Linux

IBM Installation Toolkit User Manual

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Note
Before using this information and the product it supports, read the information in "Notices" on page 153.

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Contents

About this guide

This manual is intended for system/network administrators of System p5®, System p6, and System i5® machines who would like to install Linux®, update firmware, or execute diagnostics/recovery tools on their machines. This edition applies to version 3.1 of the IBM® Installation Toolkit for Linux (formerly IBM Installation Toolkit for Linux on POWER®) and to all subsequent releases and modifications until otherwise indicated in new editions.

Release Notes

IBM Installation Toolkit release notes can be found on the root directory of the DVD and at `http://www14.software.ibm.com/webapp/set2/sas/f/lopdiags/installtools/home.html`

Support

You can find support information at: `http://www-128.ibm.com/developerworks/forums/dw_forum.jsp?forum=937&cat=72`

Conventions

In this manual, *IBM Installation Toolkit* is an abbreviation of *IBM Installation Toolkit for Linux*.

Whenever this manual refers to a command, a system file, or directory, it is displayed with `monospaced` font. Whenever a word or term requires special emphasis, it is displayed in *italic*.

Part 1. IBM Installation Toolkit User Manual

The IBM Installation Toolkit for Linux provides a set of tools that simplifies the installation of Linux on IBM Power Systems®, as well as many other advantages.

Chapter 1. Introducing IBM Installation Toolkit, v3.1

The IBM Installation Toolkit for Linux provides a set of tools that greatly simplifies the installation of Linux. The toolkit gives you access to the IBM value added software needed to fully use the industry leading capabilities of the POWER Platform such as Dynamic Logical Partitioning (DLPAR). The toolkit also supports web-based updates, providing immediate access to the latest offerings as soon as they are made available.

The toolkit can also be used as a bootable rescue DVD to run diagnostic tools and repair previously installed operating systems. It also provides a wealth of IBM documentation for configuring and managing Linux.

IBM Installation Toolkit is provided as a bootable ISO image that can be burned on a DVD (boot machines from DVD drive) or stored on a network boot server (boot machines from network).

After booting the machine, you will be prompted to run the Welcome Center, the Toolkit's main application. This application provides a centralized interface that allows you to update firmware, run diagnostics and recovery tools, prepare the machine for Linux installation and have access to Linux documentation.

Some of the key functions of the IBM Installation Toolkit include:

- Eases Linux installation:
  - Provides a wizard that allows you to install and configure Linux on Power servers in just a few steps
  - Works with new and existing configurations
  - Allows remote installation control: You can run installations by directing a graphical web browser or a Secure Shell (SSH) to the target machine
  - Supports DVD and network-based installations
- Provides access to latest Firmware images, with an easy to use interface for updating system firmware
- Provides a single comprehensive source for all Linux on Power servers' software, including IBM Reliability, Availability and Serviceability (RAS) Tools
- Helps managing computing environment
  - Provides an application to easily create and manage network repositories containing Linux and IBM value added packages
  - Can be used as a bootable rescue DVD to perform system diagnostics or maintenance on previously installed operating systems
- Provides access to latest Linux on Power servers' documentation

You can use the IBM Installation Toolkit for the following:

- Install and configure Linux on a non-virtualized Power server along with IBM RAS Tools
- Install and configure Linux on machines with previously configured Logical Partitions (virtualized machines) along with IBM RAS Tools
- Install IBM RAS Tools on a previously installed Linux system
- Upgrade system firmware level on POWER machines
- Perform diagnostics or maintenance operations on previously installed systems
- Browse and search Linux documentation included on the Toolkit ISO
- Migrate a LAMP server (software stack and application data) from a System x® to a System p® machine

Supported Linux distributions

Use this information to determine which Linux distributions are supported by the IBM Installation Toolkit for Linux.

IBM Installation Toolkit supports installation of the following Linux distributions:

- Red Hat Enterprise Linux 4 (GA, U1, U2, U3, U4, U5, U6, U7, and U8)
- Red Hat Enterprise Linux 5 (GA, U1, U2, and U3)
- SuSE Linux Enterprise Server 9 (GA, SP1, SP2, SP3, and SP4)
- SuSE Linux Enterprise Server 10 (GA, SP1, SP1 U1 and SP2)

Note: Older Linux distributions may not support the IBM Power 6 architecture. For that reason, the only distributions supported by this installation toolkit when running on a Power 6 machine include:

- *Red Hat Enterprise Linux 4 Update 5 and higher*
- *Red Hat Enterprise Linux 5 Update 1 and higher*
- *SuSE Linux Enterprise Server 10 SP1 and higher*

When running on IBM BladeCenter® JS12, JS22, JS23, and JS43 Express™, the supported distributions are:

- *Red Hat Enterprise Linux 4 Update 6 and higher*
- *Red Hat Enterprise Linux 5 Update 1 and higher*
- *SuSE Linux Enterprise Server 10 SP1 Update 1 and higher*

Hardware and software requirements

Before you install the IBM Installation toolkit for Linux, check to see that you have the necessary hardware and software requirements.

- Hardware requirements to use IBM Installation Toolkit:
  - Supported system families:
    - OpenPower®
    - Power Architecture® blade servers (IBM BladeCenter JS12, JS20, JS21, JS22, JS23, and JS43 Express
    - System i5
    - System p5
    - System p6
    - IntelliStationPOWER 185 (ATX)
  - Supported processor families:
    - POWER5™
    - POWER5+™
    - POWER6™
    - POWER6+™
    - PPC 970
  - CD/DVD-ROM reader, for CD/DVD-based installs;
  - Network card, for installations via network);
  - 2GB of RAM at least;
  - Additionally, refer to RHEL or SLES documentation for their minimum hardware requirements.

  IBM Installation Toolkit does not support Qlogic FiberChannel cards on Power Architecture blades.

  For an updated list of hardware supported by IBM Installation Toolkit, check the following Web site: `http://www14.software.ibm.com/webapp/set2/sas/f/lopdiags/installtools/home.html`.
- Requirements to install Linux using IBM Installation Toolkit:

  - RHEL 4 or RHEL 5 installation media if installing RHEL.
  - SLES 9 or SLES 10 installation media if installing SLES.
- Requirements to run IBM Installation Toolkit's Welcome Center on a previously installed Linux system:
  - `wui`, `wui-core`, `pam-authenticate` RPM packages, provided within the IBM Installation Toolkit.
  - `pam-devel` RPM package, provided within the installation media of the selected Linux distribution.
  - a graphical (Firefox) or text-mode web-browser (w3m or elinks)

Chapter 2. Installing and uninstalling the toolkit

IBM Installation Toolkit makes Linux deployment quick and easy, by automating system configuration, and reducing installation steps.

IBM Installation Toolkit is available as a single ISO image that can be freely downloaded from IBM's Web site (http://www14.software.ibm.com/webapp/set2/sas/f/lopdiags/installtools/home.html).

The IBM Installation Toolkit provides a simplified installation wizard that gathers all installation parameters from you in just a few steps. After the parameters are known, the Toolkit automatically configures the Linux installer (Anaconda for RHEL, YaST for SLES) so the installation can be performed automatically, with no additional input or extra configuration from you.

Note:

- Before starting a new installation, make sure that you have a recent backup of your hard disks data.
- The IBM Installation Toolkit provides a simplified interface that makes Firmware update easier. For more information about updating the Firmware level of your POWER system, see "Updating your firmware" on page 66.
- The IBM Installation Toolkit does not come with any Linux distribution media. To perform Linux installations, you will need to order Red Hat Enterprise Linux or SuSE Linux Enterprise Server installation media directly from their distributors.
- When booting from a DVD, detach all removable USB devices from your machine before using the IBM Installation Toolkit, except for a USB CD/DVD drive if you are booting from it.

When booting from a network, note the following:

- To boot a machine from network, a network boot server must have been previously set up. Moreover, your server administrator must have added your machine to the list of allowed clients for network boot. If you are not sure whether your machine will be served a network image, contact your network administrator.
- The steps for configuring the network boot server are explained in detail in "Setting up or updating the Network Server" on page 85.
- When the IBM Installation Toolkit is booted through the network, the documentation is not available. Use a DVD-ROM-equipped machine to read the documentation through the Welcome Center.

Software included

The IBM Installation Toolkit ISO image contains several pieces.

These pieces include:

- The Welcome Center: A centralized user interface for system diagnostics, Linux and RAS Tools installation, microcode update and documentation
- System Tools: An application that allows you to easily create and manage network repositories for Linux and IBM RAS packages and to migrate the LAMP stack (software stack and application data) from a System X server to a System P server
- Microcode packages
- RAS Tools packages
- User guides and manual about Linux, Linux for POWER and POWER Systems

Choosing the installation media

IBM Installation Toolkit can be used to perform Linux installations over network or via CD/DVDs. This section is intended to help you choose the best option to your computing environment.

For CD/DVD-based installations, you can use the IBM Installation Toolkit ISO image to create a bootable DVD, load it on the machine, and then proceed with Linux installation using the CD/DVDs of the Linux distribution you selected.

You can also combine these two options, by booting from DVD and installing over network, or booting from network and installing using CD/DVDs. The best choice depends solely on the characteristics of your computing environment.

For large network scenarios, the best choice is to set up a network installation server. Using a network installation server makes it possible to boot IBM Installation Toolkit and to install Linux on multiple client machines at the same time and it is much faster than booting/installing from CD/DVD. This network-based installation approach makes multiple and parallel Linux installations over the network quick and easy.

However, in small environments, the DVD is probably the best choice to boot the IBM Installation Toolkit and install Linux, as no additional action is required to set up a network booting environment.

Create a DVD from ISO image

You can create a DVD from the downloaded ISO image.

Follow the steps in order to create a DVD from the downloaded IBM Installation Toolkit ISO image.

1. In order to create a DVD, you need the tools for recording CD/DVD under Linux. These tools are available from the *dvd+rw-tools* package. To determine if the package is installed, enter the following command:

   ```
   rpm -qi dvd+rw-tools
   ```

   If the package is not found, install it by using your distributions package manager, such as Yast for SLES systems or Yum for RHEL5 systems.
2. Download the IBM Installation Toolkit ISO image to your Linux system.
3. You must have a DVD-Recorder drive installed on your system. Determine the DVD recorder device ID by executing the following command:

   ```
   hwinfo -cdrom | grep "Device File"
   ```

   In most cases the output of this command is:

   ```
   Device File: /dev/sr0 (/dev/hdc)
   ```
4. Insert a high-quality, blank, writable DVD-R disk into the DVD recorder.
5. Issue the following command:

   ```
   /usr/bin/growisofs -dvd-compat -Z /dev/hdc=<file>
   ```

   where <file> is the name of the ISO file.

Note:

- There are many other different methods to create a DVD from an ISO image. For example, if you have a PC with software that allows the creation of DVD media from an ISO image, then you can use that software to burn a DVD.
- Regardless of the method you use to create your DVD, use only high-quality writable media to ensure that no errors occur during the recording process, resulting on an unusable DVD.
- There are many different DVD standards (DVD-RAM, DVD-R, DVD-RW, DVD+R, DVD+RW, etc.). Make sure that the DVD media you selected is supported by your DVD writer/reader devices.

Creating a network-based installation server

For network-based installations, IBM Installation Toolkit provides System Tools, a simple-to-use application that allows you to quickly set up a network installation server.

This server is used to store an IBM Installation Toolkit bootable image, which makes it possible to boot client machines over the network. System Tools can also be used to easily set up network repositories for Linux distributions on the same server. Network repositories are perfect copies of Linux installation media, and can optionally be used as source repositories by the Linux distribution's package manager. Together, these two functions allow you to perform entire Linux installations over network.

You can manually install the System Tools application in your server, as shown in the following example. For more details on how to use the System Tools, refer to Chapter 8, "IBM Installation Toolkit System Tools," on page 83.

For example:

```
rpm -ivh /suse/noarch/wui_core-1.0-1.noarch.rpm
rpm -ivh /suse/ppc64/PAM-authenticate-2.0-2.ppc64.rpm
rpm -ivh /suse/noarch/wui-2.0-1.noarch.rpm
rpm -ivh /suse/noarch/sct-pexpect-2.1-1.noarch.rpm
rpm -ivh /suse/noarch/systools-1.0-1.noarch.rpm
rpm -ivh /suse/noarch/sct-post-0.1-1.noarch.rpm
```

Uninstalling IBM Installation Toolkit

Follow these steps to uninstall IBM Installation Toolkit.

In order to remove the IBM Installation Toolkit from the installed system, use your distribution's package manager to remove the associated RPMs.

All of the following packages must be removed in order to completely remove the IBM Installation Toolkit:

- `wui`
- `wui-core`
- `pam-authenticate`

For example:

```
rpm -e sct-post-0.1-1
rpm -e systools-1.0-1
rpm -e sct-pexpect-2.1-1
rpm -e wui-2.0-1
rpm -e PAM-authenticate-2.0-2
rpm -e wui_core-1.0-1
```

Chapter 3. Booting IBM Installation Toolkit

IBM Installation Toolkit is provided as a bootable ISO image that can be either recorded on a DVD or stored on a network boot server. This bootable image loads a Linux-based operating system that allows you to perform tasks such as Linux installation, firmware update, and system diagnostics/recovery. This section shows you how to set up a POWER machine to boot IBM Installation Toolkit from either a DVD or network interface.

Setting up boot device in SMS window

This section describes configuring the Open Firmware to make the machine boot either from a DVD drive or from a network interface.

The machine configuration is straightforward and has only a few steps. To start using the IBM Installation Toolkit, do the following:

1. Turn on your POWER box. After initial hardware tests, the SMS window is displayed. At this window, type 1 and then press **Enter** to access the SMS window configuration.

```
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM
IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM IBM

        1 = SMS MENI                      5 = Default Boot List
        8 = Open Firmware Prompt          6 = Stored Boot List

     Memory     Keyboard     Network     SCSI     Speaker
```

Figure 1. Entering SMS window

2. The first SMS configuration window is displayed. Select the **Select Boot Options** entry by typing 5 and then pressing **Enter**.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Main Menu
1.   Select Language
2.   Setup Remote IPL (Initial Program Load)
3.   Change SCSI Settings
4.   Select Console
5.   Select Boot Options



.....................................................................
Navigation Keys:

                                        x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 2. Changing Boot Options

3. Select **Configure Boot Device Order** by typing 2 and then pressing **Enter**.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Multiboot
1.   Select Install/Boot Device
2.   Configure Boot Device Order
3.   Multiboot Startup <OFF>




.....................................................................
Navigation Keys:
M = return to Main Menu
ESC key = return to previous screen     x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 3. Configuring Boot Device Order

4. Choose **Select 1st Boot Device** by typing 1 and then **Enter**.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Configure Boot Device Order
1.   Select 1st Boot Device
2.   Select 2nd Boot Device
3.   Select 3rd Boot Device
4.   Select 4th Boot Device
5.   Select 5th Boot Device
6.   Display Current Setting
7.   Restore Default Setting



.....................................................................
Navigation Keys:
M = return to Main Menu
ESC key = return to previous screen     x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 4. Selecting the 1st Boot Device

5. If you want to boot the machine from the network, select **Network** as the boot device type by typing 6. If you want to boot using a DVD drive, select **CD/DVD**, by typing 3. After choosing the device type, press **Enter**, and a list of devices of the chosen type is displayed. In this example, *Network* was chosen.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Select Device Type
1.   Diskette
2.   Tape
3.   CD/DVD
4.   IDE
5.   Hard Drive
6.   Network
7.   None
8.   List All Devices



.....................................................................
Navigation Keys:
M = return to Main Menu
ESC key = return to previous screen     x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 5. Selecting Device Type for booting

6. If you selected **Network** as the device type, select the network device that is connected to the same network as the network boot server (if you do not have this information, contact your local administrator). If you selected **CD/DVD** as the device type, select the DVD drive that contains the IBM Installation Toolkit DVD.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Select Device
Device  Current  Device
Number  Position  Name
1.        -      Virtual Ethernet
                 ( loc=U9124.720.100367A-V3-C4-T1 )
2.     None



.....................................................................
Navigation Keys:
M = return to Main Menu
ESC key = return to previous screen     x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 6. Selecting an available device to boot from

7. Confirm your choice by selecting **Set Boot Sequence: Configure as 1st Boot Device**.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
 Select Task

Virtual Ethernet
    ( loc=U9124.720.100367A-V3-C4-T1 )

1.    Information
2.    Set Boot Sequence: Configure as 1st Boot Device



.....................................................................
Navigation Keys:
M = return to Main Menu
ESC key = return to previous screen     x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 7. Setting the chosen device as the 1st boot device

8. The firmware is updated with the configuration for the boot device order.

```
                          .................
                          |  PLEASE WAIT.... |
                          .................




scan /vdevice/v-scsi@30000002/disk
```

Figure 8. Updating firmware data

9. The current boot sequence is displayed.

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Current Boot Sequence
1.   Virtual Ethernet
    ( loc=U9124.720.100367A-V3-C4-T1 )
2.   SCSI 107374 MB Harddisk, part=1 ()
    ( loc=U9124.720.100367A-V3-C4-T1-W8100000000000000-L0 )
3.    None
4.    None
5.    None



.....................................................................
Navigation Keys:
M = return to Main Menu
ESC key = return to previous screen     x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 9. Boot device list

10. Press **X** and the following table is displayed

```
Version SF235_185
SMS 1.6 (c) Copyright IBM Corp. 2000,2005 All rights reserved.
.....................................................................
Are you sure you want to exit System Management Services?
1.   Yes
2.   No


.....................................................................
Navigation Keys:

                                       x = eXit System Management Services
.....................................................................
Type menu item number and press Enter or select Navigation key:
```

Figure 10. Finishing configurations

11. Type 1 to exit the SMS configuration window.

Loading IBM Installation Toolkit live system

In this section, it is assumed that you have already set up the machine to boot IBM Installation Toolkit from either a DVD drive or a network boot server.

To boot IBM Installation Toolkit Live system, follow the steps:

1. Attach all hardware devices, if necessary.

   Note: When booting from a DVD, detach all removable USB devices from your machine before using the IBM Installation Toolkit, except for a USB CD/DVD drive if you are booting from it.

   When booting from a network, note the following:

   - To boot a machine from network, a network boot server must have been previously set up. Moreover, your server administrator must have added your machine to the list of allowed clients for network boot. If you are not sure whether your machine will be served a network image, contact your network administrator.
   - The steps for configuring the network boot server are explained in detail in "Setting up or updating the Network Server" on page 85.
   - When the IBM Installation Toolkit is booted through the network, the documentation is not available. Use a DVD-ROM-equipped machine to read the documentation through the Welcome Center.
2. If you are going to boot from DVD, insert the IBM Installation Toolkit DVD into the selected CD/DVD-ROM device.
3. Power on your system.
4. The system will boot from the selected device and the boot loader window, as shown in the following figure, is displayed.

```
    IBM Installation Toolkit for Linux on Power
          Version 3.1
          Timestamp 300508125618

          This Live CD supports booting the following hardware:

          System families: Open Power, Power Blades (JS12, JS20, JS21, JS22),
                           System i (iSeries), System p5, System p6
                           Intellistation POWER 185 (ATX)

          Processor family: Power 5, PPC 970, Power 6

          Linux distributions supported for installation: RHEL4, RHEL5, SLES9 and
          SLES10

          For more information on hardware support, check:
          http://www14.software.ibm.com/webapp/set2/sas/f/lopdiags/installtools/home.html

          To contact the support team, post a message in the forum:
          http://www-128.ibm.com/developerworks/forums/dw_forum.jsp?forum=937&cat=72


Welcome to yaboot version 10.1.22-r948
booted from '/pci@8000000f8000000/pci@2/ethernet@4:speed=auto,duplex=auto,0.0.0.0,,0.0.0.0.0.0.0.0'
Enter "help" to get some basic usage information
boot:
```

Figure 11. Boot loader window

5. At the boot loader prompt, you can press Tab to see all the available labels that you can use to boot your machine. To accept the default, press **Enter**.

   This step loads the Root Filesystem into memory. The Root Filesystem contains all installation, diagnostics, and recovery tools used by the IBM Installation Toolkit, including the Linux documentation catalog. This process can take several minutes.

```
htab_hash_mask          =0x1ffff
.....................................
[boot]0100 MM Init
[boot]0100 MM Init Done
Linux version 2.6.16.27-178-ppc64 (geeko@buildhost) (gcc version 4.1.0) #1 SMP T
ue Sep 4 05:02:07 UTC 2007
[boot]0012 Setup Arch
Node 0 Memory: 0x0-0x40000000
EEH: No capable adapters found
PPC64 nvram contains 7168 bytes
Using shared processor idle loop
[boot]0015 Setup Done
Built 1 zonelists
Kernel command line: root=/dev/ram init=/linuxrc ramdisk_size=49152 quiet
Hardware probing, this will take about 16 seconds, please wait...sda: assuming d
rive cache: write through
sad: assuming drive cache: write through
Done
Available memory: 1012812 KB
CD-ROM boot detected...
CD-ROM devices found: sr0
Create required directories in memory...Done.
Loading Boot Filesystem into memory, please wait...
**
```

Figure 12. Loading Root Filesystem data

6. During the boot process, you are asked to select your locale and keyboard settings. This prompt has a timeout of 15 seconds, and defaults to English for language and standard US for keyboard when the limit is reached.
7. After the system finishes booting, the Welcome Center information window is displayed, if your machine has a graphical card. If your machine does not have a graphical card, the text mode is

displayed, along with some instructions on how to start the Welcome Center in text mode. The following figure displays the text mode prompt and instructions on how to start the Welcome Center in text mode.

```
** Machine IP address is: 10.0.0.12 **

SSH as root (empty password) to this IP Address and run 'WelcomeCenter' if you'd
 like to connect to Welcome Center from a remote machine

If you want to connect to Welcome Center from a remote browser, you **must** sta
rt a local text-mode Welcome Center first. Web-based applications will be displa
yed in your remote browser, but all non web-based applications will be displayed
 in this text-mode display

If you selected to run an xterm from the Welcome Center, type exit or hit ctrl+d
 to return to the main menu



Run 'WelcomeCenter' to start the text-mode Welcome Center on this display

IBM:/ #
```

Figure 13. IBM Installation Toolkit successfully booted

8. During the boot process, you are asked to select your locale and keyboard settings. If you are timed out in this process the defaults are set as English and standard US keyboard.
9. After the system boots, wait for the first prompt, then do the following:
   - If the IBM Installation Toolkit Live DVD was able to start a graphical session, the Welcome Center automatically opens in graphical mode in the Web Browser.
   - If the IBM Installation Toolkit Live DVD cannot start a graphical environment, type `WelcomeCenter` in the shell prompt to open the Welcome Center in a text-mode Web browser.

Chapter 4. Welcome Center overview

The **Welcome Center** is the place from where you can manage your machine. Through the Welcome Center, you can perform many tasks including installing a Linux System, running diagnostic tools, browsing documentation about Linux in general, rebooting the machine, and registering yourself at the IBM Web site.

Note: On target systems (those systems that have been installed by using the IBM Installation Toolkit or a generic Linux system where the Welcome Center has been installed), you can only launch the **Welcome Center** if you have a Web browser installed on those systems.

