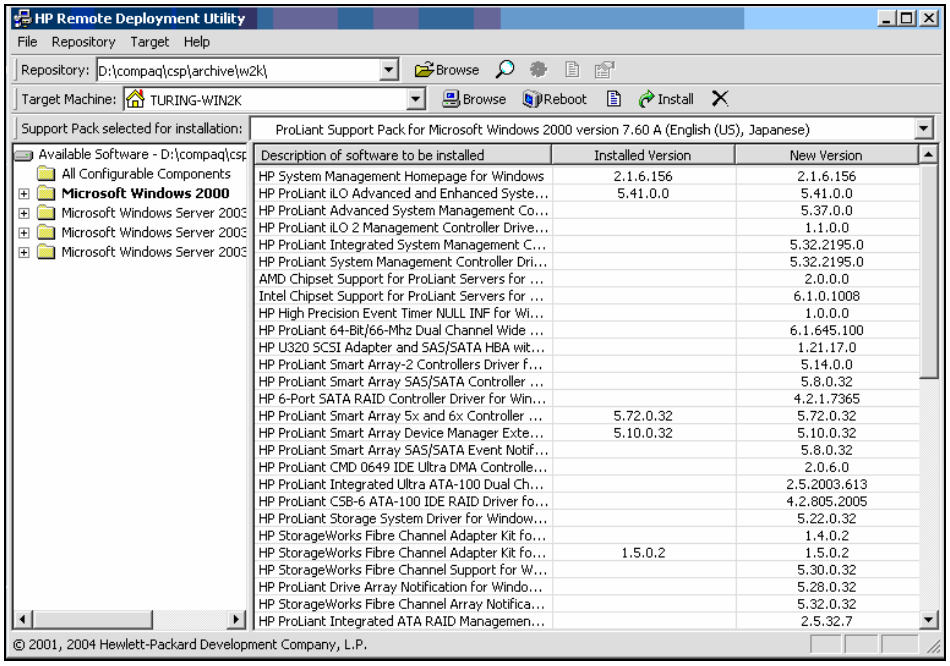
1. Insert the SmartStart CD in the local CD-ROM drive, or use virtual media. The HP SmartStart CD home page appears.



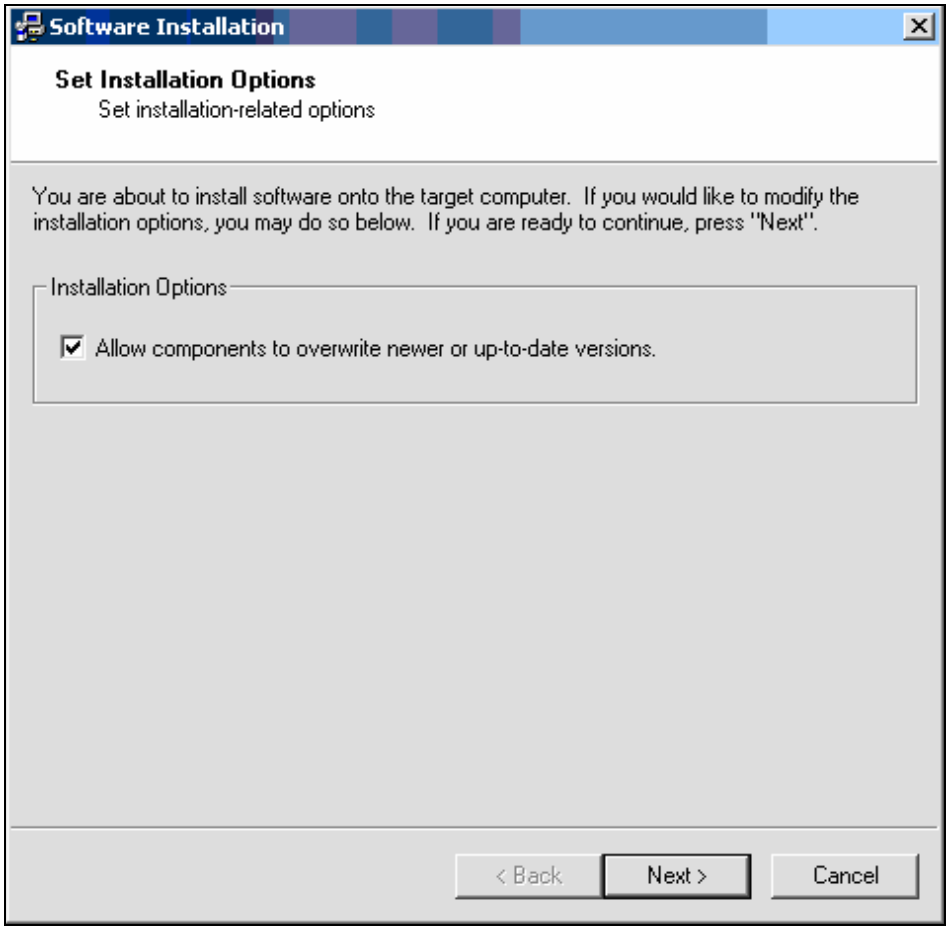
2. Click the **Software** tab, and then click **Custom installation of the PSP for Windows 2000.**