The follow figures show the main window of the Welcome Center in both graphical and text mode. This window is divided into other more specific sub-windows:

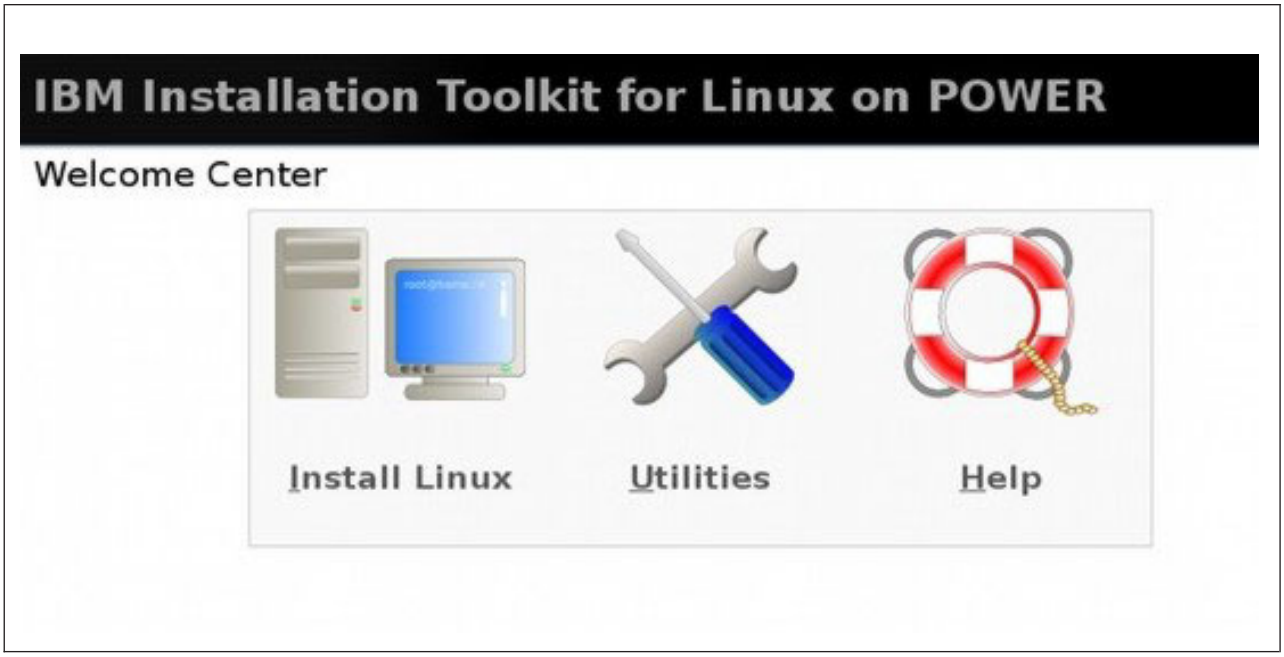

Figure 14. Main Window(Graphical mode)

```
IBM Installation Toolkit for Linux on POWER
.....................................................................
Welcome Center

  * Install Linux
  * Utilities
  * Help
.....................................................................
Home=top  End=bottom  Tab=nextlink  Esc+Tab=backlink  Arrow keys  Enter
```

Figure 15. Main Window (Text mode)

Install Linux / Install Tools

- *Install Linux System*
- *Install IBM Packages in a Running System*
- *Check contents available on the server*
- *Manage IBM PowerVM™ Lx86*

Utilities

- *Firmware update*
- *Configure network*
- *Eject media*
- *Reboot system*
- *System diagnostics*
- *Exit browser*

Support

- *Browse/Search Documentation*
- *Help*
- *Register at IBM Web site*

Some of these options are only available on the live system while others are only available on installed systems. The explanation of each functionality indicates whether it is available on the live system or on the installed system.

Starting the Welcome Center

You can start the Welcome center in different methods, depending on your environment.

These methods include:

- **Graphical mode in live DVD**: Available when you have booted the IBM Installation Toolkit live DVD in a machine that has a graphics card attached to it. In this case, the Welcome Center opens automatically for you.
- **Text mode in live DVD**: Available when you have booted the IBM Installation Toolkit live DVD in a machine that has no graphics card attached to it. To run the Welcome Center, type `WelcomeCenter` in the shell.
- **Access through a remote browser**: Available if you would like to access the Welcome Center through a browser when you are accessing the machine remotely, from your notebook for example. To access the Welcome Center in a remote browser (this situation typically happens when the machine has no graphics card), make sure that there is one instance of the Welcome Center running locally on the Power System Server. For that to happen, either start Welcome Center on a local console or ssh as root to the machine (ssh root@machine_ip) and start the Welcome Center. Leave this console opened. Point the remote browser to the system through http (such as http://machine_ip). Web-based applications are displayed in the remote browser, but non-Web-based applications are displayed on the machine's console that you started the Welcome Center in. For instructions on how to do this on installed systems, read this section further.
- **Graphical mode in installed system**: If you have performed a Linux installation using IBM Installation Toolkit and have chosen to install the X Window System, the Welcome Center is installed on this system. To run the Welcome Center, click the desktop icon or use the system's menu.
- **Text mode in installed system**: If you performed a Linux installation using IBM Installation Toolkit, the Welcome Center is installed on this system. To run the Welcome Center, type `WelcomeCenter` in the shell.

Note:

- Remote connections using Windows® Hyperterminal and Internet Explorer are not supported. Web System Management PC Client connections may experience some problems when using the browser's hotkeys, like B, b, and End.
- Use an empty password to log in as **root** on the Live DVD environment.

All of the four ways to access the Welcome Center described earlier in this chapter also hold for installed systems. The only difference is that you have to use port 4234 to access it from a remote browser, like *http://your_machine_ip:4234*.

Note:

- If you have a machine without a graphics card, you are restricted to using the Welcome Center in text mode if accessing it locally. However, you may access this machine and still run the Welcome Center remotely if you want to.
- You are only able to launch the **Welcome Center** on an installed system if you are logged in as root.
- If you start a second instance of the **Welcome Center**, the first one is closed.
- When you are using the **Welcome Center** in a text mode environment, any time the Welcome Center returns after launching external programs, the browser prompts you for the user name and password again.
- If you run the **Welcome Center** in text mode, the browser used to display the data is w3m. To exit w3m, type `q` or `Q` or use the **Exit Browser** option in the main window.
- If you run the **Welcome Center** in text mode in a target system running Red Hat, you must quit the browser with the **Exit Browser** option in the main window. `q` and `Q` cannot be used as shortcuts with elinks.
- To access the Welcome Center on installed systems through a remote browser, use port 4234 in your URL, like *http://your_machine_ip:4234*.

Manually installing the Welcome Center

If you want to use the Welcome Center but you already have a running system and performed your installation without IBM Installation Toolkit, you can install it manually.

Complete the following steps while you are logged in as the root user:

1. Mount the IBM Installation Toolkit DVD by typing `mount /dev/hdx /media/cdrom`, where `hdx` is your CD/DVD-ROM drive.

   Alternatively if you have the iso image only, type `mount -o loop IBM_Inst_Toolkit.iso /media/cdrom`, where `/media/cdrom` is an ordinary directory to loopback mount the image on.
2. **If you are using SLES, run the following strings:**
   - `rpm -ivh /media/cdrom/suse/noarch/wui_core-1.0-1.noarch.rpm`
   - `yast -i /media/cdrom/suse/noarch/wui-2.0-1.noarch.rpm`
   - `yast -i /media/cdrom/suse/ppc64/PAM-authenticate-2.0-2.ppc64.rpm`
3. **If you are using Red Hat, run the following strings:**
   - `rpm -ivh /media/cdrom/RedHat/RPMS/wui_core-1.0-1.noarch.rpm`
   - `rpm -ivh /media/cdrom/RedHat/RPMS/wui-2.0-1.noarch.rpm`
   - `rpm -ivh /media/cdrom/RedHat/RPMS/PAM-authenticate-2.0-2.ppc64.rpm`
4. Install the package `pam-devel` shipped with your SLES or RHEL installation. On RHEL systems, there are two packages `pam-devel.ppc` and `pam-devel.ppc64`. Only the `pam-devel.ppc` package is needed.
5. Run the **Welcome Center** by typing `WelcomeCenter`.

Accepting the License Agreement

When the Welcome Center is started for the first time after boot, the first window displayed is the License Agreement. You need to read and accepted before proceeding.

The License Agreement window looks like the following figures in both graphics and text modes.

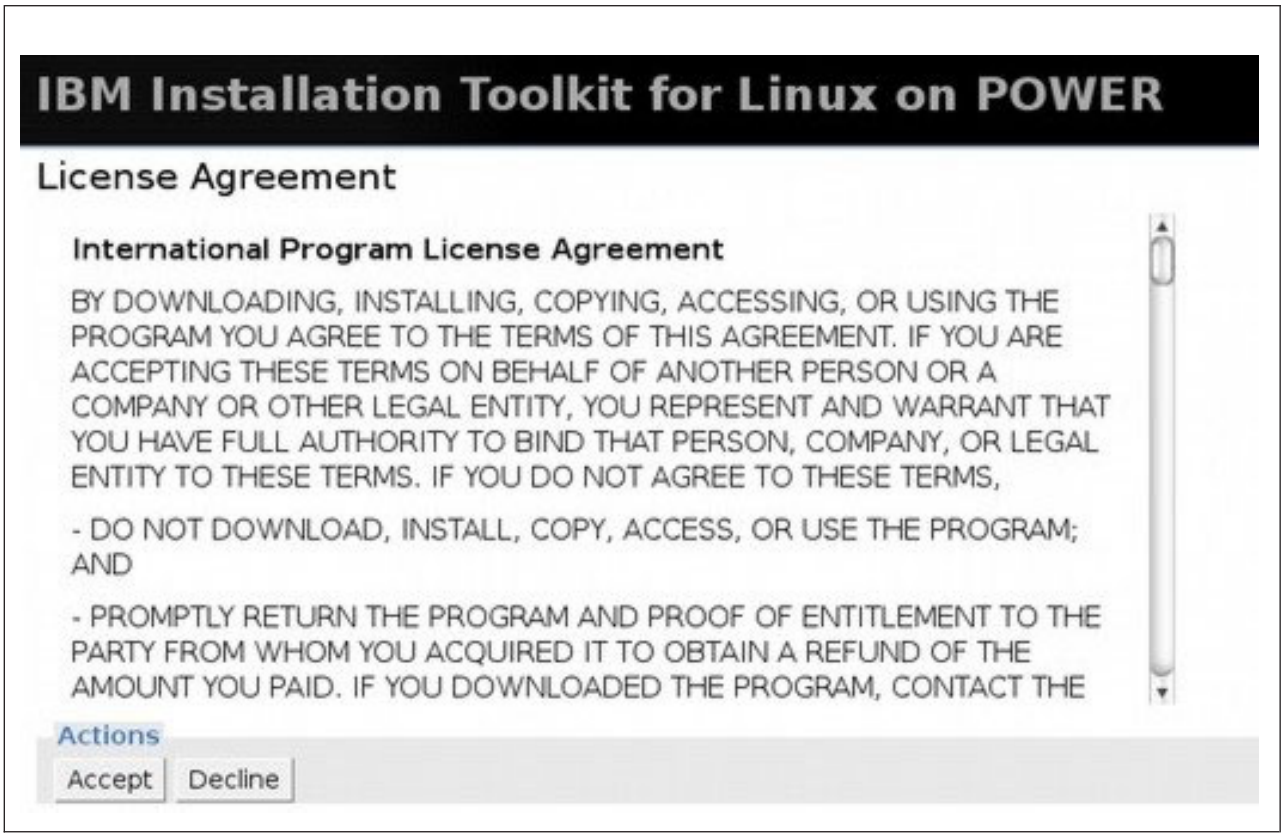

Figure 16. IBM Installation Toolkit License, graphical mode

```
IBM Installation Toolkit for Linux on POWER
....................................................................
License Agreement

Click on the [+] below in order to read the license. Only after that the
controls will be enabled.

  * [+] View License

Actions Accept Decline
....................................................................
Home=top  End=bottom  Tab=nextlink  Esc+Tab=backlink  Arrow keys  Enter
```

Figure 17. IBM Installation Toolkit License, text mode

You can accept or decline the license. If you reject the license, the Welcome Center will not continue.

Note: In the text mode, you need to select the + symbol and press **Enter** to read the license before accepting or declining it.

When you have accepted the license, you will be able to see the Welcome Center main window and start using this software.

Chapter 5. Installing Linux using the Welcome center

IBM Installation Toolkit supports installing several Linux releases from RedHat and Suse by using either the distribution CDs and DVDs or network repositories.

If you want to perform a network installation, the installation server must be set up with the *System Tools* package. If you try to use an installation server that has not been created using the System Tools package, you cannot install your system correctly.

If you are going to install to an LPAR, that LPAR should exist. It is out of the scope of this document to guide you on how to enable LPARs on system with Virtualization support or configure them. Consult the *Partitioning with Integrated Virtualization Manager* document that is available on the IBM Installation Toolkit DVD for more information.

In addition to using the Linux distribution DVD set, the IBM Installation Toolkit can be used to perform network installations using either the HTTP, FTP, or NFS protocols.

The Welcome Center Installation wizard steps are the same for all the supported distributions (currently RHEL and SLES). However slight differences exist between DVD or Network installations; these differences are covered in deeper detail in the following sections.

Note:

- The installation wizard is disabled if the Welcome Center is running from a previously installed system. This functionality should be used only from within the IBM Installation Toolkit live DVD environment.
- The network used for installation must be configured either automatically by DHCP during boot time or manually. The manual configuration can be performed through the *Configure Network Manually* described in "Configuring the network" on page 71, or using common Linux commands such as `ifconfig`.
- **Show instructions** in text mode, display instructions that describe the configuration item. Click if you want guidance on the configuration step. To return to the wizard, click **Hide instructions**.

Starting the Installation wizard

The first step is to start the Installation wizard.

To start a new Linux installation, select **Install Linux**. You are then directed to the Installation wizard.

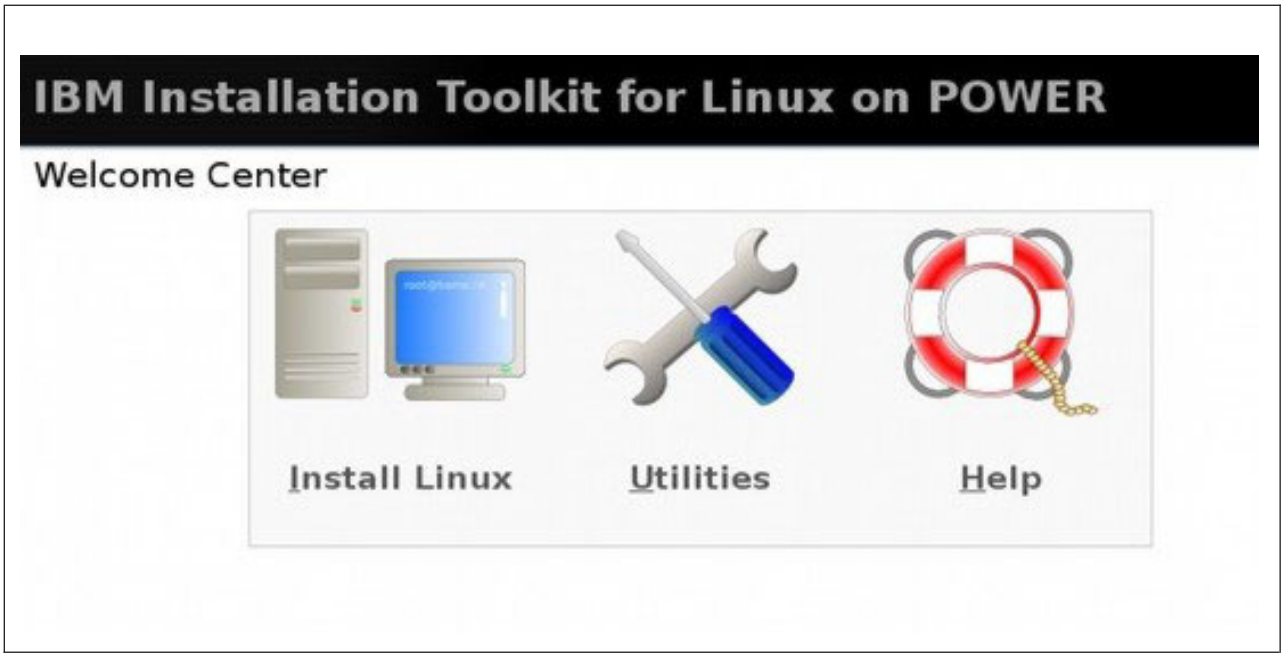

Figure 18. Main window (Graphical mode)

```
IBM Installation Toolkit for Linux on POWER
.....................................................................
Welcome Center

  * Install Linux
  * Utilities
  * Help
.....................................................................
Home=top  End=bottom  Tab=nextlink  Esc+Tab=backlink  Arrow keys  Enter
```

Figure 19. Main window (Text mode)

Choosing an installation profile and partitioning your disks

The second step is to choose your installation profile and partitioning your disks.

The first wizard window allows you to choose key aspects of your new Linux installation. These aspects include:

- Linux distribution
- Installation profile
- Installation media
- Disk partitioning

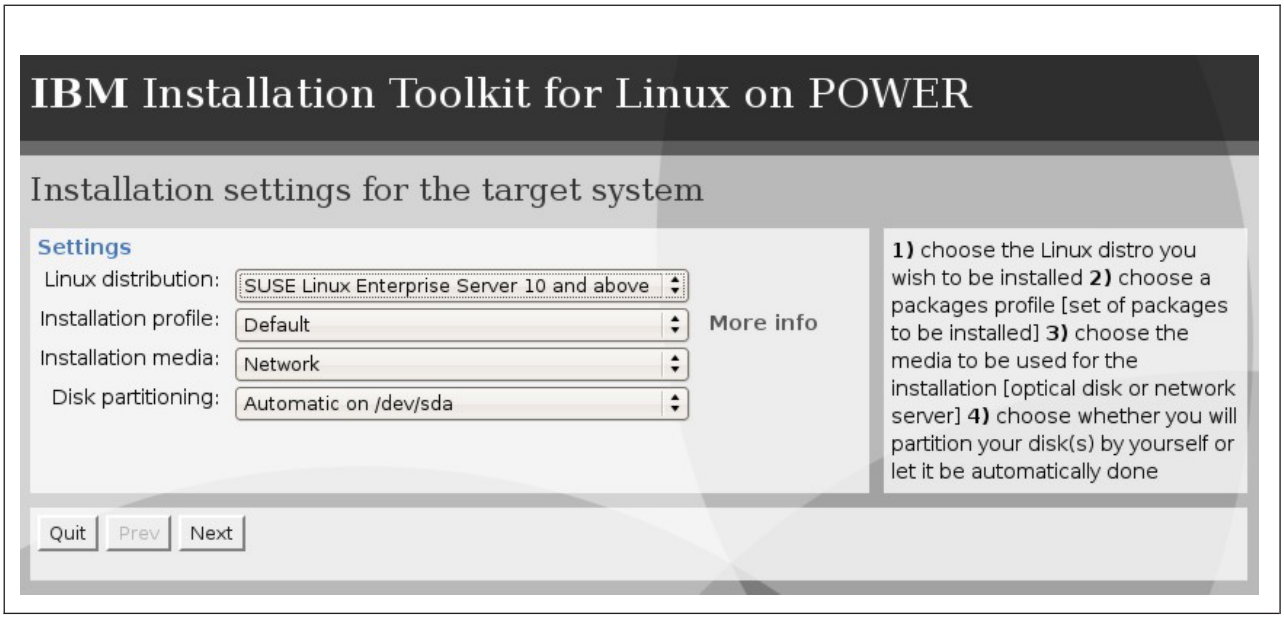

Figure 20. Installation settings: Graphical mode

```
IBM Installation Toolkit for Linux on POWER

Installation settings for the target system              [Show instructions]

Settings

 Linux distributions: [Red Hate Enterprise Linux 4 and above    ]
Installation profile: [Default    ]                               [More info]
  Installation media: [Network   ]
   Disk partitioning: [Manual             ]

Navigation [Quit] [Prev] [Next]
```

Figure 21. Installation settings: Text mode

Use the **Linux distribution** field to choose one of the supported distributions. The following versions are supported:

- Red Hat Enterprise Linux (RHEL) version 4, up to Update 8
- Red Hat Enterprise Linux (RHEL) version 5, up to Update 3
- Suse Linux Enterprise Server (SLES) version 9, up to Service Pack 4
- Suse Linux Enterprise Server (SLES) version 10, up to Service Pack 2

Note:

- This version of IBM Installation Toolkit does not support partitions under LVM and RAID. All of your LVM partitions will be erased in a SLES installation.
- Older Linux distributions may not support the IBM Power 6 architecture. For that reason, the only distributions supported by this installation toolkit when running on a Power 6 machine include the following:
  - *Red Hat Enterprise Linux 4 Update 5 and above*
  - *Red Hat Enterprise Linux 5 update 1 and above*
  - *Suse Linux Enterprise Server 10 SP1 and above*

  When running on a Power 6 blade, the supported distributions include:
  - *Red Hat Enterprise Linux 4 Update 6 and above*

– *Red Hat Enterprise Linux 5 update 1 and above*
– *Suse Linux Enterprise Server 10 SP1 U1 and above*

Changing the **Installation Profile** determines which set of packages from the distributions are installed on the target system. Choose one of these options:

- *Minimal*: Installs the smallest set of packages that allows the system to boot and to perform basic tasks. The disk usage is kept to a minimum, you may choose to install additional packages in the future using the standard method provided by each Linux distribution.
- *Minimal with X*: Installs all the packages included in *Minimal*, but also installs the X Window System, a graphical environment that runs on Linux. This option is useful for servers that have a graphics card, but still have storage space restrictions.
- *Full*: Installs all package sets provided by the distribution. Requires much disk space but you should not need to install any other package in the future.
- *Default*: Installs the distribution's default package selection and provides a balance between disk usage and functionality.

Note:

- The IBM Installation Toolkits probes your hardware for video cards. If you choose a package set that installs the X Window System (any set but the Minimal) and a video card is found, your system is set to boot in graphical mode, known as *Runlevel 5*.
- The IBM Installation Toolkit supports only Matrox graphics cards. If another card is used, then the IBM Installation Toolkit starts on text mode or fails.

Installation media controls the wanted installation method that can be either a DVD-based install where you must use the IBM Installation Toolkit DVD and the Linux distribution CDs/DVDs, or a network installation where the IBM value-add packages and the Linux distribution packages are downloaded at installation time from previously configured servers.

The **Disk partitioning** option allows you to control how the installer partitions the machine disks. There are two options:

- *Automatic*: You specify the disk to install Linux on and then the installer and then uses a default partitioning plan for that disk. This option is recommended for most installations and requires little user interaction.
- *Manual*: You partition the disks manually through the Welcome Center's partitioning window. Provides full control over partition scheme. This option is intended for advanced users.

Note: The *PReP Partition* is automatically created in the *Automatic* partitioning option. You need to create the PReP partition if you select *Manual*. If you do not have a PReP Partition yet, the installer instruct you on how to create one.

If you choose *Automatic Partitioning*, all the data on the selected disk will be lost.

Click **Next** to proceed.

Setting network installation options

If you are performing a Network based installation, you need to set the network installation options. If you are installing using the Linux distribution CDs/DVDs, this step is not available.

In this window, provide the access information to the installation server. If the target machine was booted from the network, that information may be already available from the **Repository** field.

If you booted the IBM Installation Toolkit from its DVD, no information is available and the server location must be provided manually as a URL in the **Use custom URL** in the form *protocol://server_ip/server_directory*, where:

- **protocol**: Determines how the server is providing the packages over the network: HTTP, FTP, or NFS.
- **server_ip**: The IP address of the installation server.
- **server_directory**: The directory that you are using to access the distribution content on the server.

Two servers must be provided. The first, *Network Install Server*, provides the Linux distribution files while the second, *IBM / Additional Packages Server*, provides the IBM value-add packages.