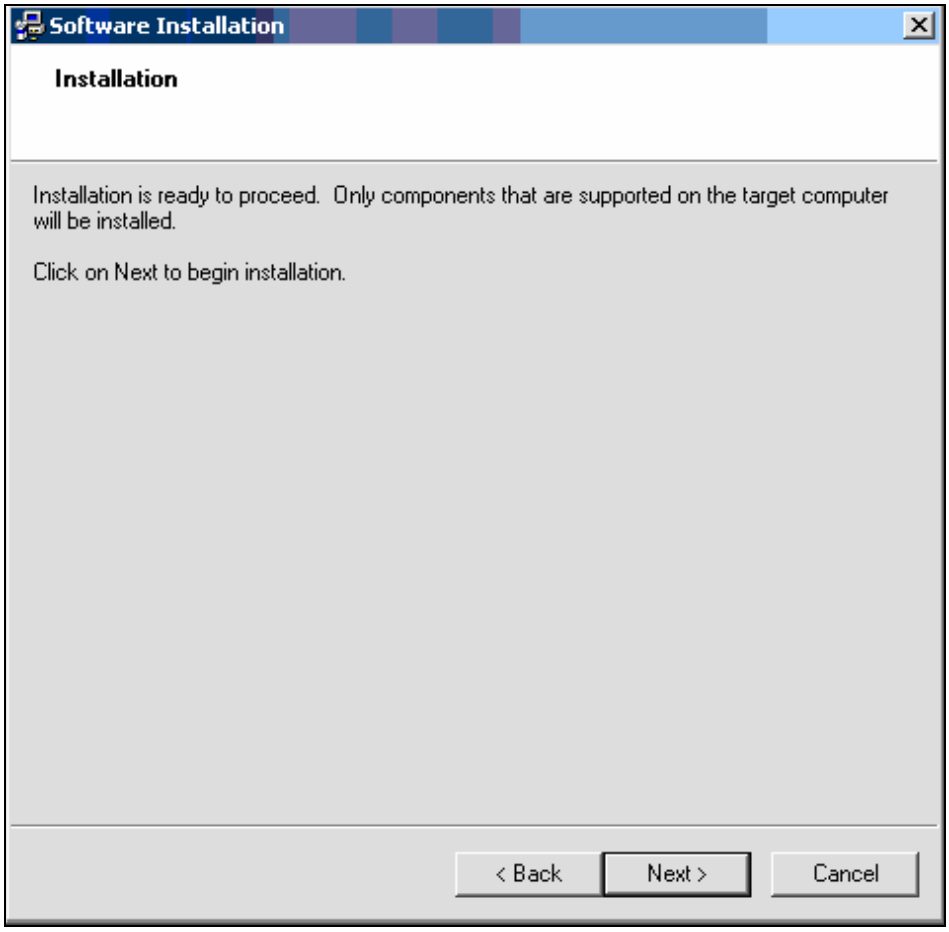
3. PSP scans for available bundles to install. After the scan is complete, scroll down, and then click **Install.**



4. To ensure that the drivers are installed properly after a P2P migration, select the **Allow components to overwrite newer or up-to-date versions** checkbox.



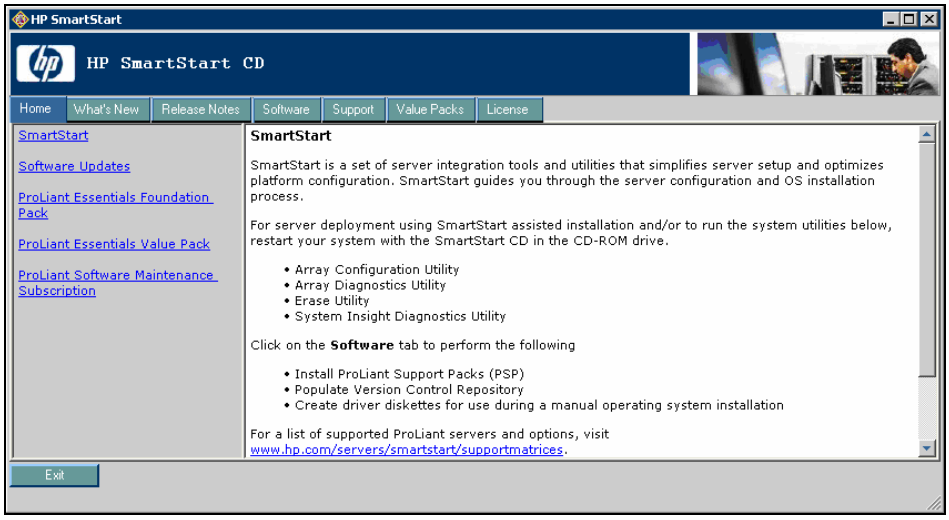
5. To begin the installation, click **Next.**



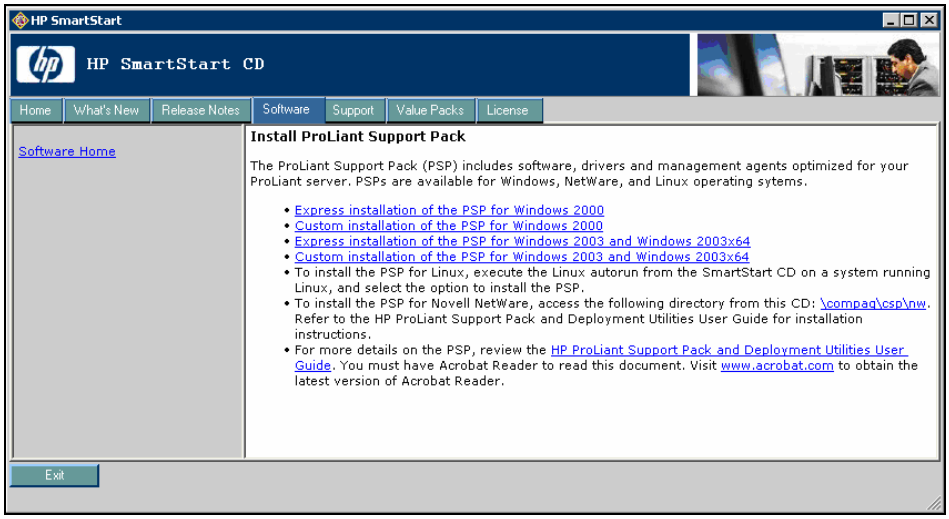
Windows 2003 post-migration steps

To install PSP with Windows 2003:

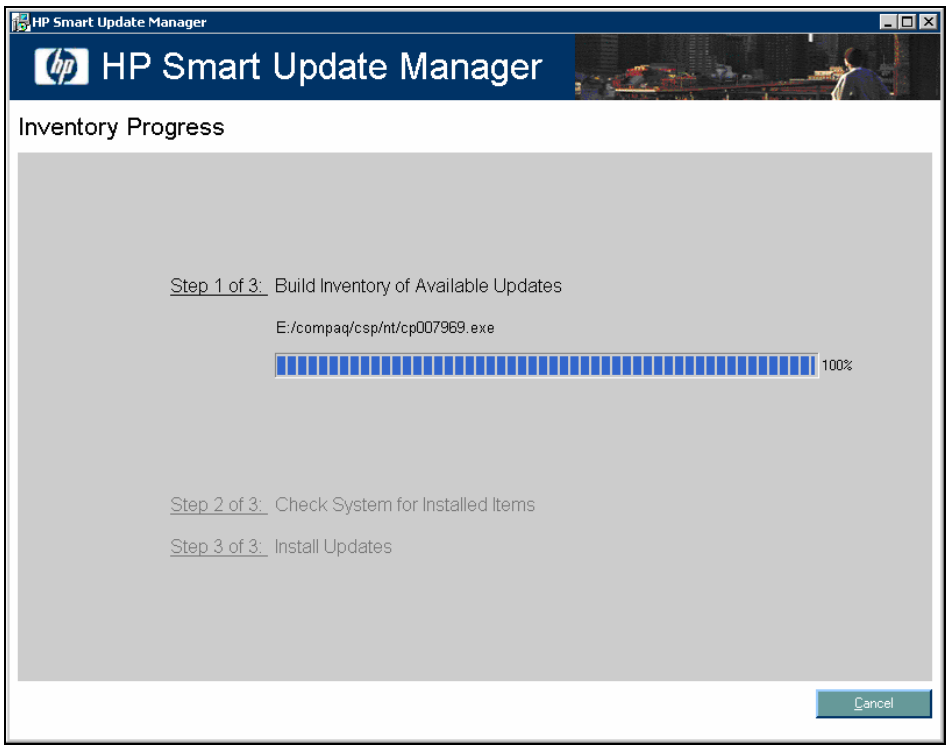
1. Insert the SmartStart CD in the local CD-ROM drive, or use virtual media. The HP SmartStart CD home page appears.



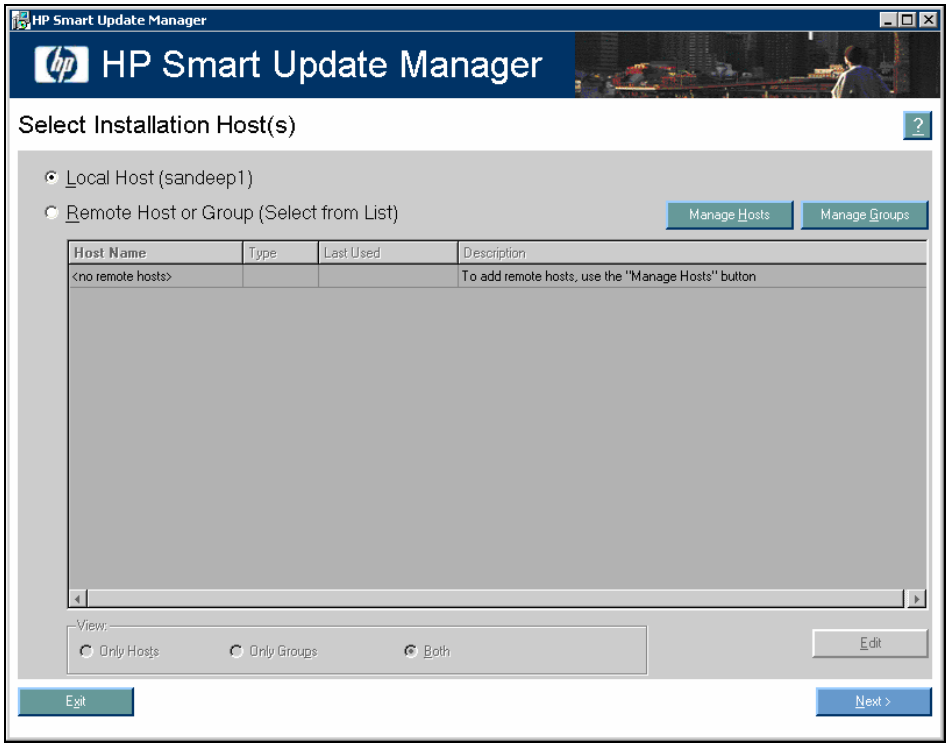
2. Select the **Software** tab, and then click **Custom installation of the PSP for Windows 2003 and Windows 2003x64.**