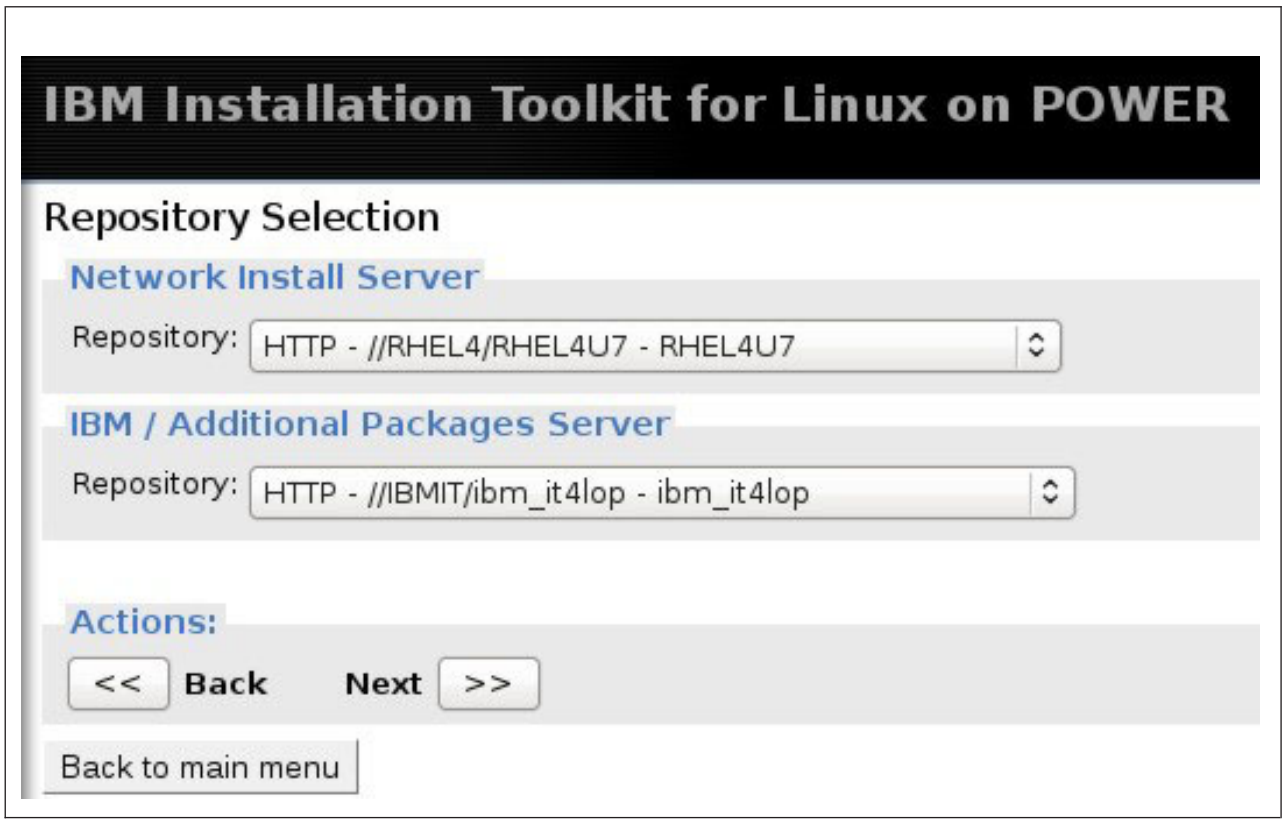

Figure 22. Installation wizard server options: Graphical mode

```
IBM Installation Toolkit for Linux on POWER

Package repositories selection                          [Show instructions]

Distro packages repository

    Repository: []
Use custom URL: [____________________]

IBM packages repository

    Repository: []
Use custom URL: [____________________]

Navigation [Quit] [Prev] [Next]
```

Figure 23. Installation wizard server options: Text mode

If you are unable to determine the correct values for any of these fields your network administrator may be able to provide assistance.

When you are finished, click **Next**

Note:

- If you believe that the information provided is correct, but still are unable to continue, check that you have network access and the server was properly set up.
- The Linux distribution package repository and IBM packages repository must have been set up on the server by the System Tools or the Welcome Center will fail to recognize the repositories.
- The Linux distribution package repository and IBM packages repository must have been set up on the server by the System Tools or the Welcome Center will fail to recognize the repositories and you will be unable to continue.

Partitioning your customized disks

In this part of the wizard, you can use the IBM Installation Toolkit interface to partition the target system disks. This step is only applicable to *Manual Disk Partitioning installations*. If you chose to automatically partition your disks, this step is skipped.

Verify your partitions using the Disk Partitioning window.

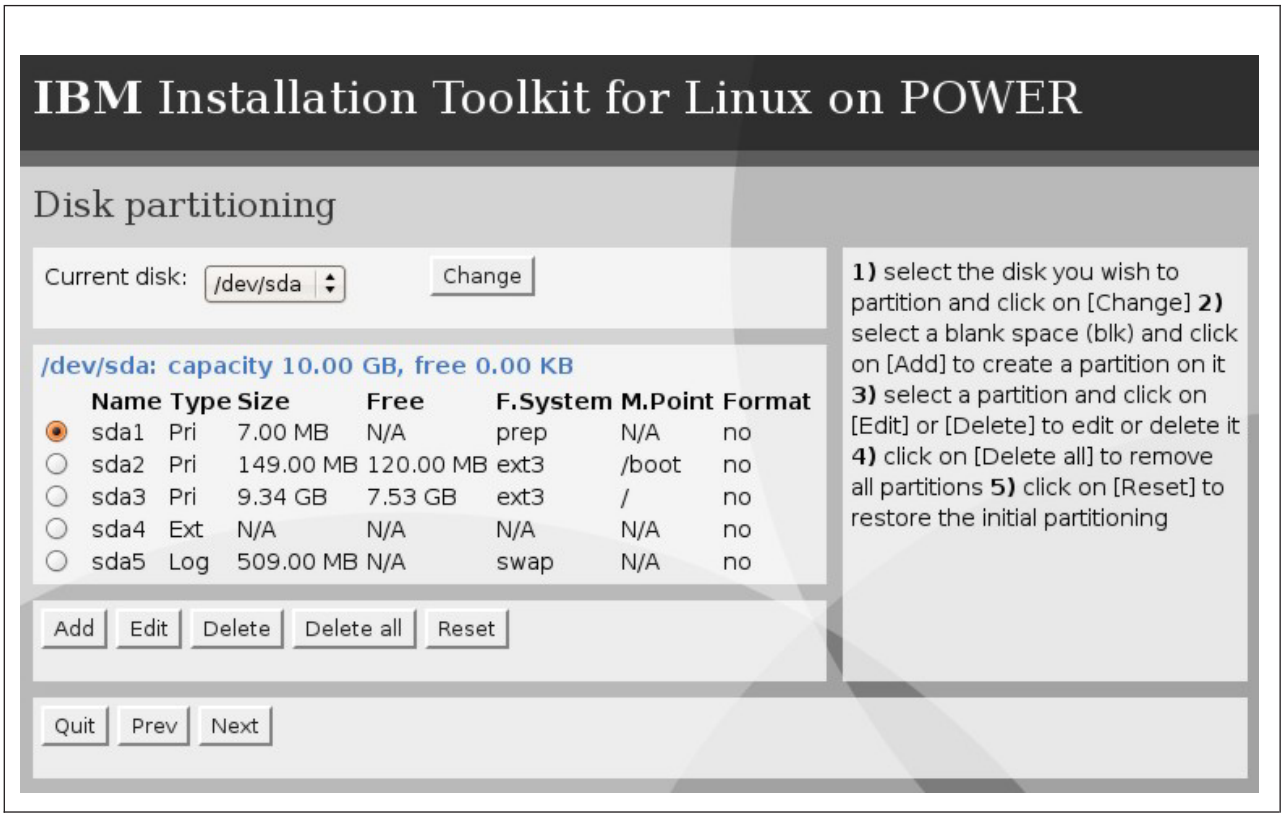

Figure 24. Installation wizard: Partitioning, graphical mode

```
IBM Installation Toolkit for Linux on POWER

Disk partitioning                                          [Show instructions]


Current disk: [/dev/sda]         [Change]

/dev/sda: capacity 10.00 GB, free 0.00 KB

    Name Type   Size      Free     F.System M.Point Format
(*) sda1 Pri   7.00 MB   N/A      prep     N/A     no
( ) sda2 Pri   149.00 MB 120.00 MB ext3     /boot   no
( ) sda3 Pri   9.34 GB   7.53 GB   ext3     /       no
( ) sda4 Ext   N/A       N/A       N/A      N/A     no
( ) sda5 Log   509.00 MB N/A       swap     N/A     no

Actions [Add] [Edit] [Delete] [Delete all] [Reset]

Navigation [Quit] [Prev] [Next]
```

Figure 25. Installation wizard: Partitioning, text mode

Note: If not all of your disks are displayed, click **Reset** to reload the values. Note, though, that clicking **Reset** discards all of your modifications to the partition plans so far.

This interface shows the disk in the target system, the size of the disk and the amount of space not used by any partition. If there is more than one disk available in the system, clicking **Change** allows you to select a different disk.

In addition, a list of partitions is displayed. For each partition, the following information is shown:

- **Name**
- **Type**, where '*Pri*' means ''Primary'', '*Ext*' means ''Extended'' and ' *Log*' means ''Logical''.
- **Size**
- **Free** Available space within the partition.
- **File system**
- **Current mount point**.
- **Format** flag, indicates whether this partition will be formatted during installation.

To change the current scheme, select the disk you want to work on and then use the buttons below it to *Add*, *Edit*, *Delete*, *Delete all*, or *Reset*. Clicking **Reset** resets the options and delete all changes done so far.

To create a partition:

1. Select an empty space in the current disk. You can also change a partition if you like.
2. Click **Add**.
3. Specify the type of the partition, either ext2, ext3, reiserfs, vfat, swap, or prep.
4. Specify the size either in bytes, kilobytes, megabytes, gigabytes, or terabytes. If you are creating a ''prep'' partition you should not specify any size. The IBM Installation Toolkit calculates the correct value automatically.
5. Specify the partition mount point. If you are creating a ''swap'' or ''prep'' partition, you should not specify any mount point.

To apply your choices, click **Add**.

Note: In order to fill up the disk space when creating the last partition, select **All available**. Selecting **All available** causes the partitioning backend to use all the free space available on that disk.

The following figure illustrates this action in graphical mode. The interface to create partitions in text mode is similar.

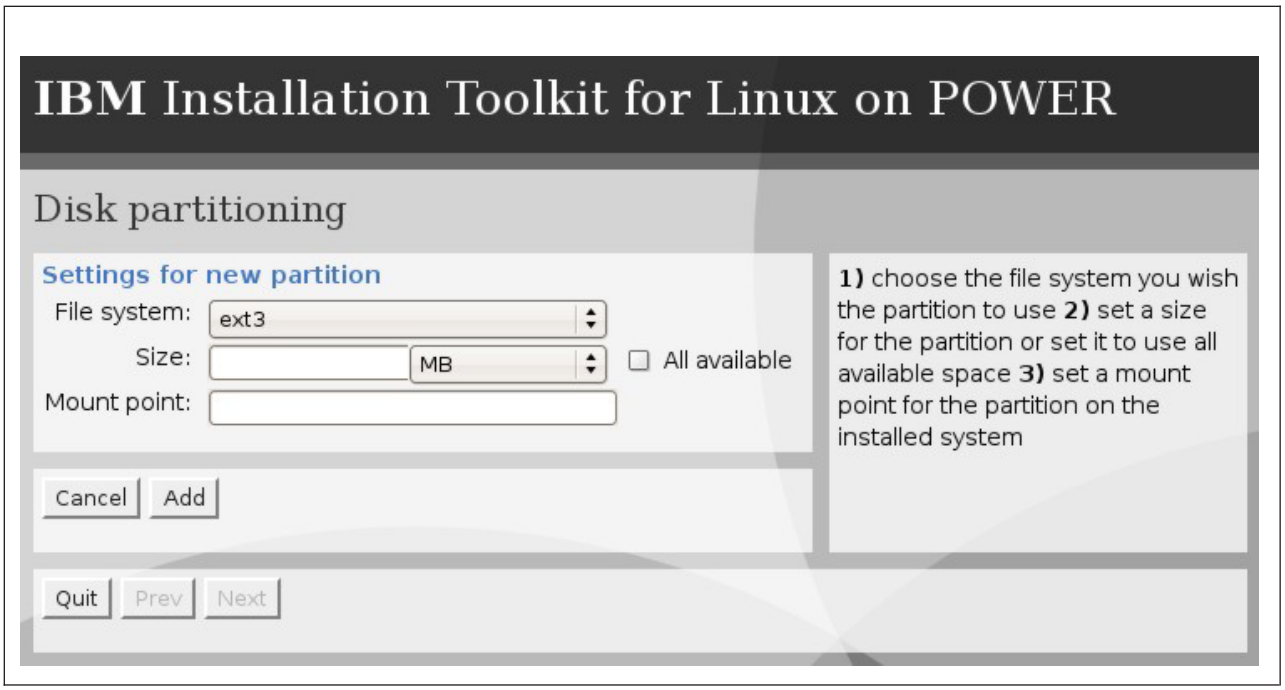

Figure 26. Installation wizard: Creating a partition

You can change the properties of a partition by selecting the partition and clicking **Edit**. You may also select an existing partition and reuse it by editing the partition and selecting a mount point. If you do not have a PReP partition yet, the wizard displays a warning. When you have created a PReP boot partition, this warning will no longer be displayed.

Note:

- The required partitions for the system to work properly are the 'PReP Partition', swap partition and a root ("/") partition. If you forget to create one of these partitions, the Welcome Center displays an error message and prompt you to create them.
- When performing RHEL installations, you must create a boot partition (/boot) on the system. The partitioner displays a warning if the boot partition is not created and you cannot proceed with the installation until you do so.
- The reuse of an existing partition will not be successful if you are installing a new SLES 10 system and the existing system is not SLES 10. In this case, the best practice is to delete all existing partitions and create new ones, or to use the automatic partitioning option.
- When installing a new SLES 9 system the error message `Could not set up swap partition /dev/sda5` (or other /dev device) may display if you reuse an existing partition. In this case, press **OK** and ignore the message.

After you are finished creating a partition plan for your system, click **Next**.

Configuring the network for the target system

In this section, you must choose the target system *host name* and can configure your network cards so that your private network and the Internet are accessible from the target system after installation. These settings do not apply to the Live-DVD environment, only to the target system to be installed.

When this step is presented for the first time, a default *Fully qualified host name* is shown. A new host name can be provided using the format **hostname.domain**. Also, a DNS server can be specified by typing its IP address in the *DNS server* field. Specifying a DNS server is *optional*.

By default, all network interfaces that are detected as being with their link up are set to be configured automatically on boot using a local **DHCP** server; the other network interfaces are left disabled.

If this configuration is not correct you can change it by checking the relevant interface and then selecting **Configure**. You are prompted to select either *Automatic*, *Disabled*, or *Manual* configuration. In the first case, a **DHCP** server must be present on the network, whereas in the latter that information must be provided and is kept for subsequent boots.

After clicking **Manual**, you must provide the following information:

- the IP address for the selected card
- the netmask
- the gateway that connects your network to the outside world. This information is optional and can be left blank.

Then select the *Save* option to confirm your changes, or click **Cancel** to cancel it. You are then redirected to the previous window.

Note:

- Your network administrator may assist you in case you do not have the required information.
- In case you are doing a network installation make sure that the network is correctly configured otherwise the post install scripts fails.
- The IBM Installation Toolkit requires full Internet access at installation time and during the first boot in order to properly find and download some value-add packages. If Internet connection is not available packages like the Power 6 Advance Toolchain will not be available.

The following figures show the graphical mode windows and the text mode equivalents for this step.

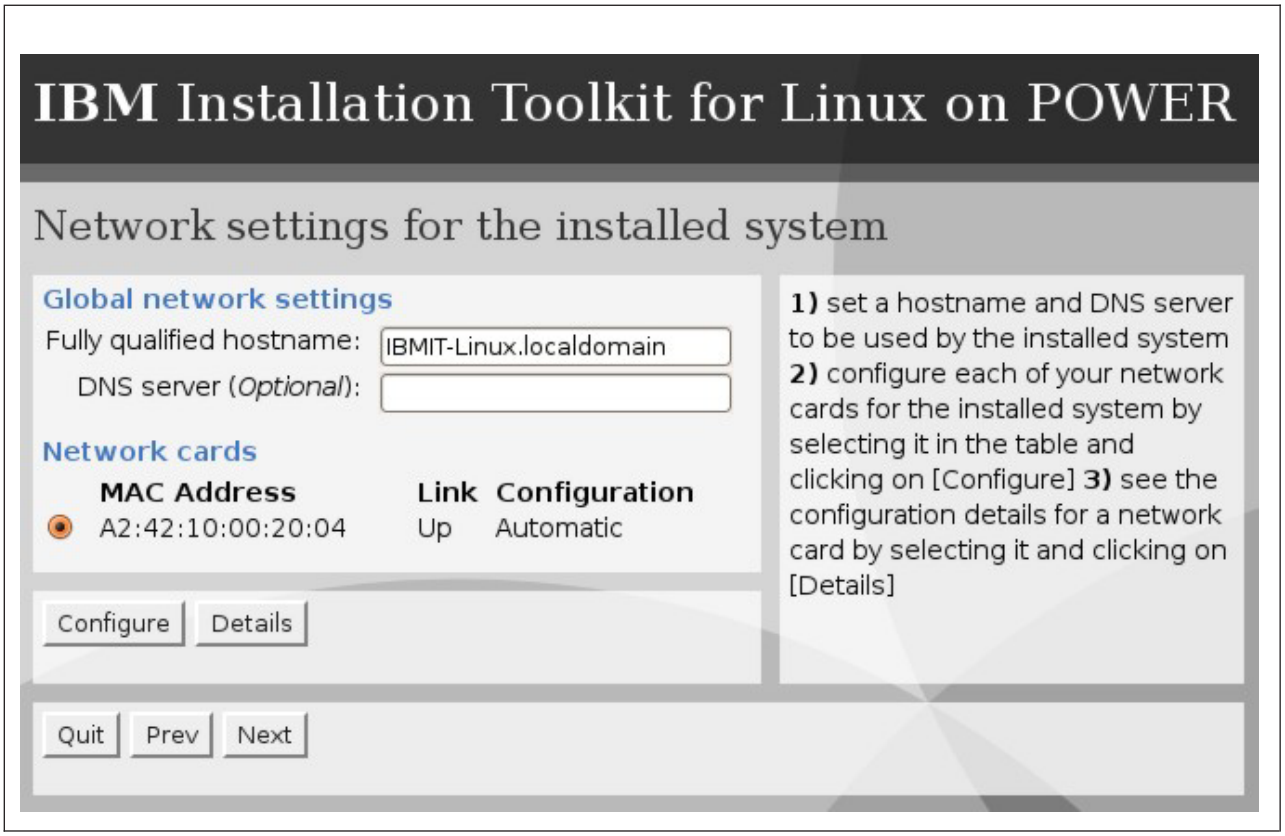

Figure 27. Wizard: Network Configuration in graphical mode

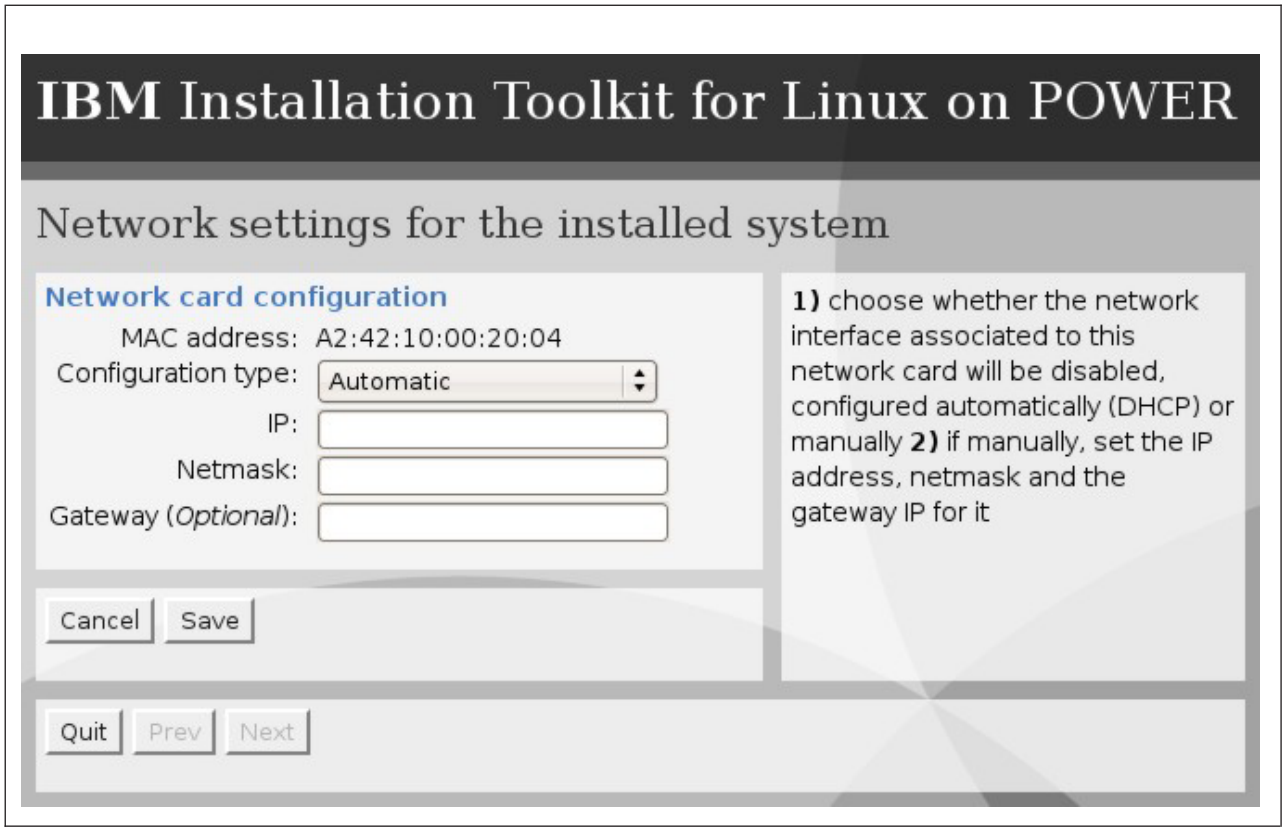

Figure 28. Wizard: Network Configuration in graphical mode, manual configuration

```
IBM Installation Toolkit for Linux on POWER

Network settings for the installed system                  [Show instructions]

Global network settings

Fully qualified hostname: [IBMIT-Linux.localdom]
   DNS server (Optional): [____________________]

Network cards

      MAC Address     Link Configuration
(*) A2:42:10:00:20:04 Up   Automatic

Actions [Configure] [Details]

Navigation [Quit] [Prev] [Next]
```

Figure 29. Wizard: Network Configuration in text mode

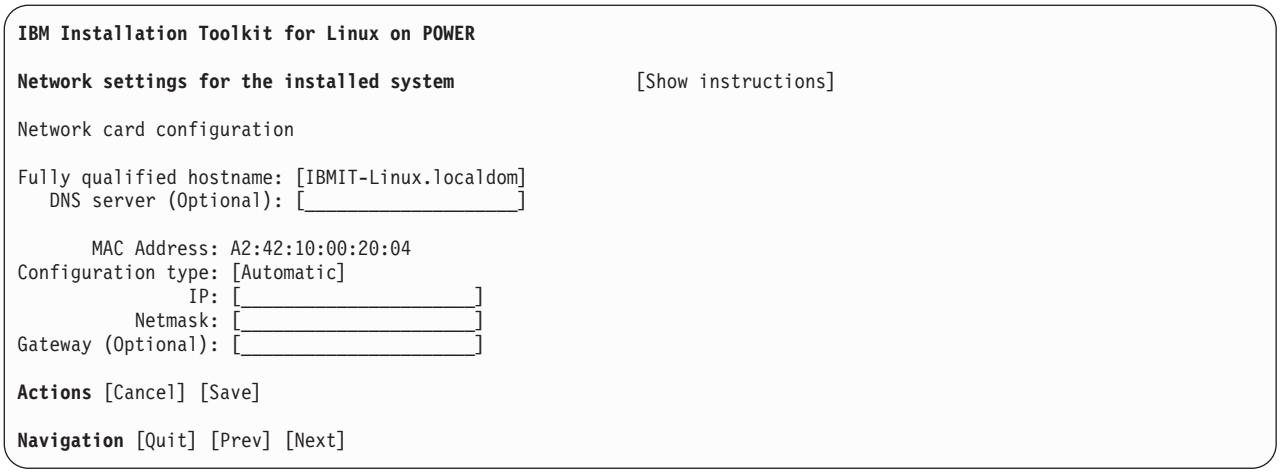

Figure 30. Wizard: Network Configuration in text mode, manual configuration

After you have completed the network configuration, click **Next** to proceed.

Choosing general settings for the target system

Use this step to configure the installed system.

On the General settings for the installed system, the following fields must be filled:

- *Input Peripherals*: The type of keyboard and mouse attached to the target machine.
- *Localization*: The language and time zone for the system. Typically Linux keeps the hardware clock set to the **UTC** timezone and calculates the local time based on the chosen Time Zone. Select the check box **Use UTC** if you expect this behavior. If you would rather keep the hardware clock set to the local time to avoid conflicts with other operating systems that do not understand the former method, leave the check box unchecked.
- *System security*: The password to be assigned to the **root** user. As this password is the system administrator of a Linux system, setting a strong password to this user is critical for security.
- When installing RedHat Enterprise Linux 5, you can optionally enter your RHN Activation Key. This key can then be used to register a Red Hat Enterprise Linux system, entitle the system to an RHN service level and subscribe the system to specific channels and system groups. See your Red Hat reference guide for more information.