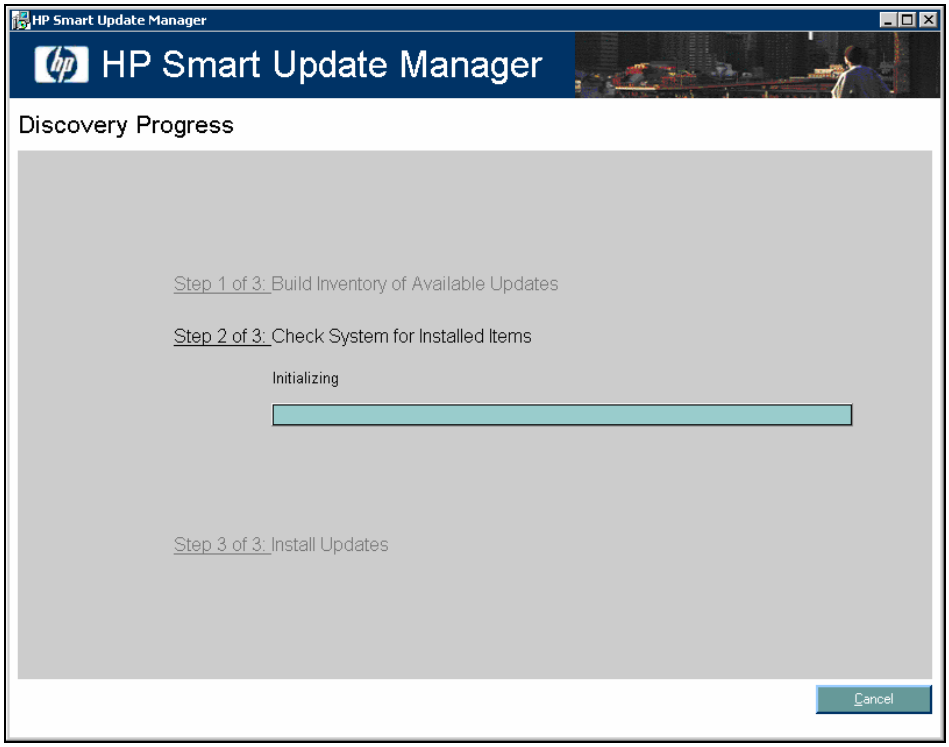
The HP SmartStart Update Manager automatically begins.



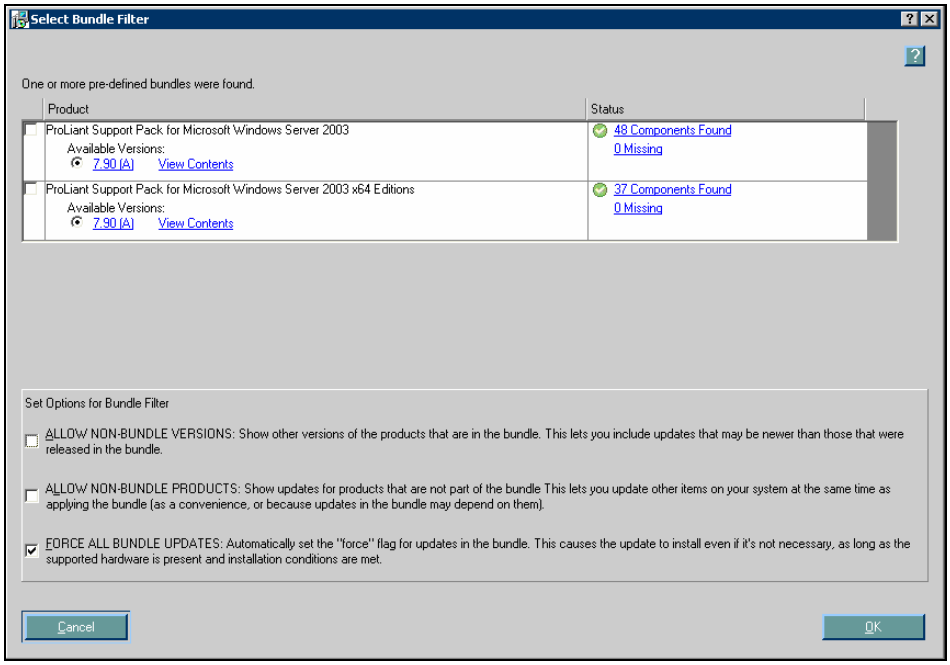
3. To install the PSP on the local host, select **Local host,** and then click **Next.**



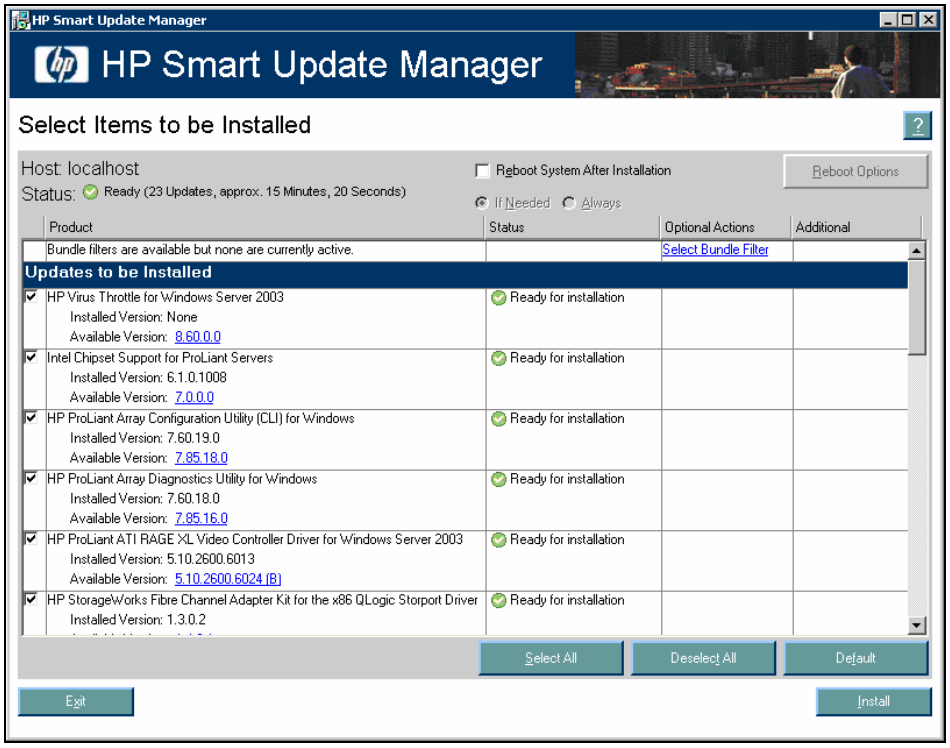
4. The HP SmartStart Update Manager automatically checks for installed items. After the check has completed, the Select Bundle Filter screen appears.



5. To ensure that the drivers are installed properly after a P2P migration, in the Set Options for Bundle Filter section, select the **FORCE ALL BUNDLE UPDATES** checkbox. Click **OK** to continue. The Select items to be installed screen appears.

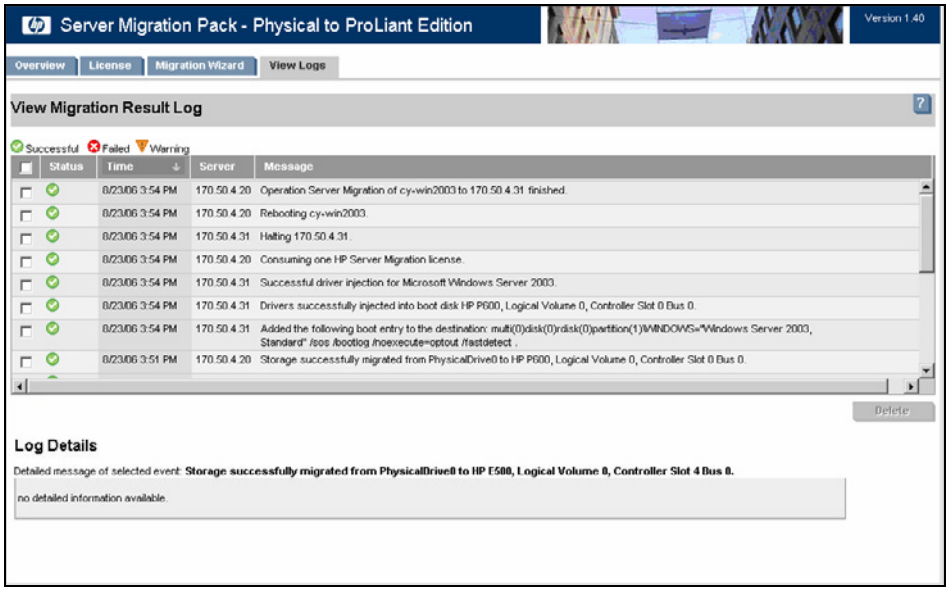


6. To start the installation, click **Install.**



5 Viewing migration logs

To view migration logs, click the **View Logs** tab. The View Migration Result Log screen appears.



If there are enough logs of performed migrations, scroll through the migration logs table. The table includes the following columns:

- Checkbox—Enables you to select migration logs for deletion. You can select multiple logs simultaneously.
- Delete—Enables you to delete logs. Select the logs to be deleted, and then click **Delete.**
- Status—Displays icons that show if a migration was successful, failed, or has information.
- Time—Lists the date and time of the migration step.
- Server—Indicates where the migration step was performed.
- Message—Lists information about the migration step.

To view more information about a specific entry, click the log entry. Additional details appear on the lower portion of the screen.

Appendix A Troubleshooting

This appendix identifies solutions for commonly encountered issues and provides answers to frequently asked questions. The following issues are addressed:

- Ports required for the SMP – P2P application are not available
- When launching the SMP – P2P wizard immediately after installation, the message "Unable to communicate with the SMP – P2P service" appears on the wizard page
- Unable to install the SMP – P2P application or web service
- Uninstalling the SMP – P2P application using the uninstaller shortcut menu
- Unable to uninstall an older version of the SMP – P2P application
- Corrective action is required before migrating some preinstalled HP Microsoft Windows Server 2003 operating systems
- Corrective action is required for some source servers with HP iLO Management Channel Interface Drivers
- Source agent fails to launch when source server reboots in SMP – P2P Agent Mode
- Destination server configuration issues
- Source server identification fails
- Destination server identification fails
- NTFS resize error message
- Large volumes fail with server thread error
- Some storage volumes on the destination server are not available for selection
- Drivers cannot be installed into boot disk
- Unrecoverable sector-read errors on the source server hard drive are not supported and fail a P2P migration
- Static IP address cannot be assigned on the destination server after migration
- Destination server mouse and keyboard do not work
- Starting a new migration after a current migration is stopped
- Migration does not terminate if source server is shut down
- Migration fails if certain Update Rollup versions exist
- Boot CD might stop responding when exiting the Array Configuration Utility

Ports required for the SMP – P2P application are not available

This issue occurs if port numbers 1124, 1125, or 1126 have been locked by another application. To verify:

For Microsoft Windows Server™ 2003 systems:

1. At the command line prompt, enter the following command: `netstat –n –o –a`
2. View the Local Addresses column to identify the ports currently in use.
3. Note the process identifier numbers (PIDs) for ports 1124, 1125, and 1126.
4. Open the Windows Task Manager, and then click the **Processes** tab.
5. Click **View>Select Columns.**
6. Select **PID (Process Identifier),** and then click **OK.**
7. Locate the PIDs in the PID column that were identified in step 3. With this information, you can determine the service that is currently using the ports needed for the SMP – P2P application.
8. Contact your system administrator to release these ports.