Click **Next** to continue.

Windows for SLES installations

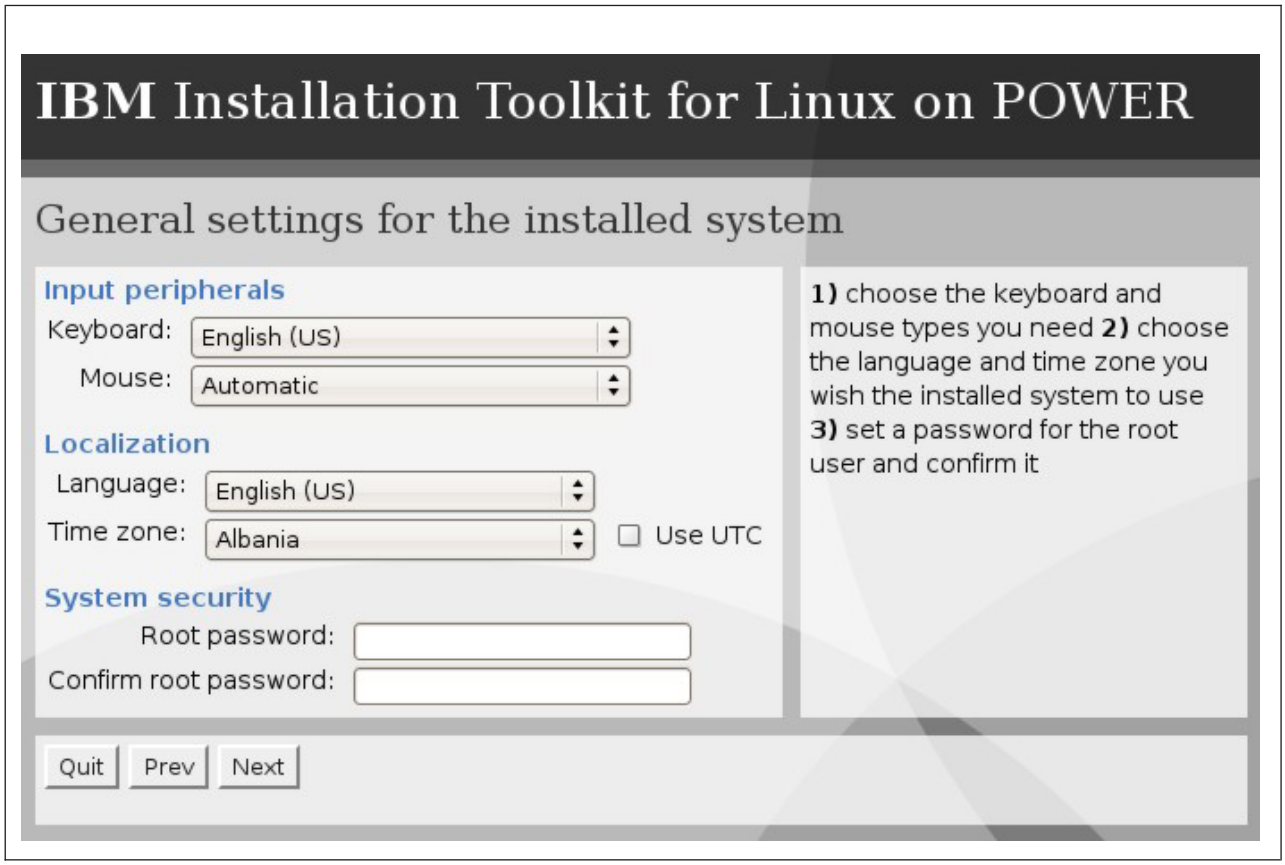

Figure 31. Installation wizard system configuration: graphical mode

```
IBM Installation Toolkit for Linux on POWER

General settings for the installed system                [Show instructions]

Input peripherals

Keyboard: [English (US)                        ]
   Mouse: [Automatic]

Localization

 Language: [English (US)]
Time zone: [Europe::Albania                          ]  [ ] Use UTC

System security

        Root password: [____________________]
Confirm root password: [____________________]

Navigation [Quit] [Prev] [Next]
```

Figure 32. Installation wizard system configuration: Text mode

Windows for RedHat Enterprise Linux 5

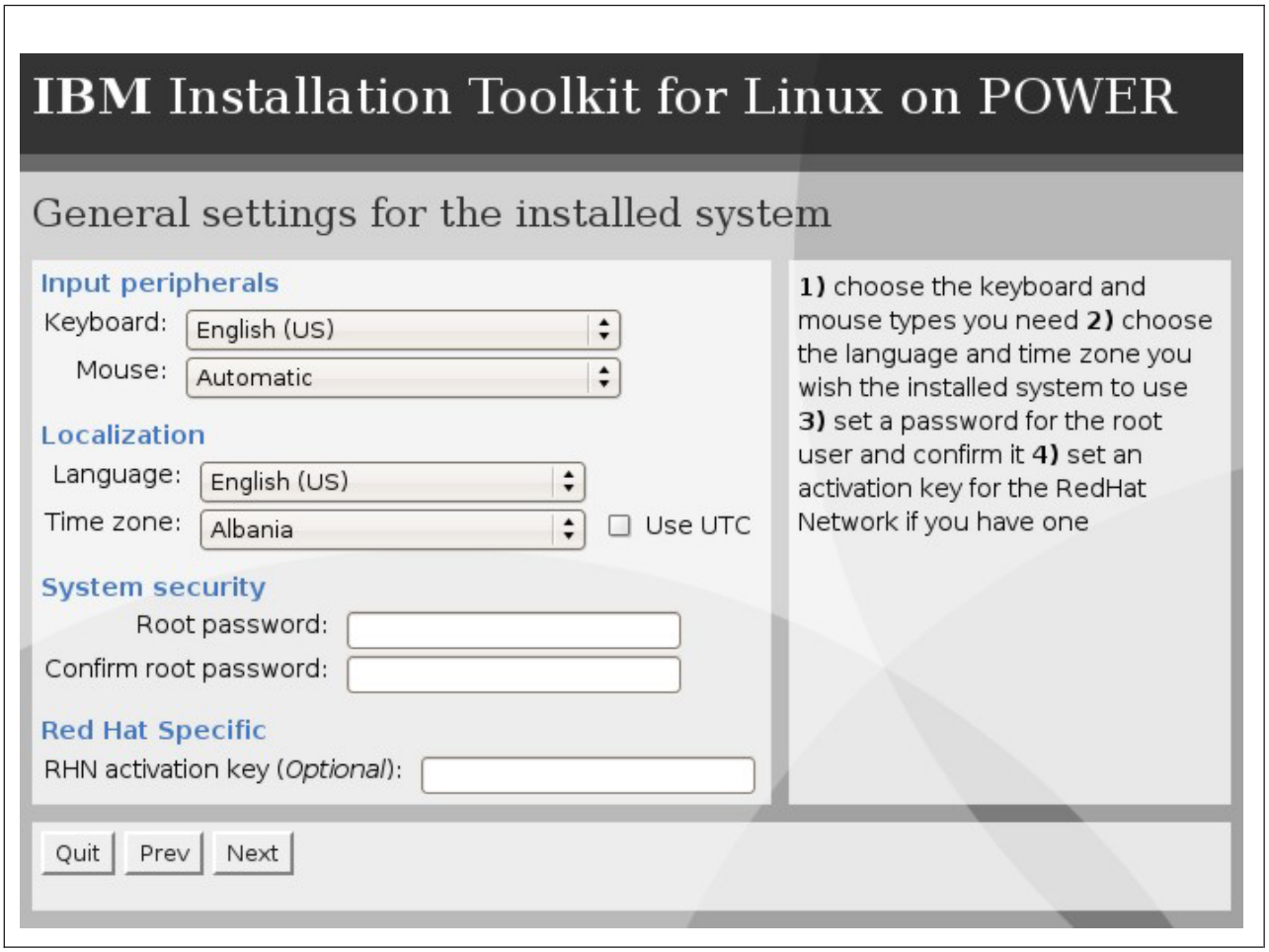

Figure 33. Installation wizard system configuration for RHEL5: graphical mode

```
IBM Installation Toolkit for Linux on POWER

General settings for the installed system                [Show instructions]

Input peripherals

Keyboard: [English (US)                       ]
   Mouse: [Automatic]

Localization

 Language: [English (US)]
Time zone: [Europe::Albania                          ]  [ ] Use UTC

System security

        Root password: [____________________]
Confirm root password: [____________________]

Red Hat Specific

RHN activation key (Optional): [____________________]

Navigation [Quit] [Prev] [Next]
```

Figure 34. Installation wizard system configuration for RHEL5: Text mode

Selecting IBM value-add software for the target system

The IBM Installation Toolkit comes with a bundle of IBM packages specially made to fit IBM Power 5 and Power 6 servers. In this step, select optional packages you want to install and read their description.

The figures below show the corresponding windows for graphical and text mode browsers.

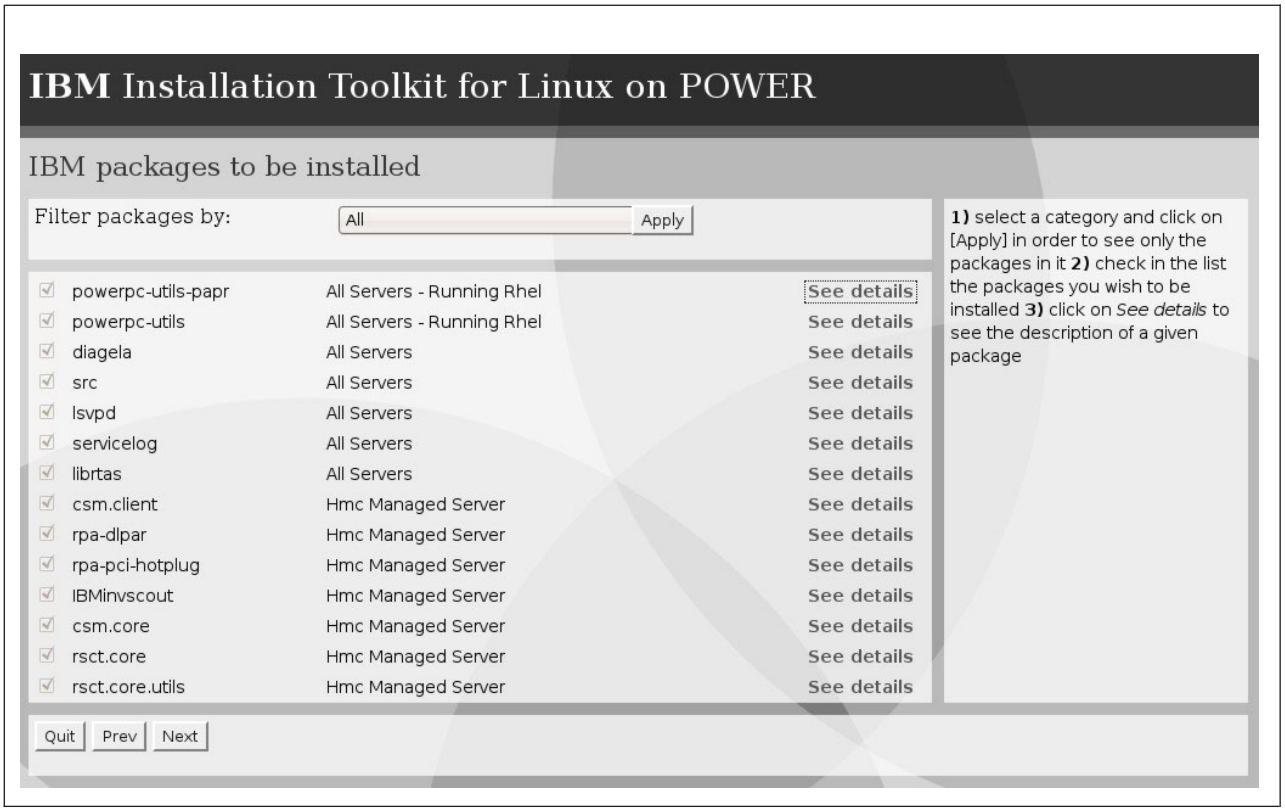

Figure 35. Installation wizard: IBM packages selection, graphical mode

```
IBM Installation Toolkit for Linux on POWER

IBM packages to be installed                              [Show instructions]


Filter packages by:         [All                              ] [Apply]

               Package                          Category                          Information
[X]  powerpc-utils-papr          All Servers - Running Rhel                       [See details]
[X]  powerpc-utils               All Servers - Running Rhel                       [See details]
[X]  diagela                     All Servers                                      [See details]
[X]  src                         All Servers                                      [See details]
[X]  lsvpd                       All Servers                                      [See details]
[X]  servicelog                  All Servers                                      [See details]
[X]  librtas                     All Servers                                      [See details]
[X]  csm.client                  Hmc Managed Server                               [See details]
[X]  rpa-dlpar                   Hmc Managed Server                               [See details]
[X]  rpa-pci-hotplug             Hmc Managed Server                               [See details]
[X]  IBMinvscout                 Hmc Managed Server                               [See details]
[X]  csm.core                    Hmc Managed Server                               [See details]
[X]  rsct.core                   Hmc Managed Server                               [See details]
[X]  rsct.core.utils             Hmc Managed Server                               [See details]
[X]  devices.chrp.base.ServiceRM Hmc Managed Server                               [See details]
[ ]  advance-toolchain-runtime   Advanced Toolchain for RHEL Servers - Optional   [See details]
[ ]  advance-toolchain-devel     Advanced Toolchain for RHEL Servers - Optional   [See details]
[X]  DynamicRM                   Hmc Managed Server With Power5 Processor or Newer [See details]
[ ]  ibm-java-ppc-sdk            Optional                                         [See details]
[ ]  systools                    Optional                                         [See details]
[ ]  ibm-java-ppc64-sdk          Optional                                         [See details]
[ ]  vpa-ies                     Optional                                         [See details]
[ ]  lop-docs                    Optional                                         [See details]

Navigation [Quit] [Prev] [Next]
```

Figure 36. Installation wizard: IBM packages selection, text mode

The package families are initially filtered by **All**. You can apply a different filter by selecting it in the **Filter packages by** field and clicking **Apply**.

If you want to see more detailed information about a specific package, click **See details**. To go back to the main window, click **OK**. After you are finished, click **Next** to read the licensing summary of the packages selected.

Note:

- Packages that do not have a check box next to them are not optional and are always installed.
- The packages are sorted according to the systems that should have them installed. The list does not include packages that do not apply to your machine.

In the next window, you must either accept or decline the licenses. The installation will only proceed if you accept the licenses. The figures below show the corresponding windows. You can read the license text by clicking **Read license**. Once you are finished reviewing the license agreements, click **OK** to go back to the Accept Licenses window.

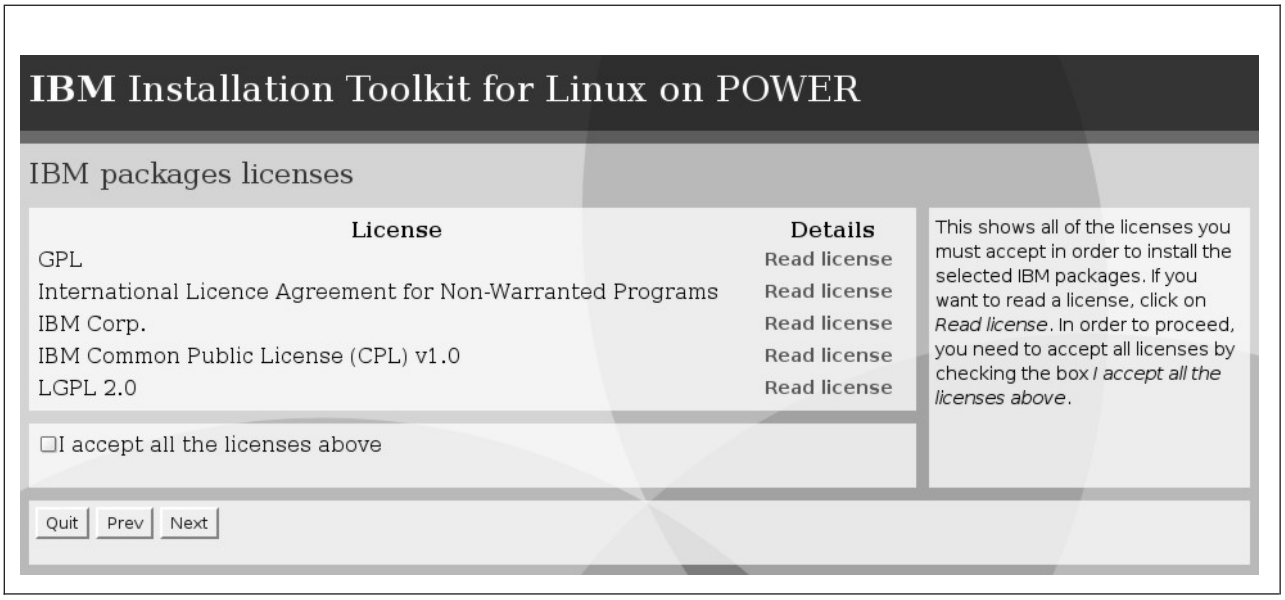

Figure 37. Installation wizard: IBM packages licenses, graphical mode

```
IBM Installation Toolkit for Linux on POWER

IBM packages licenses                                    [Show instructions]


                          License                            Details
GPL                                                         [Read license]
LGPL                                                        [Read license]
IBM Corp.                                                   [Read license]
IBM Common Public License (CPL) v1.0                        [Read license]
International License Agreement for Non-Warranted Programs  [Read license]
IBM Common Public License (CPL)                             [Read license]

[ ] I accept all the licenses above

Navigation [Quit] [Prev] [Next]
```

Figure 38. Installation wizard: IBM packages licenses, text mode

Starting the installation process

Everything needed to begin the installation is available. A summary is displayed containing the actions to be taken.

If you are sure that you want to continue, select **Next**, as shown in the figures below. If you want to change any of the previous settings, click **Prev** to return.

Note: This action is the last step before changes are made to your hard disks. To cancel the installation, click **Quit**.

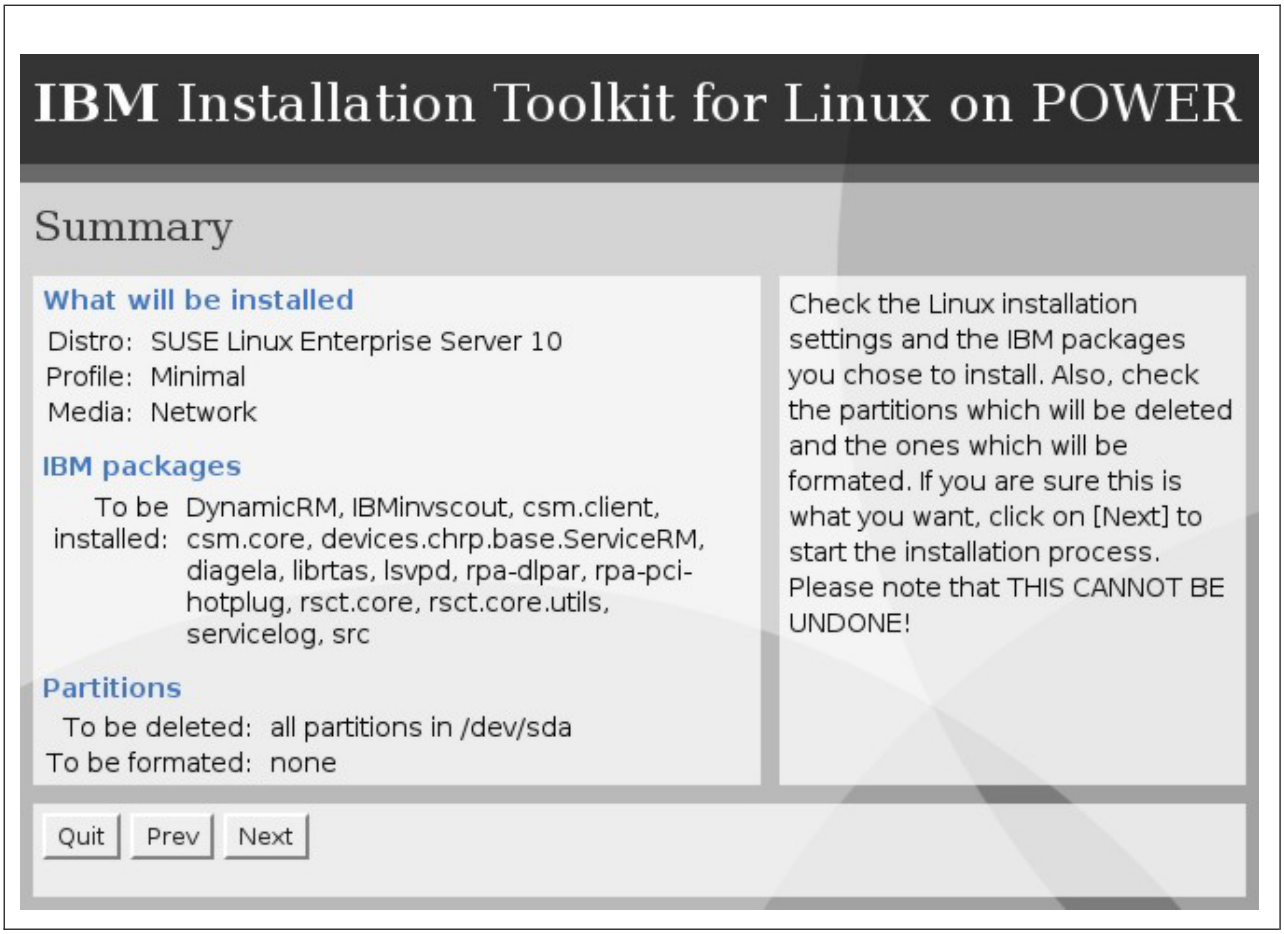

Figure 39. Installation wizard: Ready to go, graphical mode

```
IBM Installation Toolkit for Linux on POWER

Summary                                                    [Show instructions]

What will be installed

 Distro: Red Hate Enterprise Linux 5
Profile: Minimal
  Media: Network

IBM packages

     To be DynamicRM, IBMinvscout, csm.client, csm.core,
installed: device.chrp.base.ServiceRM, diagela, librtas, lsvpd, powerpc-utils,
           powerpc-utils-papr, rpa-dlpar, rpa-pci-hotplug, rsct.core,
           rsct.core.utils, servicelog, src

Partitions

 To be deleted: all partitions in /dev/sda
To be formated: none

Navigation [Quit] [Prev] [Next]
```

Figure 40. Installation wizard: Ready to go, text mode

Continuing SLES installations

This section is only applicable to SLES installations.

If you are performing a RHEL installation, go to “Continuing RHEL installations” on page 46.

After configuring the installation through the installation wizard in the Welcome Center, Auto YaST launches and installs the system automatically. No input from you is necessary besides changing the CDs/DVDs if this installation mode was selected. You can safely ignore errors of tag mismatch when YaST asks for the IBM Installation Toolkit DVD (if you are installing from the DVDs).

When the installation process asks for the first SLES media, you can insert either the first SLES DVD/CD or a corresponding Service Pack CD1. The installer asks for the corresponding media when required.

While the installation takes place, a window like the ones below are displayed.