For Windows 2000 Server or Windows NT systems:

1. To obtain the PIDs for ports 1124, 1125, and 1126, download TCPView from http://www.microsoft.com/technet/sysinternals/Utilities/TcpView.mspx, and then run the application.
2. Open the Windows Task Manager, and then click the **Processes** tab.
3. Click **View>Select Columns.**
4. Select **PID (Process Identifier),** and then click **OK.**
5. Locate the PIDs in the PID column that were identified in step 1. With this information, you can determine the service that is currently using the ports needed for the SMP – P2P application.
6. To release these ports, contact your system administrator. Optionally, you can reboot the server. Several reboots might be necessary.

When launching the SMP – P2P wizard immediately after installation, the message “Unable to communicate with the SMP – P2P service” appears on the wizard page

Usually, the service manager shows that the SMP – P2P application service is launched. However, because of DNS lookup or other network latency, the communication to the service is not established, which causes this error message. To resolve this issue, perform one of the following actions:

- Wait a few minutes to start the wizard until the DNS requests time-out after the installation is performed.
- Add the host name of the application station and IP address to the WINDOWS\system32\drivers\etc\hosts file.

Unable to install the SMP – P2P application or web service

This issue occurs if an older version of the SMP – P2P application exists. To resolve this issue:

1. Insert the SMP – P2P CD in the CD-ROM drive of a different server.
2. Click **Install Application,** and then launch the application.
3. After the installation is complete, copy the **silentuninstall.exe** file from the SMP – P2P installation folder to the SMP– P2P installation folder on the server with the uninstallation issue.
4. To run the uninstallation process, double-click the **silentuninstall.exe** file.

Uninstalling the SMP – P2P application using the uninstaller shortcut menu

1. Close all **SMP – P2P** screens.
2. From the application station, click **Start>Programs>SMP – P2P>Uninstall SMP – P2P.**
3. When prompted, click **Yes** to confirm the uninstallation.

Unable to uninstall an older version of the SMP – P2P application

This issue occurs if the related uninstallation file is missing. To resolve this issue:

1. Insert the SMP – P2P CD in the CD ROM drive of a different server.
2. Click **Install Application,** and then launch the application.
3. After the installation is complete, copy the **unins000.exe** and **silentuninstall.exe** files from the SMP – P2P installation folder to the SMP – P2P installation folder on the server with the uninstallation issue.
4. To run the uninstallation process, double-click the **unins000.exe** file.

Corrective action is required before migrating some preinstalled HP Microsoft Windows Server 2003 operating systems

The following message appears when an affected system is detected while launching the source server agent:

```
ATTENTION: Corrective action is required before this server can be migrated.
```

Certain versions of Windows Server 2003 that are preinstalled by HP cannot be migrated successfully unless corrective action is performed before attempting the migration. Affected systems are detected by the source agent during initialization. If the system is affected, instructions for performing the corrective action are provided. If you attempt the migration without first performing the corrective action, your destination server becomes non-bootable and a license is consumed.

To perform the corrective action:

1. Cancel the SMP source agent execution.
2. In the command prompt window, change to the root directory of the Windows disk.
3. Run the following command: `SFC /SCANNOW`. This command might take several minutes. For more information about this command, see **http://support.microsoft.com/kb/310747/en-us**.

NOTE: This agent does not detect whether the corrective action has been performed. Subsequent attempts to execute this agent indicate that the corrective action is required. The corrective action only has to be applied once.

Corrective action is required for some source servers with HP iLO Management Channel Interface Drivers

The following message might appear during installation:

```
ATTENTION: Corrective action is required before this server can be migrated.
```

Certain versions of the HP iLO Management Channel Interface driver cause issues when Windows 2000 Server performs plug and play for the iLO 2 device on the destination server. The Windows 2000 Plug and Play (PnP) process might result in a system bug check if all of these conditions are met:

- The source server is running Windows 2000 Server or Windows 2000 Advanced Server
- The source server has the HP iLO Management Channel Interface driver version 1.7.2195.0 or later installed
- The destination server has an iLO 2 device installed
- Remedial action was not performed on the source server (normally performed during execution of the SMP – P2P source agent)

As a precaution, the files used during the PnP process must be removed before performing the migration. The following files, located by default in the C:\CPQSYSTEM\pnpdrvs directory must be removed:

- cpqci.dll
- cpqcidrv.cat
- cpqcidrv.inf
- cpqcidrv.sys

Removal of these files does not affect iLO operation on the source server. To delete the files and continue with the agent execution, select the files, and then click **OK.** To cancel execution of the source agent, click **Cancel.**

The source agent determines if the files in the default location must be removed. Files in non-default locations are not detected. If the files are not detected and removed from the source server before performing the migration, then the destination server might generate a system bug check during the PnP process for the iLO 2 device.

If the problem causes a system bug check on the destination server, the server can be returned to a normal state by performing the following steps:

1. Boot the destination server in Windows Safe Mode.
2. Open the **Registry Editor.**
3. Delete the following key:
   KEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cpqcidrv
4. Reboot the destination server.

Source agent fails to launch when source server reboots in SMP – P2P Agent Mode

If the SMP – P2P Agent fails to launch when the source server reboots in SMP – P2P Agent Mode:

1. To return to the original configuration, reboot the source server to Profile 1 Hardware Profile.
2. Remove SMP Agent Mode manually:
   a. Right-click **My Computer,** and then select **Properties.**
   b. Click the **Hardware** tab, and then select **Hardware profiles.**
   c. Select **SMP Agent Mode,** and then click **Delete.**
3. Before starting a new migration, verify that all antivirus and firewall software is properly reconfigured or disabled.

Destination server configuration issues

Possible destination server issues are detailed in the following sections.

Primary controller configured in system does not have drives attached

Confirm that your hardware setup is correct and that the correct controller is set to primary in ROM Based Setup Utility (RBSU).

Primary array controller does not have logical drives defined

Confirm that your array controller has at least one logical drive defined. You can confirm this by accessing the Configure Destination Server screen and then clicking Launch Array Configuration Utility, or by rebooting to Option ROM Configuration for Arrays (ORCA).

Primary controller in system is not supported by this version of the SMP – P2P application

Verify the primary controller is a supported controller for the SMP – P2P application. For a complete list of supported controllers, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*.

Source server identification fails

If the source server identification fails in step 1 of the migration wizard:

- Verify the identifier entered. If the name is entered for a source server that is in a domain, be sure that the FQDN is entered.
- Verify that the SMP – P2P Agent has been installed on the identified source server. For more information about running the SMP – P2P Agent, see the "Running the SMP – P2P Agent on the source server" section in this guide.
- Verify that the source server can be reached from the application station. Communication on network ports 1125 and 1126 must be enabled by any firewall between the application station and the source server.
- Verify that the agent status messages do not indicate that the source server is locked to another computer.

Destination server identification fails

If the destination server identification fails in step 3 of the migration wizard:

- Verify that the network adapter on the destination server is configured with a valid IP address, subnet, and gateway. Also, verify the network configuration information that is reported on the destination server.
- Verify that the destination server is booted from the SMP – P2P CD and ready for migration. For more information, see the "Booting the destination server" section in this guide.
- Verify that the destination server can be reached from the application station and source server. Communication on network ports 1125 and 1126 must be enabled by any firewall between this computer and the destination server.
- Verify that another SMP – P2P application is not already communicating with the destination server.

NTFS resize error message

The following message might appear during the migration of certain NTFS volumes:

```
The file system on source disk x, partition y could not be resized during
migration. The NTFS volume information could not be read. Retry the
migration without resizing this volume. Defragmenting the NTFS volume or
performing a "chkdsk /f" prior to the migration may resolve this
condition.
```

The preceding message appears when the SMP – P2P application cannot process the NTFS meta information for this volume and the volume cannot be resized during migration.

To resolve this issue, do not resize the volume. Instead, perform a disk defragmentation or run `chkdsk /f` to try to resolve the issue. However, performing a successful defragmentation and disk check, does not guarantee the ability to resize. In this case, the volume can only be migrated without resizing.

Large volumes fail with server thread error

Migrating extremely large volumes (larger than 1 TB) can result in a failed migration with the following message:

```
Server Migration failed. Error occurred in server thread; nested
exception is: java.lang.OutOfMemoryError.
```

To resolve this issue, increase the size of the Windows paging file.

To increase the Windows virtual memory paging file size in Windows 2003:

1. From the Control Panel, double-click **System.**
2. On the System Properties window, click the **Advanced** tab.
3. In the Performance section, click **Settings.**
4. In the Performance Options window, click the **Advanced** tab.
5. In the Virtual memory section, click **Change.**
6. In the Drive [Volume Label] column, select the drive that contains the paging file to be changed.
7. Select **Custom size,** and then enter a new paging file size in the Initial size (MB) box.
8. Click **Set.**
9. Click **OK** until all windows are closed.

To increase the Windows virtual memory paging file size in Windows 2000:

1. From the Control Panel, double-click **System.**
2. On the System Properties window, click the **Advanced** tab.
3. Click **Performance Options.**
4. In the Virtual Memory section in the Performance Options window, click **Change.**
5. In the Drive column, select the drive that contains the paging file to be changed.
6. In the Paging file size for selected drive section, enter a new paging file size in the Initial size (MB) box.
7. Click **Set.**
8. Click **OK** until all windows are closed.

Some storage volumes on the destination server are not available for selection

Some storage volumes configured on the destination server might not be available for selection in Step 5 of the migration wizard (Specify Destination Disks and Resize NTFS Partitions). If expected volumes do not appear, perform one of the following:

- Verify that the storage controller is supported by the SMP – P2P application. Volumes configured on an unsupported storage controller cannot be selected for migration. For more information about supported controllers, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*.
- Run the Array Configuration Utility and check the status of the volumes on the Smart Array controller to be sure that the volumes are not in a failed state. Also, verify that all volumes on the controller are numbered sequentially beginning with logical drive 1, as required by the HP ProLiant Essentials Server Migration Pack. If volumes are not numbered sequentially, clear the configuration and recreate the necessary volumes.