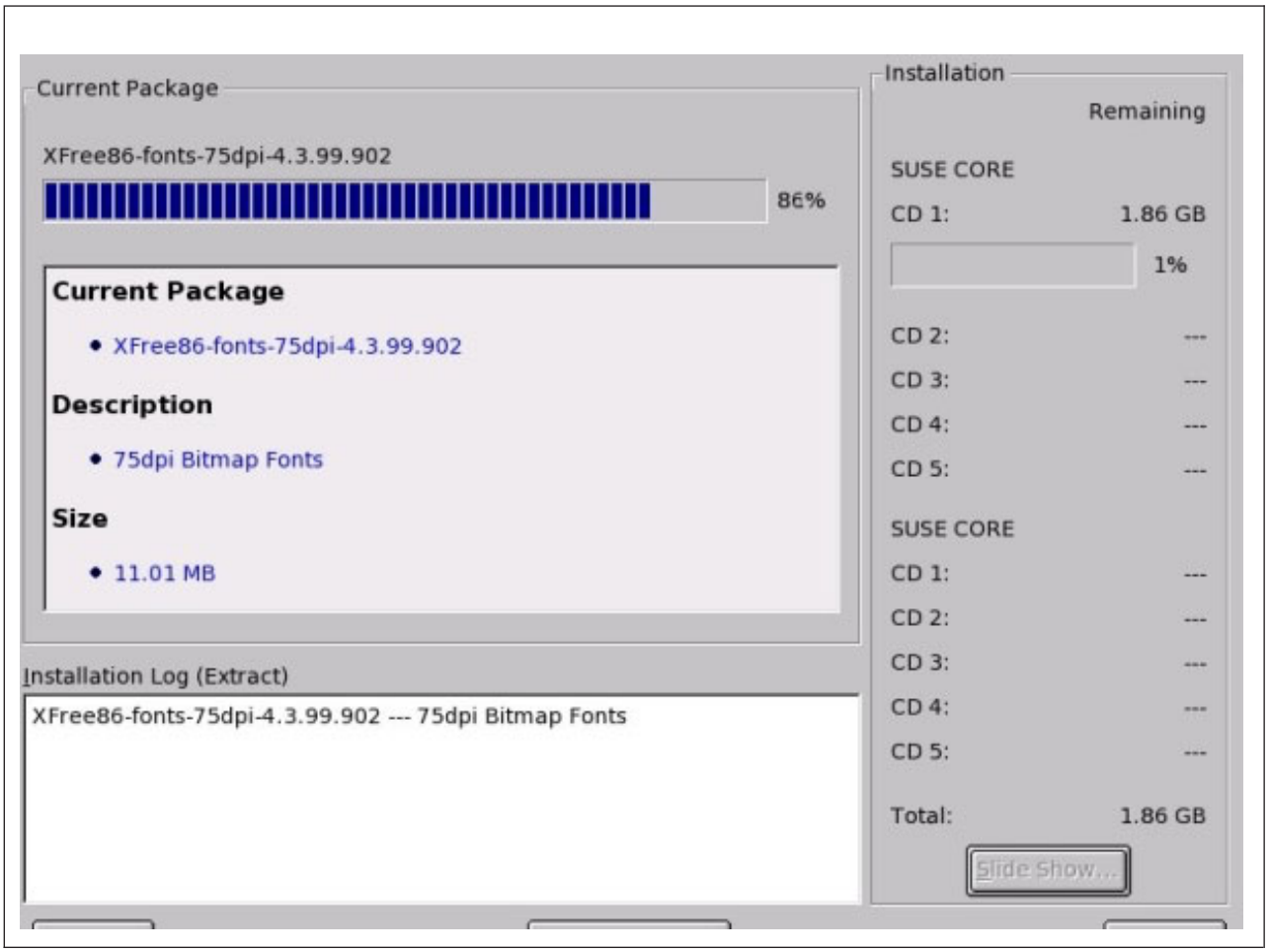

Figure 41. YaST: graphical mode

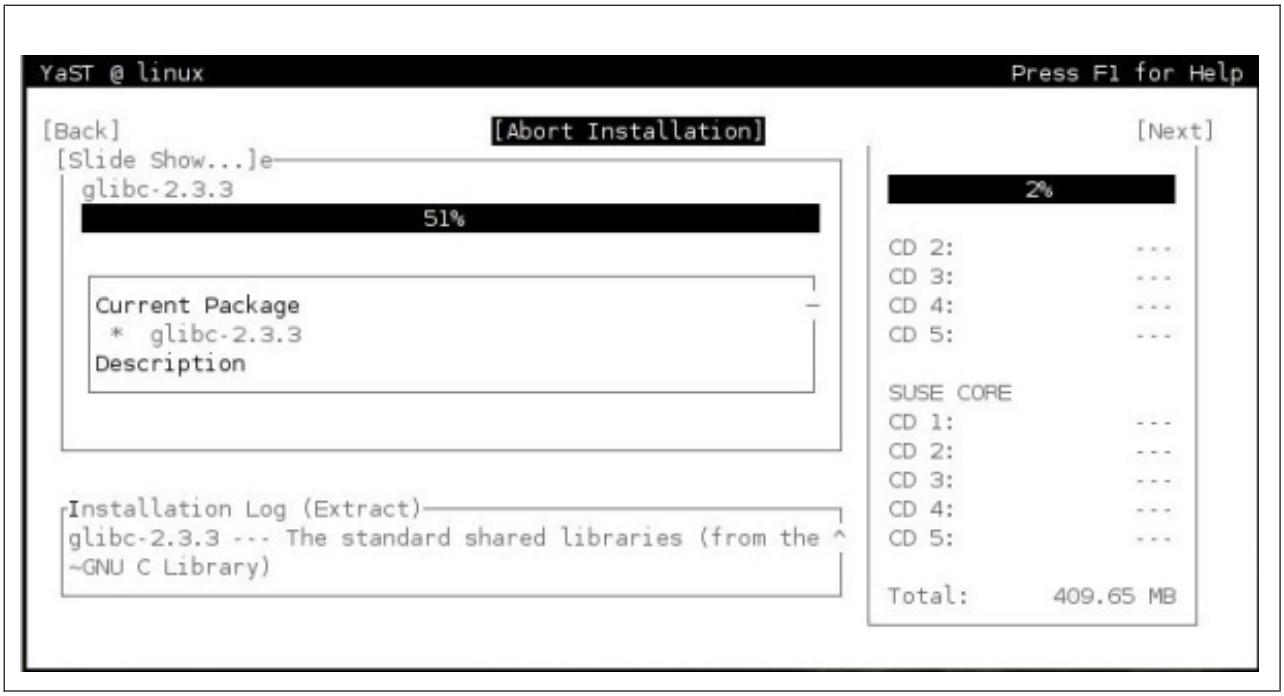

Figure 42. YaST: text mode

Note:

- There are some packages, such as **aaa_base**, that makes YaST report some package dependency problems. You can safely ignore this error message by clicking **Ignore all**.
- If you installed SLES 10 with X support, the X Window System will come up from the second boot on only.
- If you are installing SLES10, make sure that SLES medium is inserted in the drive during system initial boot, or installation will be unable to finish.
- If you are in text mode, YaST needs time to unmount the swap after all the packages are installed. This process may take a few minutes.

After the installation finishes, the system does not automatically reboot. You are redirected back to the Welcome Center and can reboot the system from there. See “Rebooting the system” on page 73.

During the initial system boot, YaST finishes installing (if in a SLES 10) and sets up some services. You do not need to take any action during this process (except changing CDs/DVDs if you are installing SLES 10 from CDs/DVDs). After YaST has finished, either the login shell or the X Window System (if you have chosen to install it) is displayed. You can log in as root now.

Note:

- Change the root password after your first login for your system’s safety.
- If YaST does not work with your HMC Terminal, try to set the TERM environment variable to vt102 (for example. export TERM=vt102, if you are using bash).
- If your machine is an ATX and you want to boot your newly installed system using the serial console, append ``console=ttyS4'' to yaboot’s prompt, like: ``linux console=ttyS4'', where ``linux'' is the boot label.
- Some IBM packages may take a long time to install due to its size and configuration.
- The IBM Installation Toolkit has a failure detection engine to prevent misconfiguration during the automatic installations. If an error is detected YaST may be restarted and you might be asked to provide some configuration information again.

Your system is up and running.

A copy of the IBM Installation Toolkit Welcome Center is available in your new system. If you want to perform maintenance tasks and install new IBM Value-add packages you can start it by typing `WelcomeCenter` in a shell.

Continuing RHEL installations

This section is only applicable to RHEL installations.

If you are performing a SLES installation, go to "Continuing SLES installations" on page 44.

After configuring the installation through the installation wizard in the Welcome Center, Anaconda is launched and installs the system automatically, as displayed in the figure below. No input from you is necessary besides changing the CDs/DVDs if this installation mode was selected.

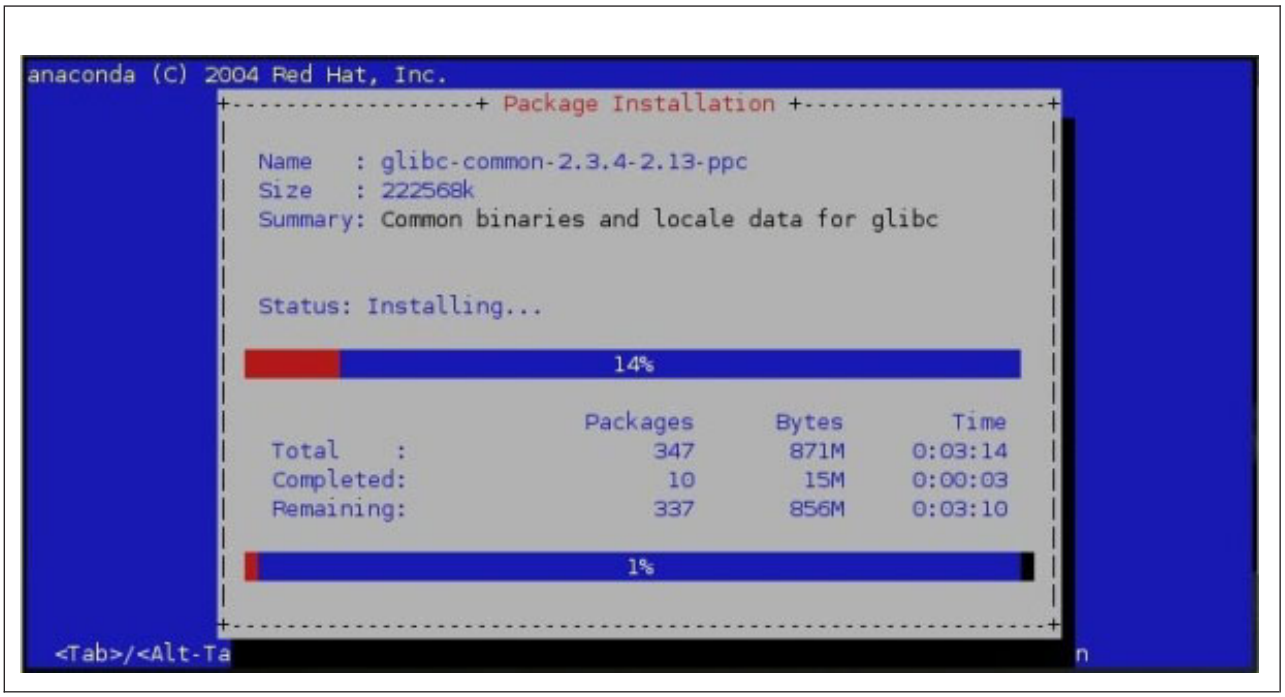

Figure 43. Anaconda: text mode

After the installation finishes, the system will not automatically reboot. You will be redirected to the Welcome Center and can choose to reboot the system from there.

During the initial boot, Anaconda asks you to set up the X Display if you have installed the X Window System. Also, the RedHat Hardware Discovery Utility (Kudzu) might report a new hardware card in your system. If so, select **Ignore**. You are also able to create normal user accounts in this step.

Anaconda then installs all IBM packages selected during the installation wizard. If you chose to perform a CD/DVD installation you are asked to insert the IBM Installation Toolkit CD/DVD again. If the system has more than one optical device, you can select which drive to use as shown in the figure below. Once you select it, the drive is ejected. Insert the media and click **Enter** to continue the installation process.

```
Unable to find the IBM Installation Toolkit CD in any of the available optical d
evices!

Please, select the device you would like to use from the list below:
1) /dev/scd0
2) /dev/scd1
Select [1]:
```

Figure 44. RHEL installation: optical device selection

After the installation has finished, either the login shell or the X Window System (if you have chosen to install it) is displayed.

Note:

- The X display setting has already been set for you during the installation. You are not required to change them.
- If your machine is an ATX and you want to boot your newly installed system using the serial console, append *console=ttyS4* to yaboot's prompt, like: *linux console=ttyS4*, where *linux* is the boot label.
- The RHEL 4 Update 5 distribution has a known issue when running on Power 6 based machines. In the first reboot after the system is installed, it might get stalled at the Yaboot prompt. If that happens press **Enter** to try again and continue.

Your system is up and running.

A copy of the IBM Installation Toolkit Welcome Center is available in your new system. If you want to perform maintenance tasks and install new IBM Value-add packages you can start it by typing `WelcomeCenter` in a shell.

Chapter 6. Welcome Center additional features

You can use additional features of the Welcome Center to perform many actions.

Welcome Center install tools

This topic describes the Welcome Center install tools that are available from IBM Installation Toolkit for Linux. They are found by clicking **Install Tools** from the Welcome Center main window and are only available when Welcome Center is running from an installed system.

Check contents available on the server

If you have installed your system with the IBM Installation Toolkit and have done a network installation, you can view the current contents available on the server. The contents are displayed as a list of repositories.

Note: The list of repositories is only displayed if during the installation process the machine was booted from the network and a contents list existed on the boot server.

If you have installed your system from the DVD or your server did not have anything to offer during the installation, the list is empty and you are informed that there is no content available.

In order to access this function, go to **Install Tools** and click **Check Contents Available on the Server**.

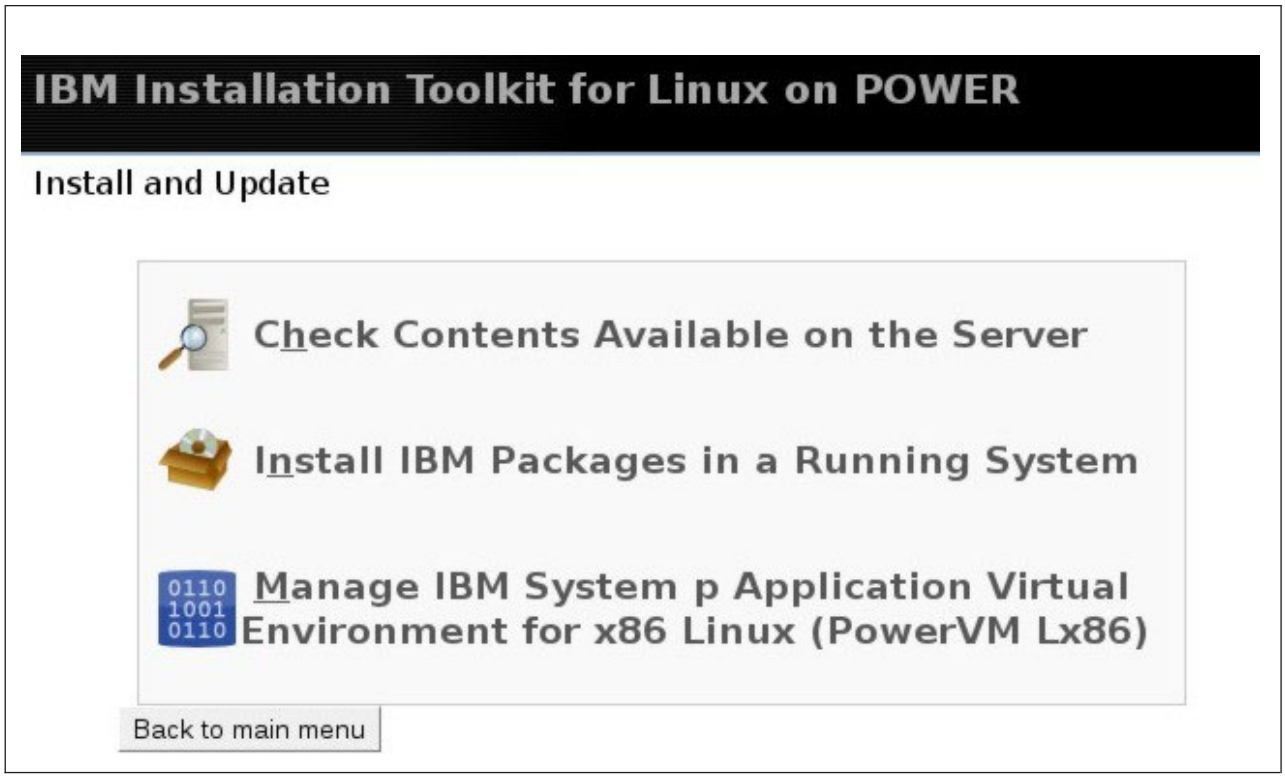

Figure 45. Install Tools window (graphical mode)

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Install and Update


    * Check Contents Available on the Server
    * Install IBM Packages in a Running System
    * Manage IBM System p Application Virtual Environment for x86 Linux (PowerVM Lx86)

   Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 46. Install Tools window (text mode)

Updating and installing new IBM packages using the Welcome Center

Select the option Install IBM Packages in a Running System to install IBM Packages on a Linux system.

To install IBM Packages on a Linux system, follow these steps:

1. From the Welcome Center, select **Install Tools** and then click **Install IBM Packages in a Running System**.
2. On the first welcome window, click **Next >>**.
3. If running a RHEL4 system, you have to select the packages location: DVD or Network.

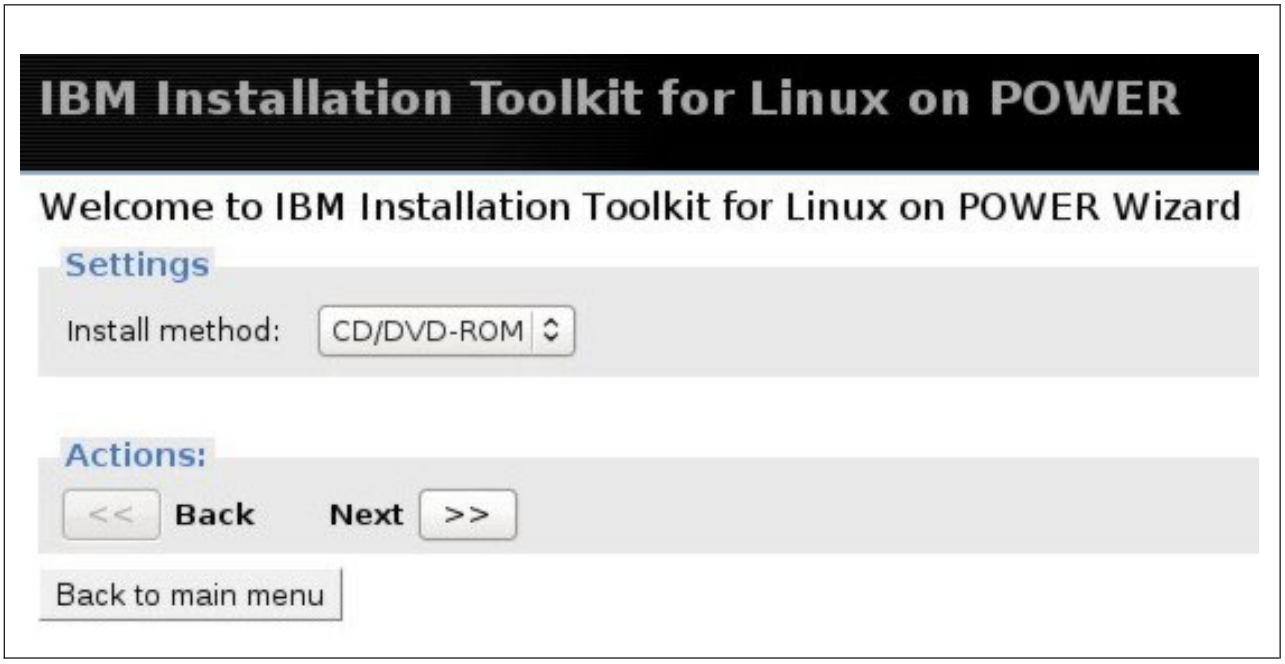

Figure 47. Installing packages: Source of installation selection

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________
Welcome to IBM Installation Toolkit for Linux on POWER Wizard

Settings

Install method:     [CD/DVD-ROM]

Actions:  Next [>>]

   Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 48. Installation selection screen (text mode)

When selecting network, you must type in the server information:

- Protocol
- Server IP
- Server Directory

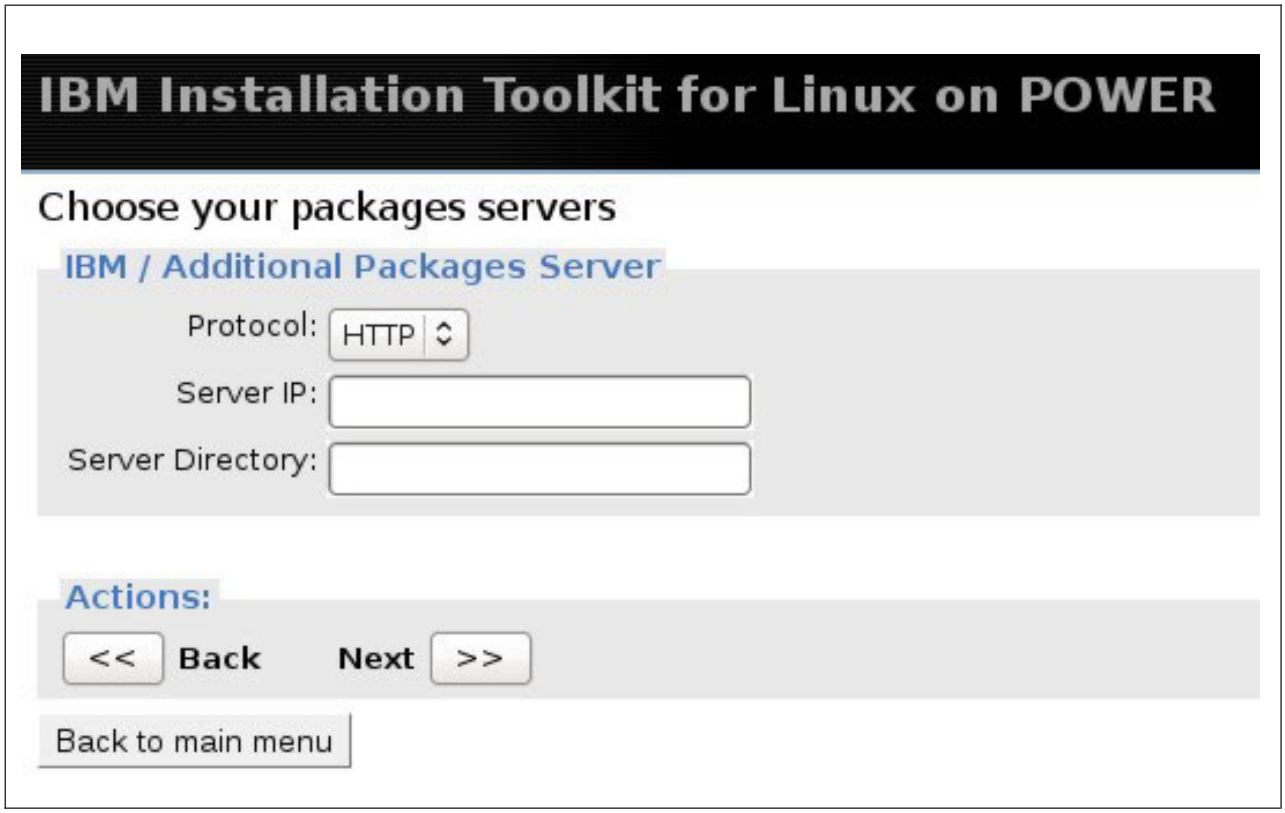

Figure 49. Choose your package servers

When you are finished, click **Next >>**.

4. Select the packages you want to install.

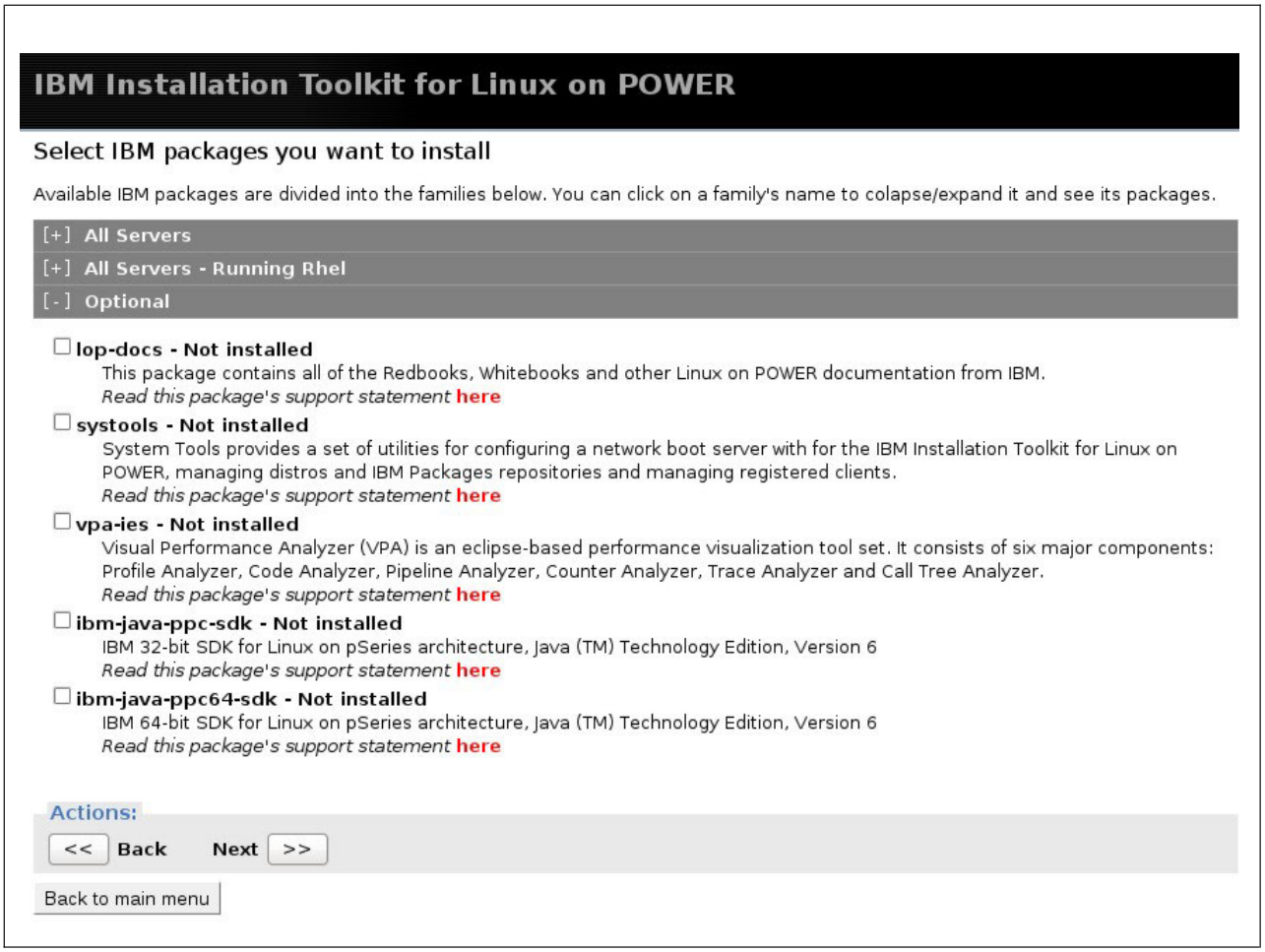

Figure 50. Installing packages: Packages selection

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Select IBM packages you want to install

Available IBM packages are divided into the families below. You can click on a
family's name to collapse/expand it and see its packages.

    * [[+]] Advanced Toolchain for RHEL5 Servers - Optional
    * [[+]] All Servers
    * [[+]] Optional

Actions: [<<] Back  Next [>>]

   Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 51. Installing packages: Packages selection (text mode)

5. Accept the licenses of the packages you selected. If you do not accept the licenses, the installation will not proceed.

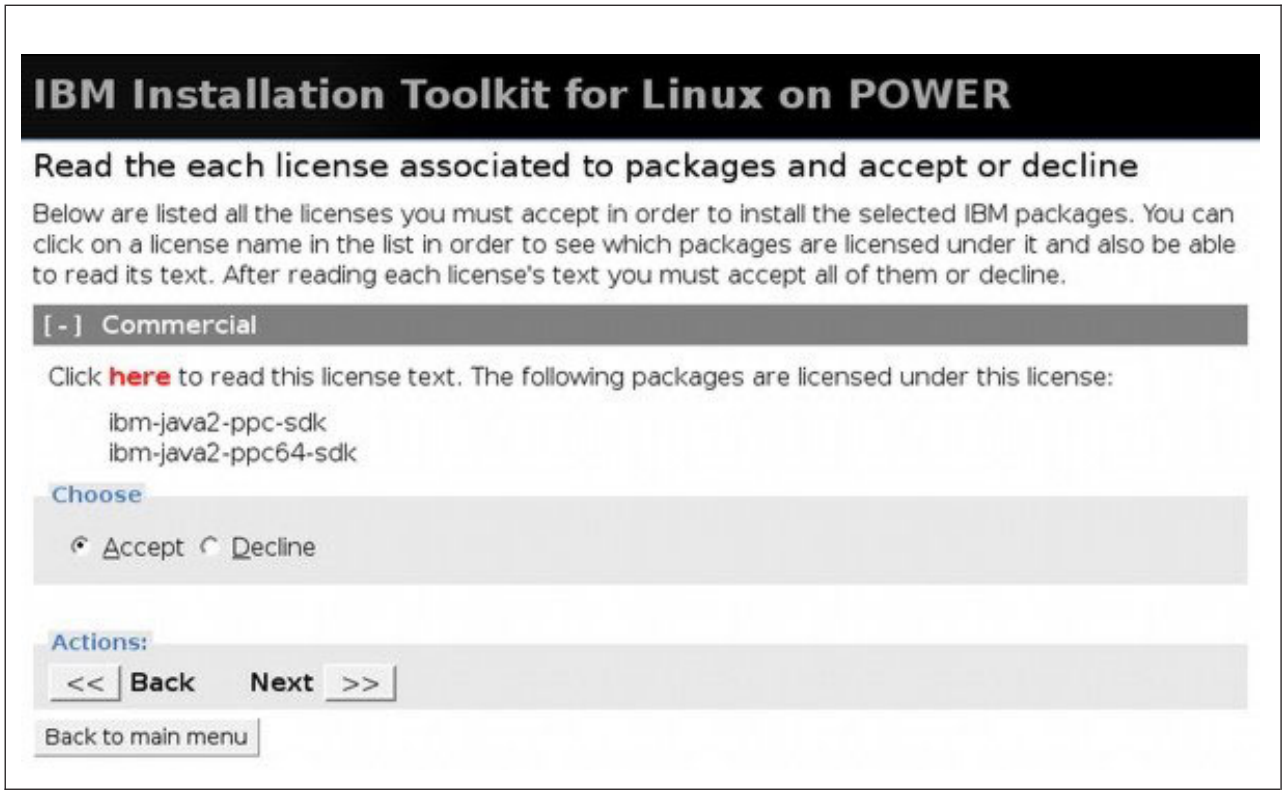

Figure 52. Installing packages: Licenses Agreement

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________________
Read each license associated to packages and accept or decline

Below are listed all the licenses you must accept in order to install the
selected IBM packages. You can click on a license name in the list in order to
see which packages are licensed under it and also be able to read its text.
After reading each license's text you must accept all of them or decline.

    * [[+]] Commercial

     Click here to read this license text. The following packages are licensed
     under this license:

        * ibm-java-ppc-sdk
        * ibm-java-ppc64-sdk

Choose
( ) Accept  ( ) Decline

Actions: [<<] Back  Next [>>]

   Back to the main menu
_____________________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 53. Licenses Agreement screen (text mode)

6. Review the summary. If you are satisfied with your selection, click **Click here to install the packages**. The Welcome Center asks you for the IBM Installation Toolkit DVD or requests the packages from your RPM server accordingly to your configurations.

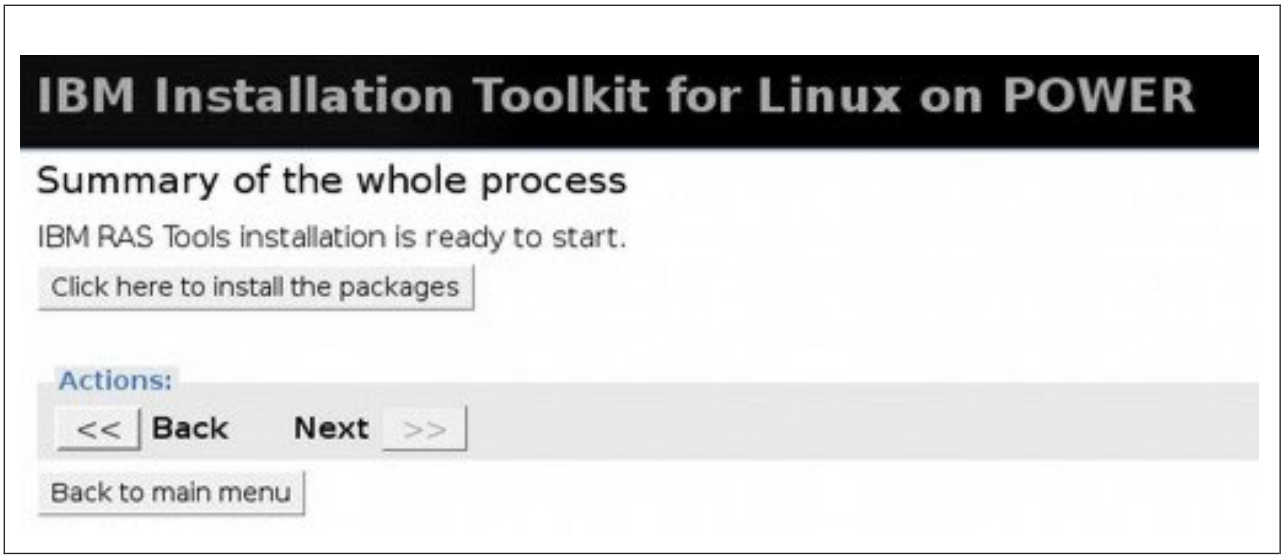

Figure 54. Installing packages: Summary

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Summary of the whole process

IBM RAS Tools installation is ready to start

Click here to install the packages


Actions: [<<] Back

   Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 55. Summary screen (text mode)

7. When the installation is complete, you will return to the Welcome Center main window.

Note:

- On RHEL systems, the IBM Installation Toolkit cannot solve package dependencies external to IBM packages. If an IBM package requires another RHEL package, the Toolkit warns you that the dependencies are missing and does not install that package. In this case, you need to use RHEL means to install the missing dependencies first. If you are installing multiple packages and one of the packages is missing dependencies, none of the packages are installed.
- If your system has a network connection available, IBM Installation Toolkit can automatically look for additional IBM value-added packages available on the Web, such as the POWER6 Advanced Toolchain.

  On an installed system, the Welcome Center gathers this information for you whenever it is launched.

Managing IBM PowerVMLx86

IBM Installation Toolkit provides a wizard to manage PowerVM Lx86 installations.

This wizard is accessible through the Welcome Center menu in installed systems only.

Using the Welcome Center, you can install and uninstall PowerVM Lx86.

The figures below show the graphical and text modes for this function.

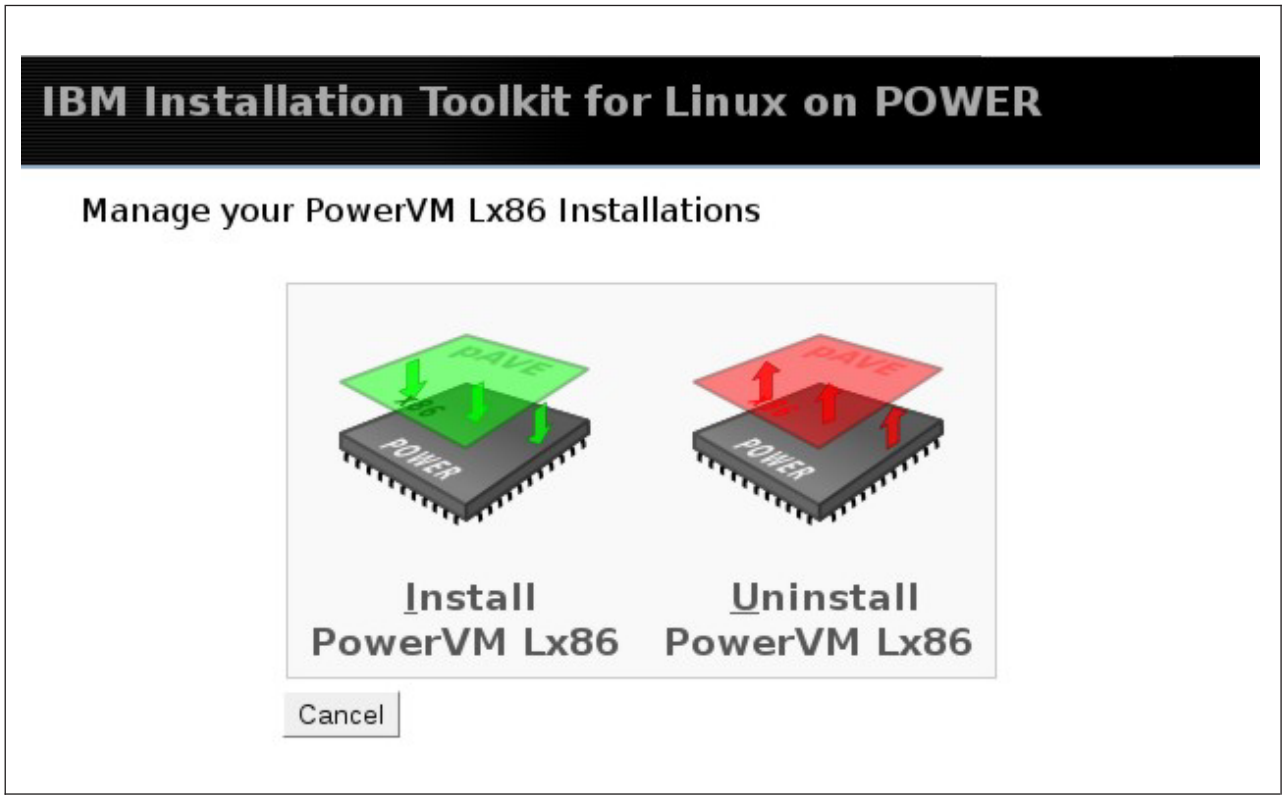

Figure 56. PowerVM Lx86 window (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

Manage your PowerVM Lx86 Installations

 * Install PowerVM Lx86
 * Uninstall PowerVM Lx86


  Cancel
```

Figure 57. PowerVM Lx86 window (text mode)

Installing PowerVM Lx86

You can use the Welcome Center to install PowerVM Lx86 from either a DVD or a file downloaded from the Internet.

To install PowerVM Lx86 and x86 World, follow these instructions:

1. Select **Install Tools** from the Welcome Center.
2. Select **Manage IBM System p Application Virtual Environment for x86 Linux (PowerVM Lx86)**.
3. Select **Install PowerVM Lx86** to install the application.
4. On the Getting PowerVM Lx86 installer window, enter the path of the PowerVM Lx86 tar file, that can be found in its own DVD or downloaded from the Internet.

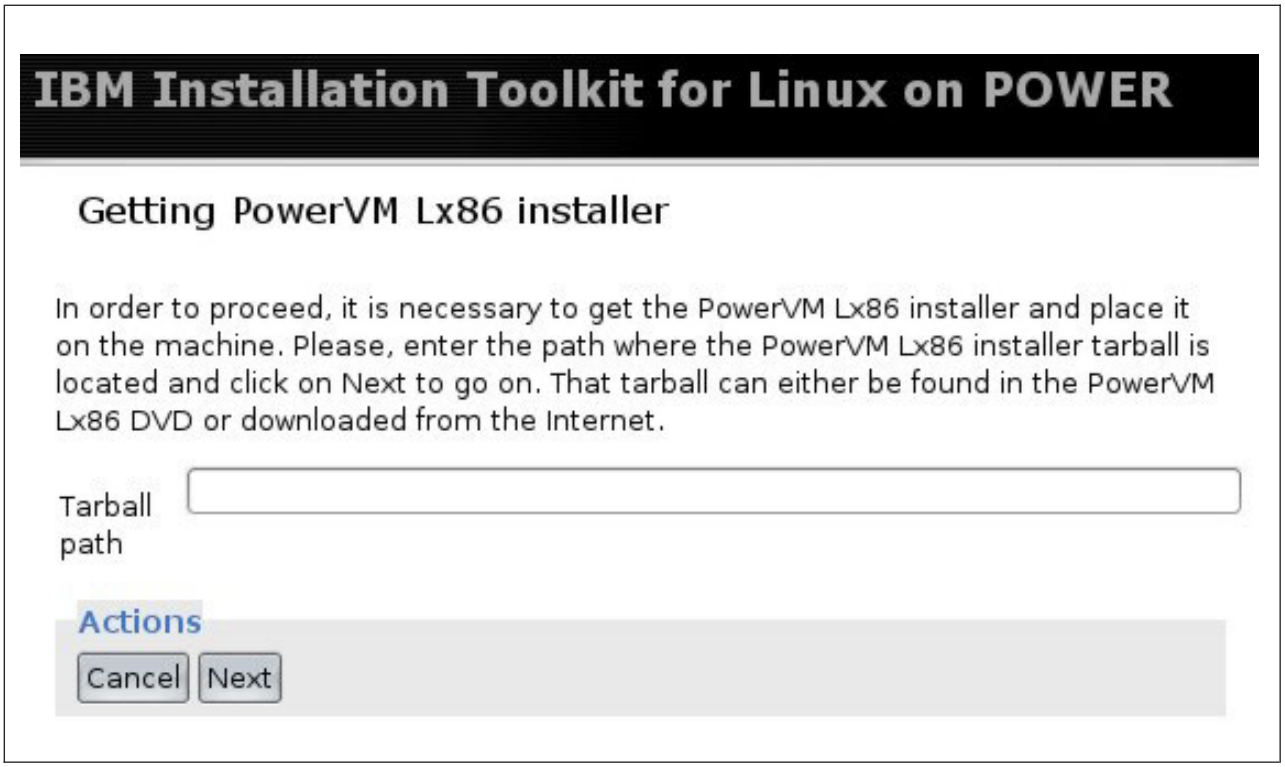

Figure 58. PowerVM Lx86 window (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

Getting PowerVM Lx86 installer

In order to proceed, it is necessary to get the PowerVM Lx86 installer and
place it on the machine. Please, enter the path where the PowerVM Lx86
installer tarball is located and click on Next to go on. That tarball can
either be found in the PowerVM Lx86 DVD or downloaded from the Internet.

Tarball path          [_____________________________________________________]

Actions  [Cancel] [Next]
```

Figure 59. PowerVM Lx86 window (text mode)

Click **Next**.

5. Read the license and accept. You can only proceed if you agree to the license, otherwise your installation will be canceled.
6. Enter the required information.

Figure 60. PowerVM Lx86 activation (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

PowerVM Lx86 product activation

All fields starting with * are required

*Company name     [_____________________________]
Registrant name   [_____________________________]
Address           [_____________________________]
Telephone number  [_____________________________]
Email address     [_____________________________]

Actions  [Back] [Next] [Cancel]
```

Figure 61. PowerVM Lx86 activation (text mode)

When you are finished, click **Next**.

7. Choose PowerVM Lx86 installation and log directories. The default directories are already filled in.

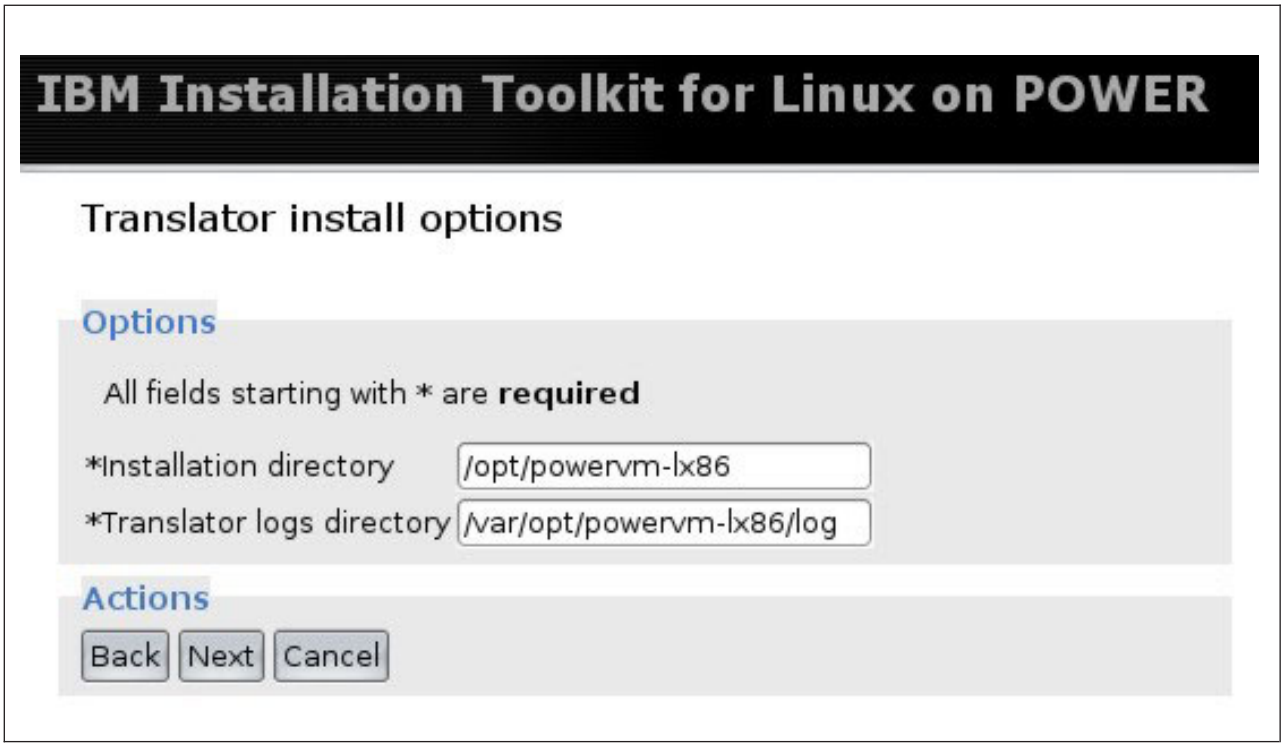

Figure 62. PowerVM Lx86 installation and translator logs directories (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

Translator install options

Options

All fields starting with * are required

*Installation directory      [/opt/powervm-lx86   ]
*Translator logs directory   [/var/opt/powervm-lx8]

Actions  [Back] [Next] [Cancel]
```

Figure 63. PowerVM Lx86 installation and translator logs directories (text mode)

8. Enter an Installation directory, Home directory, and Distribution for the x86World. The default setting is to use the home directory of the POWER installed system as the x86World home directory. The fields have been filled with the default settings, but you can change them if you prefer.

   Note: For the x86 distribution to be installed, you can select an older version of the POWER installed distribution, but not a newer version. For example, for a POWER system running RHEL5 Update 2, the x86 distribution can be one of RHEL5 GA, Update 1 or Update 2, but not RHEL5 Update 3.