Drivers cannot be installed into boot disk

This error is reported if the SMP – P2P application fails to install device drivers. In most cases, additional information is reported on the destination server. Possible causes for this error include:

- The boot partition was not migrated to the boot volume on the destination server. Verify that the boot partition is selected for migration and placed on the boot volume of the destination server.
- The network connection failed during driver installation.
- The destination server failed or was powered down during driver installation.
- The storage controller where the boot partition was placed is not supported. For a list of supported controllers, see the *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*.

Unrecoverable sector-read errors on the source server hard drive are not supported and fail a P2P migration

The following error message might appear if a volume with unrecoverable sector-read errors is migrated:

```
Server Migration failed. ReadFile failed.
```

Hard drives automatically take corrective action when they have difficulty reading a sector. These sectors are marked as “bad sectors” and are relocated to one of the sparse sectors in a reserved area of the hard disk. In these cases, no read error is produced, and the drive continues to function properly. The data is lost and a read error is propagated to the operating system only if the surface error rate is too high and additional sparse sectors are not available, or when the sector is completely unreadable from the beginning.

If file system tools are used to detect these failing sectors (for example, chkdsk /p /r), the clusters are marked as “bad.” However, the data cannot usually be recovered. In such cases, the system is not consistent, and proper migration is not possible. The SMP – P2P application does not support the migration of volumes with unrecoverable bad sectors.

Static IP address cannot be assigned on the destination server after migration

Assigning a static IP address on the destination server might result in an error message similar to the following:

```
The IP address xxx.xxx.xxx.xxx you have entered for this network adapter
is already assigned to another adapter.
```

This scenario can occur if the IP address is assigned to a network adapter on the source server. For more information, see **http://support.microsoft.com/kb/269155/en-us**.

Destination server mouse and keyboard do not work

- The mouse and keyboard might not be immediately active on the destination server after migration. It might take a few minutes for PnP to detect and activate the mouse and keyboard.
- The mouse and keyboard might not be operational on initial startup on a c-Class server blade after performing a Windows 2000 migration. Reboot the destination server so that PnP correctly detects and activates the mouse and keyboard.

Starting a new migration after a current migration is stopped

If a migration is stopped by means other than a cancellation or failure, the application station, source server, and destination server might not recognize that the migration has stopped. To start a new migration:

1. To stop the agent, on the source server click **Abort and Exit,** and then relaunch the source agent from the SMP – P2P CD.
2. On the destination server, click **Exit,** and then reboot the server to the SMP – P2P CD.
3. On the application station, close the migration wizard.
4. Restart the SMP – P2P application service and the SMP – P2P web service.
5. Reopen the migration wizard.

Migration does not terminate if source server is shut down

In certain network, firewall, or router configuration scenarios, the SMP – P2P application might fail to recognize that the source server is no longer available during a migration and remain in migration mode. In this scenario, perform the following procedure:

1. Close the SMP – P2P application.
2. Open the Windows Services Manager, and then restart the SMP – P2P application and the SMP – P2P web service.

Migration fails if certain Update Rollup versions exist

A migration fails if Update Rollup 1 version 1 or 2 is installed on top of Windows 2000 SP4 on the source machine. To continue with the migration, the current version of the scsiport.sys file on the source machine must be rolled-back to the version present in Windows 2000 SP4.

To roll-back the current version:

1. Rename the Scsiport.sys file to Scsiport.sys.old. This file is located in the %windir%\System32\Drivers folder.
2. Copy the **Scsiport.sy**s file from Windows 2000 SP4 to the %windir%\System32\Drivers folder. For information about how to extract service pack files, see the *Readme for Windows 2000 Service Pack 4 (ReadMeSP.htm)* document at **http://www.microsoft.com/windows2000/downloads/servicepacks/SP4/ReadMeSP.htm**.

Boot CD might stop responding when exiting the Array Configuration Utility

When exiting the Array Configuration Utility, the P2P boot CD might stop responding. If this occurs, to restart the server, physically restart the server or use the Virtual power option in iLO.

Appendix B Technical support

This appendix provides technical support information for the SMP – P2P application.

Where to go for additional help

In addition to this guide, the following information sources are available:

- SMP – P2P product website **http://www.hp.com/go/p2p**
- *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Quick Setup Poster*
- *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Release Notes*
- *HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition Support Matrix*
- *Performing physical to ProLiant application migrations with the HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Editions* white paper (contact your HP account manager)

HP contact information

For the name of the nearest HP authorized reseller:

- In the United States, see the HP U.S. service locator at **http://www.hp.com/service_locator**.
- In other locations, see Contact HP Worldwide at **http://welcome.hp.com/country/us/en/wwcontact.html**.

For HP technical support:

- In the United States, for contact options, see Contact HP United States at **http://welcome.hp.com/country/us/en/contact_us.html**. To contact HP by phone, call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.
- In other locations, see Contact HP Worldwide at **http://welcome.hp.com/country/us/en/wwcontact.html**.

Glossary

HP ProLiant Essentials Rapid Deployment Pack	A multiserver deployment tool that enables IT administrators to easily configure and deploy large volumes of servers in an unattended, automated fashion.
HP ProLiant Essentials Server Migration Pack – Physical to ProLiant Edition (SMP – P2P)	A physical to ProLiant migration tool that enables IT administrators to perform accurate, automated migrations requiring less time than manual migrations.
HP ProLiant Support Pack (PSP)	An operating system-specific bundle of ProLiant optimized drivers, utilities, and management agents. Each PSP includes setup and software maintenance tools designed to provide an efficient way to install, upgrade, and manage system software.
Physical to ProLiant (P2P) migration	Migration of a physical machine to an HP ProLiant server. This process enables you to migrate older servers with your system settings to faster servers.

Index

U

V

W