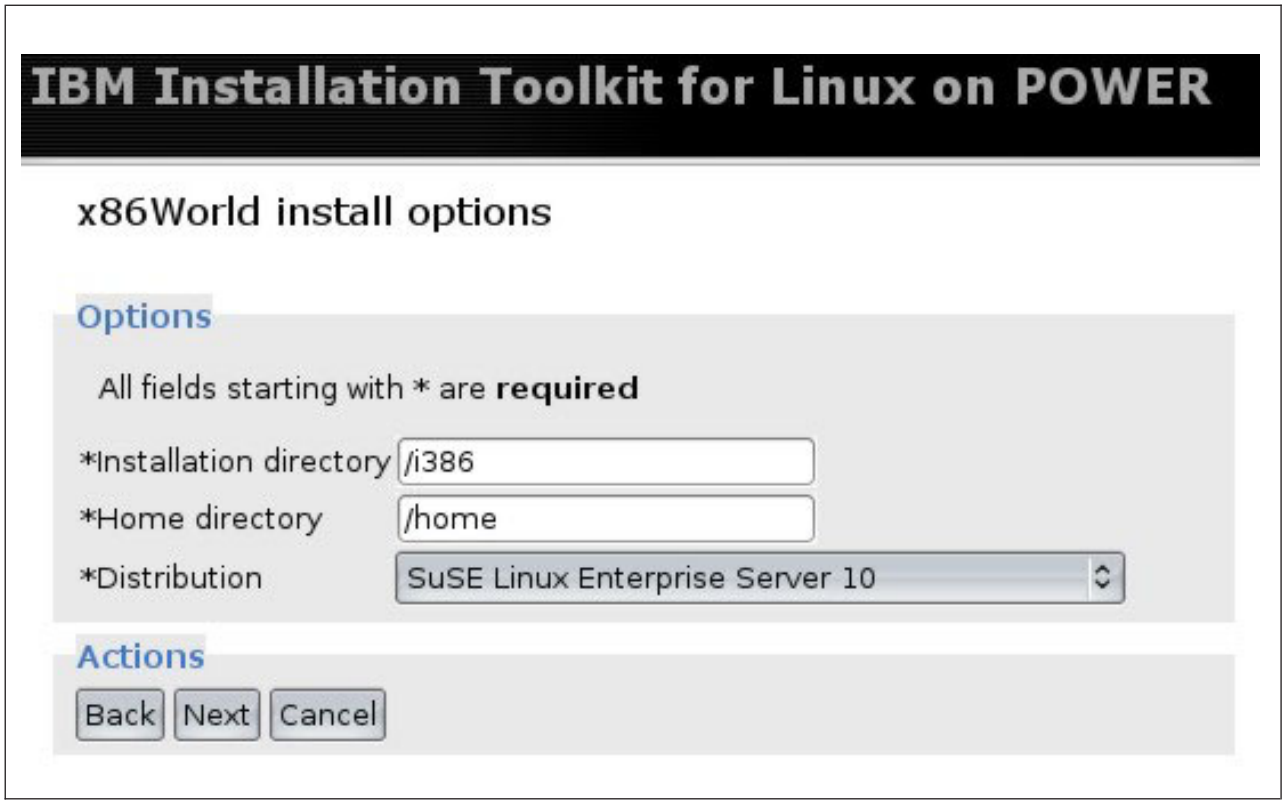

Figure 64. x86World directories and x86 minor release installation option (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

x86World install options

Options

All fields starting with * are required

*Installation directory  [/i386_____________]
*Home directory          [/home_____________]
*Distribution            [SuSE Linux Enterprise Server 10              ]

Actions  [Back] [Next] [Cancel]
```

Figure 65. x86World directories and x86 minor release installation option (text mode)

9. Select an Installation mode and Media. You can choose a full or a minimal installation. Based on which x86 media you have available, choose between CD/DVD ISO image files or CD/DVD media.

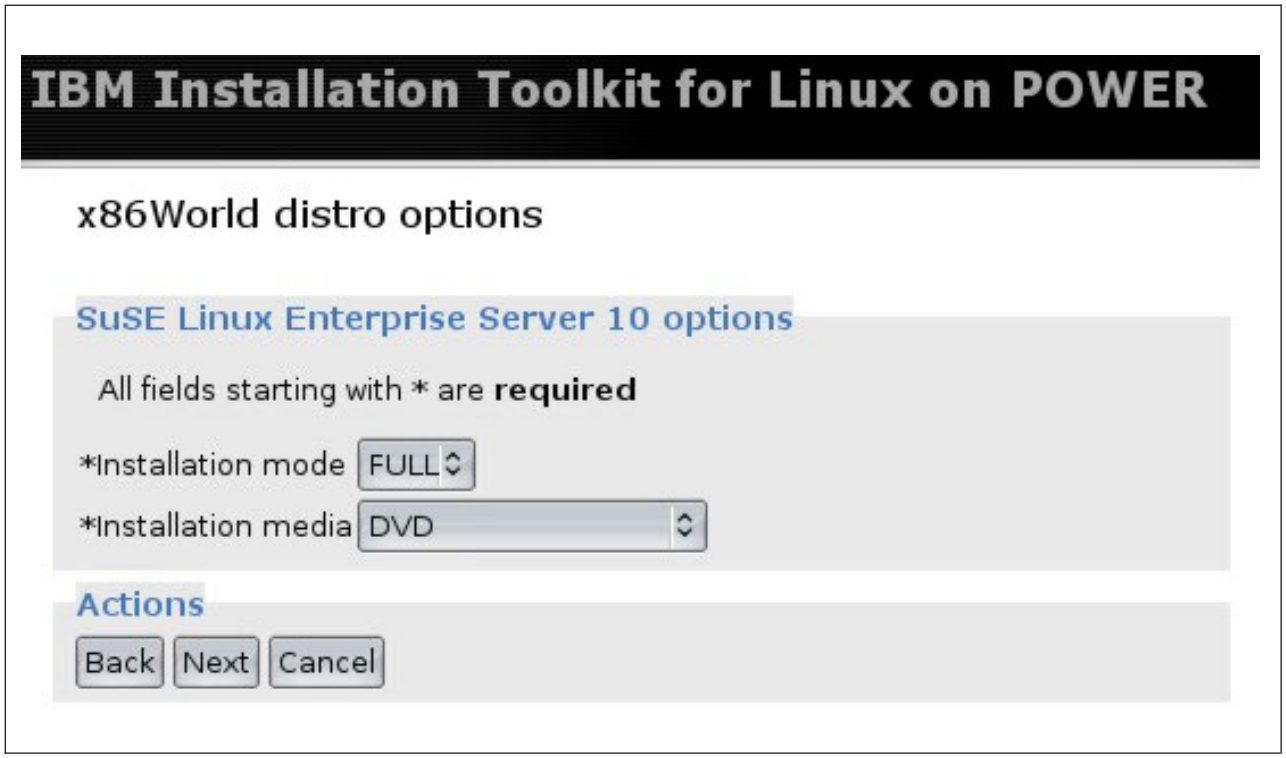

Figure 66. x86World installation and media type options (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

x86World distro options

SuSE linux Enterprise Server 10 options

All fields starting with * are required

*Installation mode  [FULL]
*Installation media [DVD                ]
*Distribution            [SuSE Linux Enterprise Server 10              ]

Actions  [Back] [Next] [Cancel]
```

Figure 67. x86World installation and media type options (text mode)

10. Confirm your options and then insert any CD or DVD media asked throughout the rest of the installation. For an ISO image install, browse through your directories, click **List ISOs** to list the ISO files in the current directory, and choose the images that reflects your previous options. The ISO images files needed are listed above the browsing panel. Confirm you options and click **Install**.
11. When your installation is complete, you will receive confirmation that the installation was successful. Click **OK** to return to the Welcome Center.

Figure 68. Installation Completed

Uninstalling PowerVM Lx86

You can uninstall PowerVM Lx86 translator, x86World or both, using the Welcome Center.

To uninstall PowerVM Lx86, follow these instructions:

1. Select **Install Tools** from the Welcome Center.
2. Select **Manage IBM System p Application Virtual Environment for x86 Linux (PowerVM Lx86)**.
3. Select **Uninstall PowerVM Lx86**.
4. The Uninstall options window displays the options that you currently have installed. Select the options that you want to uninstall and click **Next**.

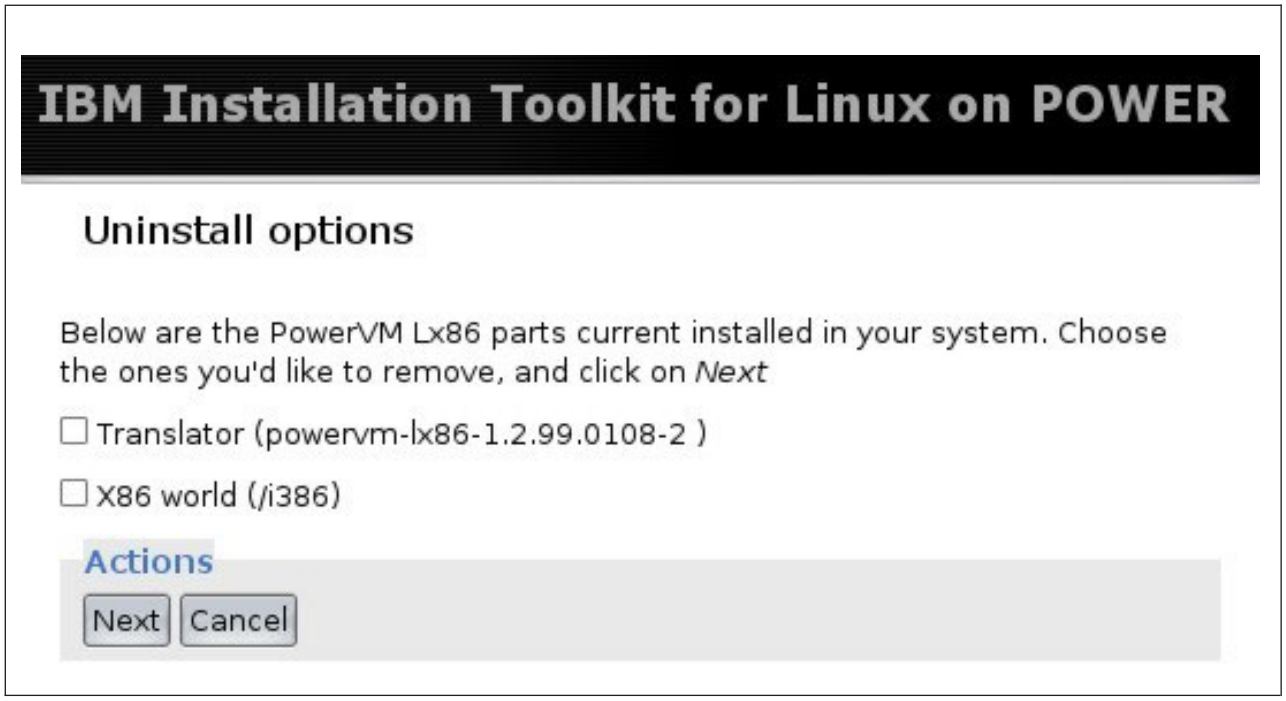

Figure 69. PowerVM Lx86 translator and x86World uninstallation window (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

Uninstall options

Below are the PowerVM Lx86 parts current installed in your system. choose the
ones you'd like to remove, and click on Next.

[ ] Translator (powervm-lx86-1.2.99.0108-2 )

[ ] X86 world (/i386)

Actions [Next] [Cancel]
```

Figure 70. PowerVM Lx86 translator and x86World uninstallation window (text mode)

5. Confirm the uninstall action in the Uninstallation summary window and click **Uninstall**.

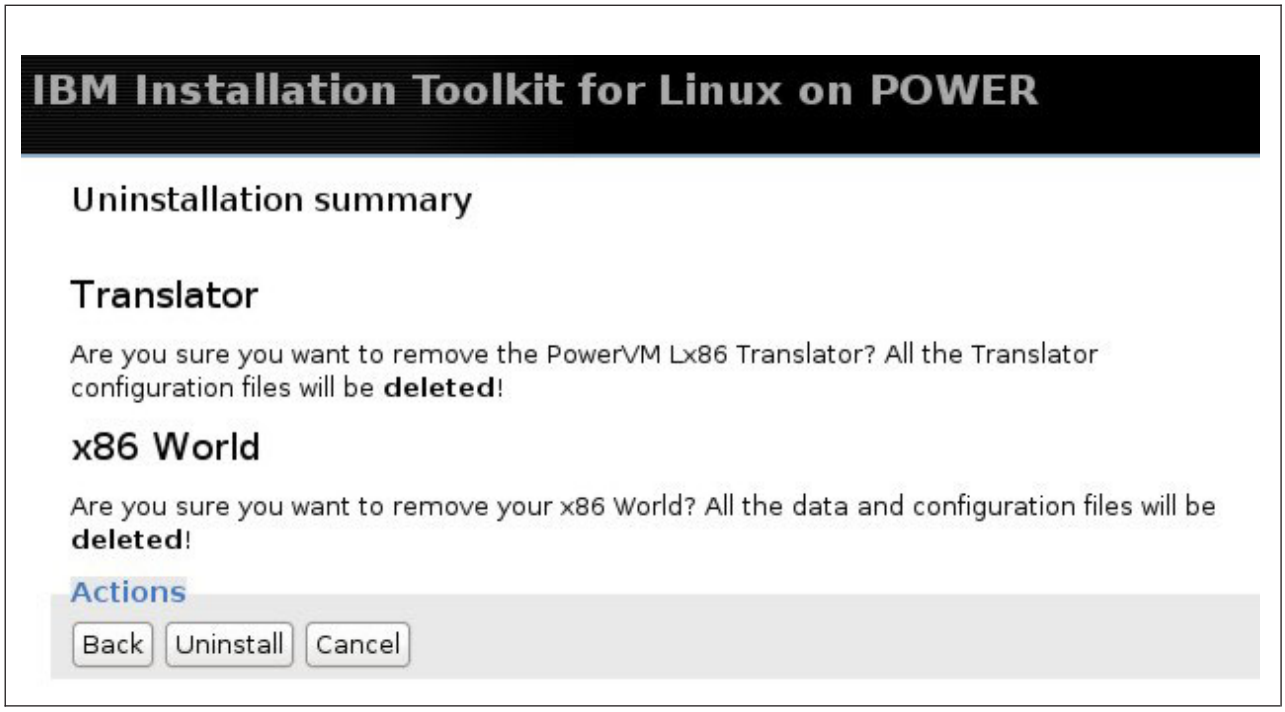

Figure 71. PowerVM Lx86 uninstall summary

6. When the uninstall action is complete, you will receive confirmation that the uninstallation was successful. Click **OK** to return to the Welcome Center.

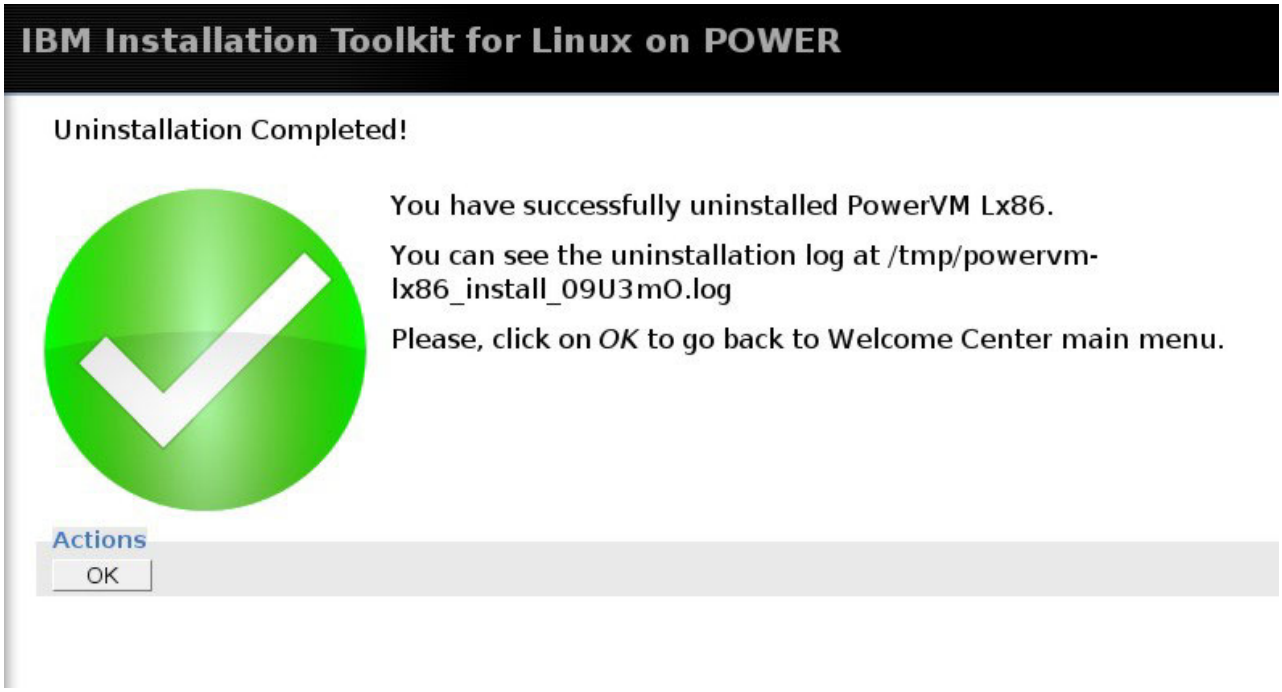

Figure 72. PowerVM Lx86 uninstall confirmation

Welcome Center utilities

This section describes the Welcome Center utilities.

When running on a live system, the Welcome Center utilities includes the following options:

- Configure Network
- Eject media
- Reboot System
- System Diagnostic
- Firmware Update

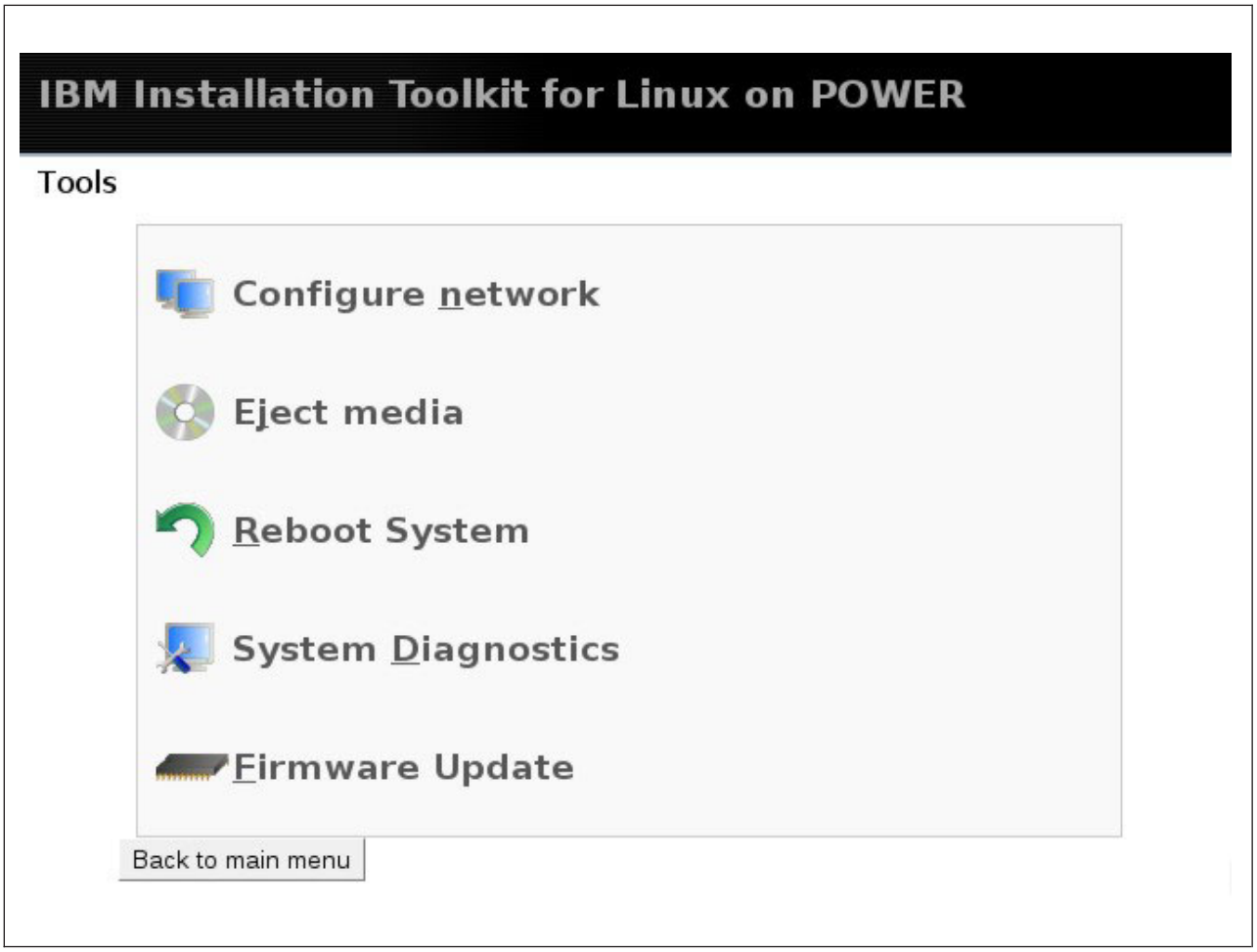

Figure 73. Welcome Center utilities window live system (graphical mode)

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Tools

  * Configure network
  * Eject media
  * Reboot System
  * System Diagnostics
  * Firmware Update


   Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 74. Welcome Center utilities window live system (text mode)

When running on an installed system, the options are:

- Eject media
- Firmware Update
- Exit browser

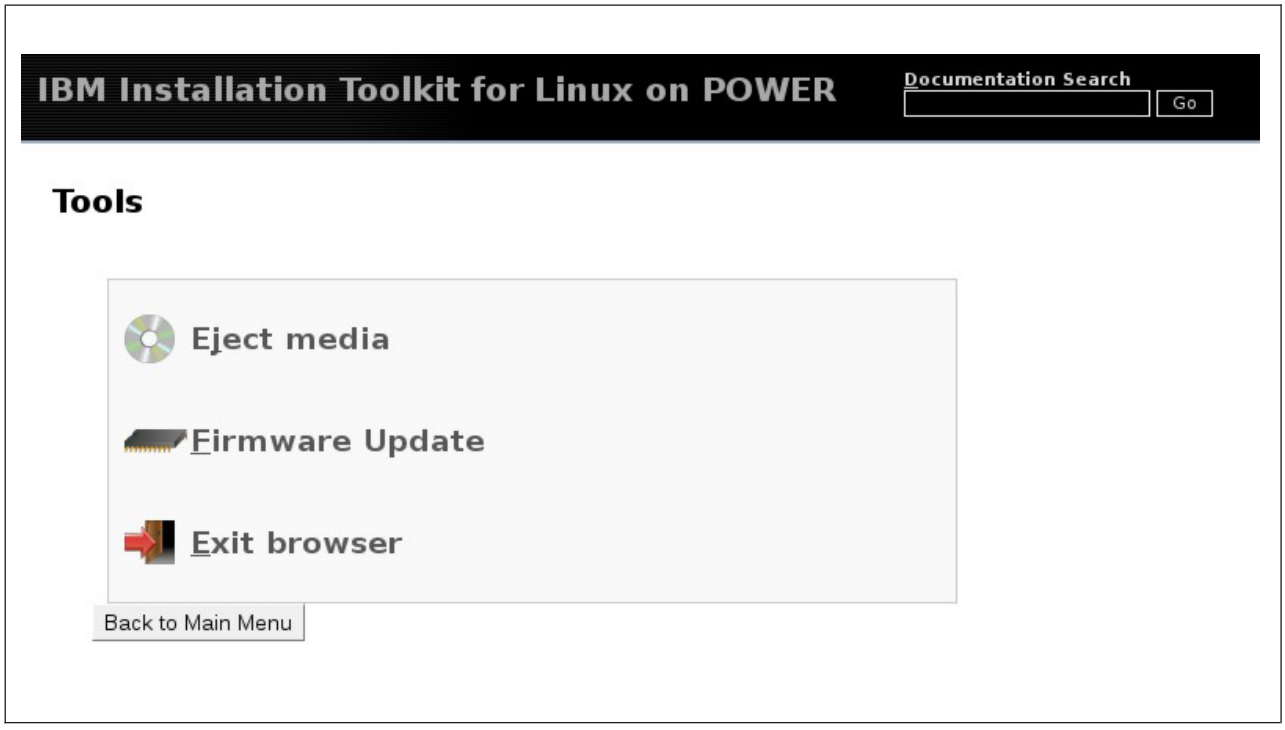

Figure 75. Welcome Center utilities window installed system (graphical mode)

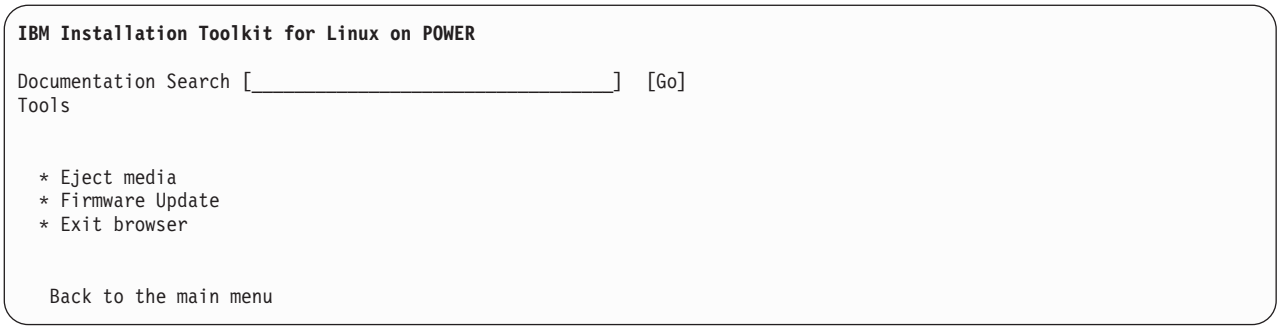

Figure 76. Welcome Center utilities window installed system (text mode)

Each option is explained in detail in the next topics.

Updating your firmware

Select the Firmware Update option in the Welcome Center's *Utilities* window to update firmware on a Power machine.

The firmware update process consists of the following steps:

- Install a new firmware image in the temporary side
- Try to boot the machine using this firmware version and check if everything is working properly
- Commit the firmware update from the temporary side to the permanent side, or reject the firmware update in the temporary side if it did not work properly

IBM Installation Toolkit DVD comes with dozens of up-to-date system firmware that may be used to perform this type of update.

To perform a firmware update using the Firmware wizard, follow these instructions:

1. Select **Utilities** from the Welcome Center.
2. Select **Firmware Update**.
3. On the Firmware wizard window, your current booted firmware level; the firmware level stored on permanent side, and the firmware level stored on temporary side is displayed. The available options include:
   - Commit a firmware image to the temporary side
   - Commit a firmware image to the permanent side
   - Reject the firmware currently stored on temporary side

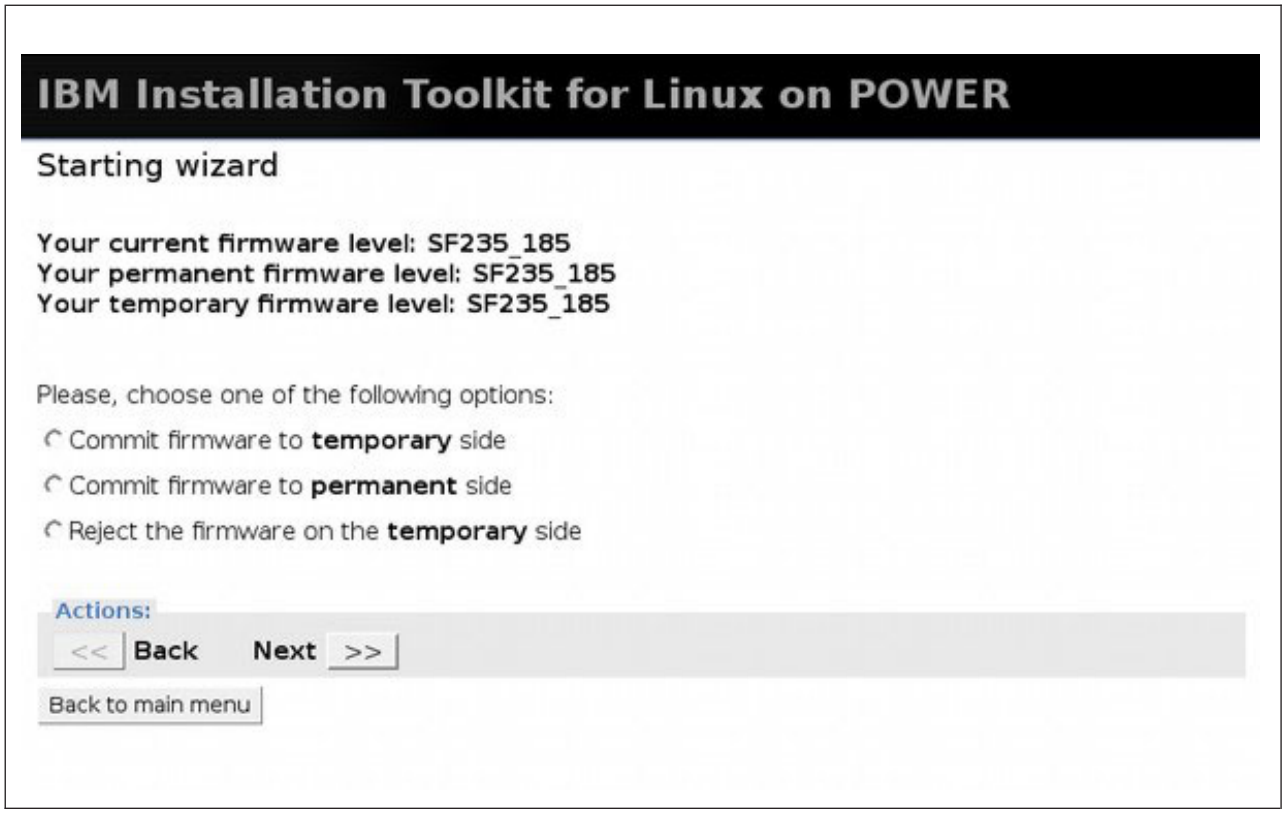

Figure 77. Firmware update - initial screen

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Starting wizard

Your current firmware level: EA340_039
Your permanent firmware level: EA320_040
Your temporary firmware level: EA340_039

Please, choose one of the following options:

( ) Commit firmware to temporary side

( ) Commit firmware to permanent side

( ) Reject the firmware on the temporary side

Actions:  Next [>>]

Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Select **Commit a firmware image to the temporary side** and click **Next >>**.

4. You are prompted to give an installation source from which Welcome Center can copy the firmware image from. You can either insert IBM Installation Toolkit DVD and let the system automatically look for the best firmware option to your current machine or specify a path from which Welcome Center must copy a specified image from.

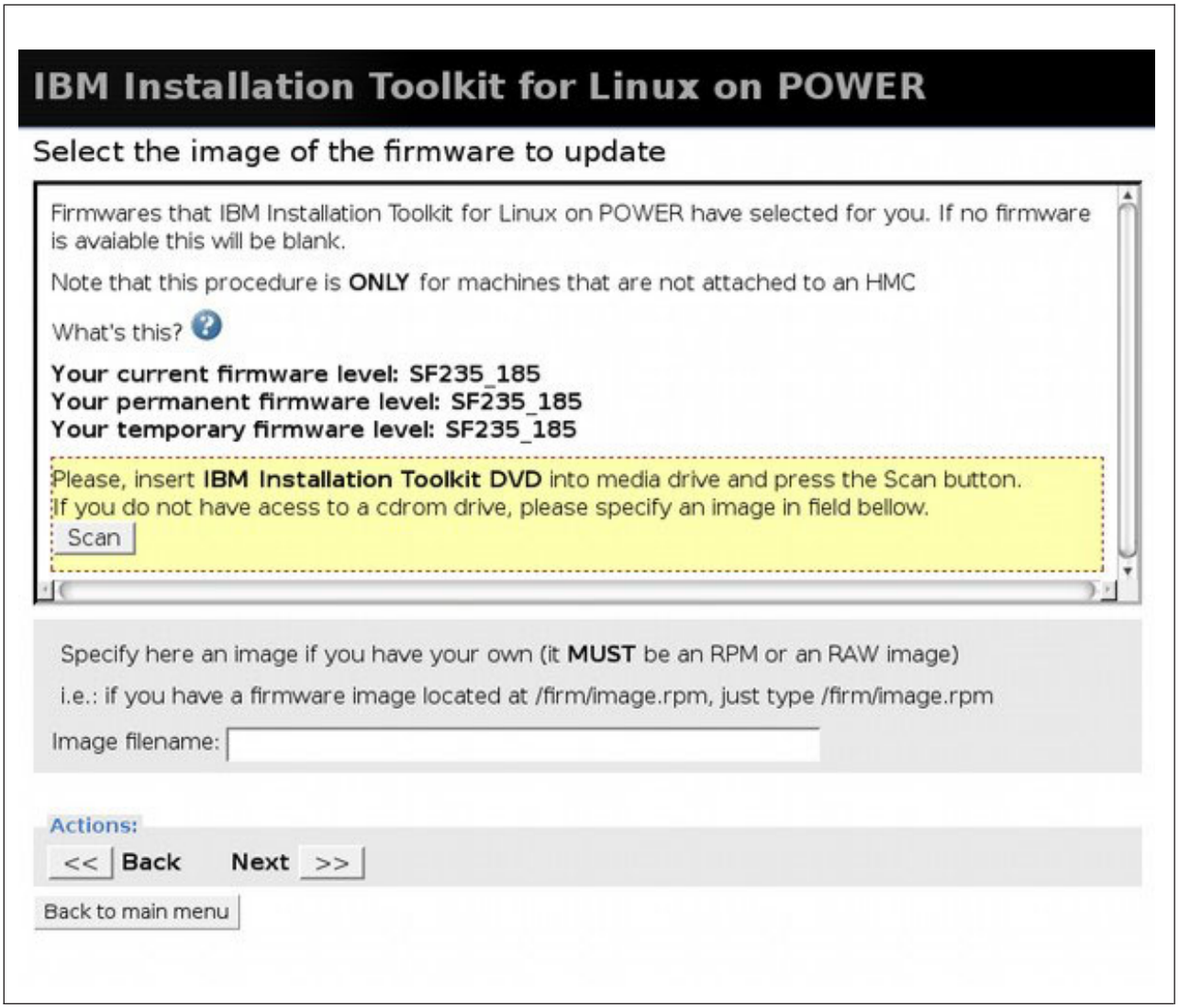

Figure 78. Firmware update - committing to the temporary side

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Select the image of the firmware to update

Firmwares that IBM Installation Toolkit for Linux on POWER have selected for
you. If no firmware is available this will be blank

What's this: [Help/update]

Your current firmware level: EA340_039
Your permanent firmware level: EA320_040
Your temporary firmware level: EA340_039

Please, insert IBM Installation Toolkit DVD into media drive and press the Scan
button.
If you do not have access to a cdrom drive, pleaes specify an image in field
below.
[Scan]

Specify here an image if you have your own (it MUST be an RPM or an RAW image).

i.e.: if you have a firmware image located at /firm/image.rpm, just /firm/image.rpg

Actions:  Back [<<]  Next [>>]

Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

When you are finished selecting the firmware image, click **Next >>** and then confirm the operation on the next window.

5. To move a firmware image currently stored on temporary side to the permanent side, follow these steps:
   a. Select **Commit the firmware to the permanent side** from the Firmware wizard.
   b. You are warned that this operation cannot be undone. To proceed, click **Yes, I'm sure – COMMIT TEMPORARY FIRMWARE TO PERMANENT SIDE**.

Figure 79. Firmware update - committing to the permanent side

```
IBM Installation Toolkit for Linux on POWER
--------------------------------------------------------------------------------
You must confirm the action to continue

Yes, I'm sure - COMMIT TEMPORARY FIRMWARE TO PERMANENT SIDE


Actions:  [<<] Back

Back to the main menu
--------------------------------------------------------------------------------

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 80. Firmware update - committing to the permanent side (text mode)

Note: Make sure to reboot the machine and verify that the system is working properly before committing the new firmware image from the temporary to the permanent side.

6. To reject a firmware image currently stored on the temporary side, follow these steps:
   a. Select **Reject firmware on the temporary side** from the Firmware wizard.
   b. You are warned that this operation cannot be undone. To proceed, click **Yes, I'm sure – REJECT FIRMWARE.**.

Figure 81. Firmware update - rejecting a firmware on the temporary side

```
IBM Installation Toolkit for Linux on POWER
--------------------------------------------------------------------------------
You must confirm the action to continue

Yes, I'm sure - REJECT FIRMWARE


Actions:  [<<] Back

Back to the main menu
--------------------------------------------------------------------------------

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 82. Firmware update - rejecting a firmware on the temporary side (text mode)

Configuring the network

When you select the Configure Network option in the Welcome Center's *Utilities* window, you can set up your network configuration either automatically (through DHCP) or manually. It configures the network for the live DVD session environment, not for the target system's environment. This option is not available on the installed system.

To configure your network, select the network interface to be configured from the Network card field and the type of configuration you want (automatic or manual) from the Configuration Type field. Then click **Submit**.

Figure 83. Configure Network (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

Network Setup

Network setup

Network card       [eth0]
Configuration type [automatic]


[Submit]

Back to main menu
```

Figure 84. Configure Network (text mode)

If your network is already configured, this window displays a warning. You can safely ignore it and choose to proceed configuring your network cards again.

Configuring Network Automatically

If you selected the automatic configuration, a confirmation window is displayed. Verify that the values are correct and click **Continue** to proceed.

Configuring Network Manually

If you select manual configuration, a new window displays. On that window, you have to provide the following information:

- **IP address**: the IP address number to be used by the machine
- **Netmask**: the network mask of the IP address entered
- **Gateway**: the IP address number of the machine used as a gateway to access the external networks

When you are done entering the information requested, click **Submit** to continue. Read the confirmation window and, if the values are correct, click **Continue** to apply the configuration.

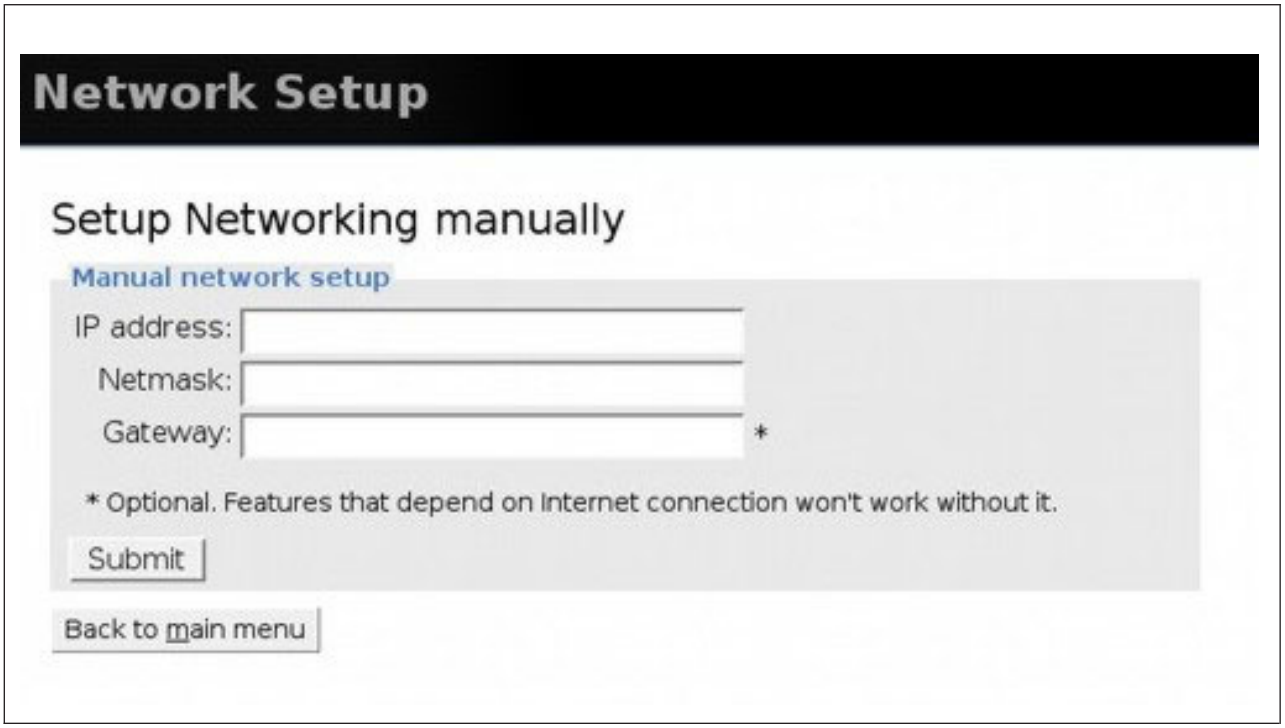

Figure 85. Configure Network Manually (graphical mode)

```
IBM Installation Toolkit for Linux on POWER

Network Setup

Setup Networking manually

Manual network setup

IP address [                        ]
Netmask    [                        ]
Gateway    [                        ] *

* Optional. Features that depend on Internet connection won't work without it.

[Submit]

Back to main menu
```

Figure 86. Configure Network Manually (text mode)

Note:

- If you do not know your gateway IP address or do not have one, use `0.0.0.0` in the gateway box.
- Remember, though, that you cannot access the external networks (such as the Internet) without a valid gateway configured.

Ejecting media

Select the Eject media option from the Welcome Center's *Utilities* window to eject IBM Installation Toolkit DVD.

After selecting this option, **Welcome Center** will ask you to confirm this action. If you want to cancel this action and return to the main window, select **Back to main menu**. Otherwise, select **Continue**.

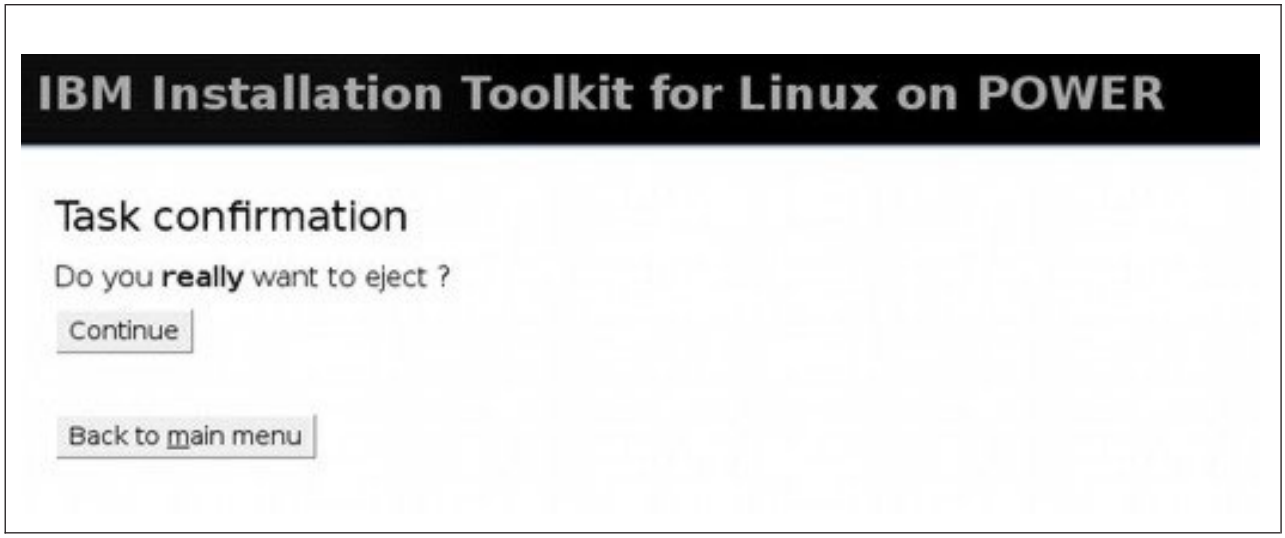

Figure 87. Eject Media window

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________
Task confirmation

Do you really want to eject ?

Continue


Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 88. Eject Media window

Rebooting the system

Select the Reboot System option from the Welcome Center's *Utilities* window to reboot your machine. This feature is available on live systems only.

After selecting this option, the **Welcome Center** will ask you to confirm this action. If you want to cancel this action and return to the main window, click **Back to main menu**. Otherwise, click **Continue**.

Note: If you confirm this action, you cannot cancel it. The system will reboot.

Figure 89. System Reboot window

```
IBM Installation Toolkit for Linux on POWER
_____________________________________________________________________

Task confirmation

Do you really want to reboot ?

Continue


Back to the main menu
_____________________________________________________________________

Home=top  End=bottom  Tab=nextlink  Esc=Tab=backlink  Arrow keys  Enter
```

Figure 90. System Reboot window

Using diagnostic tools

You can use the Welcome Center utilities to diagnose your installation.

When you select the **System Diagnostics** option in the Welcome Center's *Utilities* window, you can run a diagnostic tool called *sysdiag* where you can configure and manage your hardware. You can view and change many options, including boot options, HMC options, error log, and service configuration. For more information about this tool, consult documentation found on the IBM Linux on Power servers Web site.

Note:

- If you launch this option from the web browser, you have to go to the terminal window to use the tool.
- To quit **System Diagnostics**, use the **F3 - Exit Diagnostics** option at the bottom of the window.

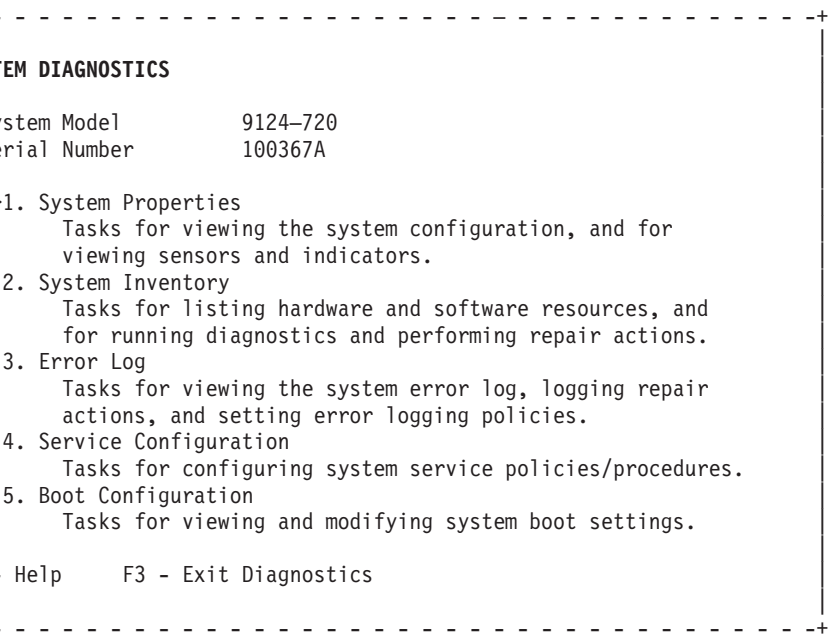

Figure 91. System Diagnostic Window

Exiting the Welcome Center

Use the Exit browser to exit the Welcome Center when you are running on an installed system.

This functionality is present in installed systems only.

To exit, select the **Exit browser** from the **Utilities** window.

Note:

- You must exit the Welcome Center by using this functionality if you are running RHEL.
- To exit the Welcome Center in a live system, press *Q* or *q* if you are in text mode.

Welcome center help and documentation

These topics describe help, documentation, and support functions, included with the IBM Installation Toolkit for Linux.

Through the Welcome Center, you can browse the documentation that is present on the IBM Installation Toolkit DVD. The documentation is composed of PDF and HTML documents. You can read HTML in your browser, either in graphics or in text mode. The PDF's, however, are listed, but cannot be read in the Welcome Center. You can, however, point an external browser to the PDF location to open it. The IP address may be different from what is shown in the figures below.

Although you are not able to read PDF documents in the machine from where you are running the IBM Installation Toolkit, you can put this DVD inside another machine and open the document with your preferred PDF viewer. To open the document, you only need to know the location of the document. The documents can be found inside the */docs* directory on the DVD.

To search for specific content, you have two options: Search and Browse. In order to be able to search or browse documentation you need:

- The IBM Installation Toolkit media in the drive, when running a live system

- The RPM package `lop-docs-<version>.noarch.rpm` installed, when running an installed system.

On the live system, if you try to access the documentation without the media, the Welcome Center asks you to load the media and try again. On the installed system, it asks you to install the lop-docs package.

Note:

- If you want to eject your media after browsing or searching documents, use the *Utilities* window, and select **Eject Media**.
- You can use the option **Install IBM Packages in a Running System** from the Welcome Center's Install Tools window if you need to install the lop-docs package.

Browsing documentation

Use the **Browse Additional Linux on POWER Documentation** entry on the Welcome Center's Help window.

This option can be used for browsing, by navigating through the links below Available Documents when the window is opened, as well as for searching, by typing the search expression on the Search Terms field and clicking **search**. The documentation browsing is like what in shown in the figure below:

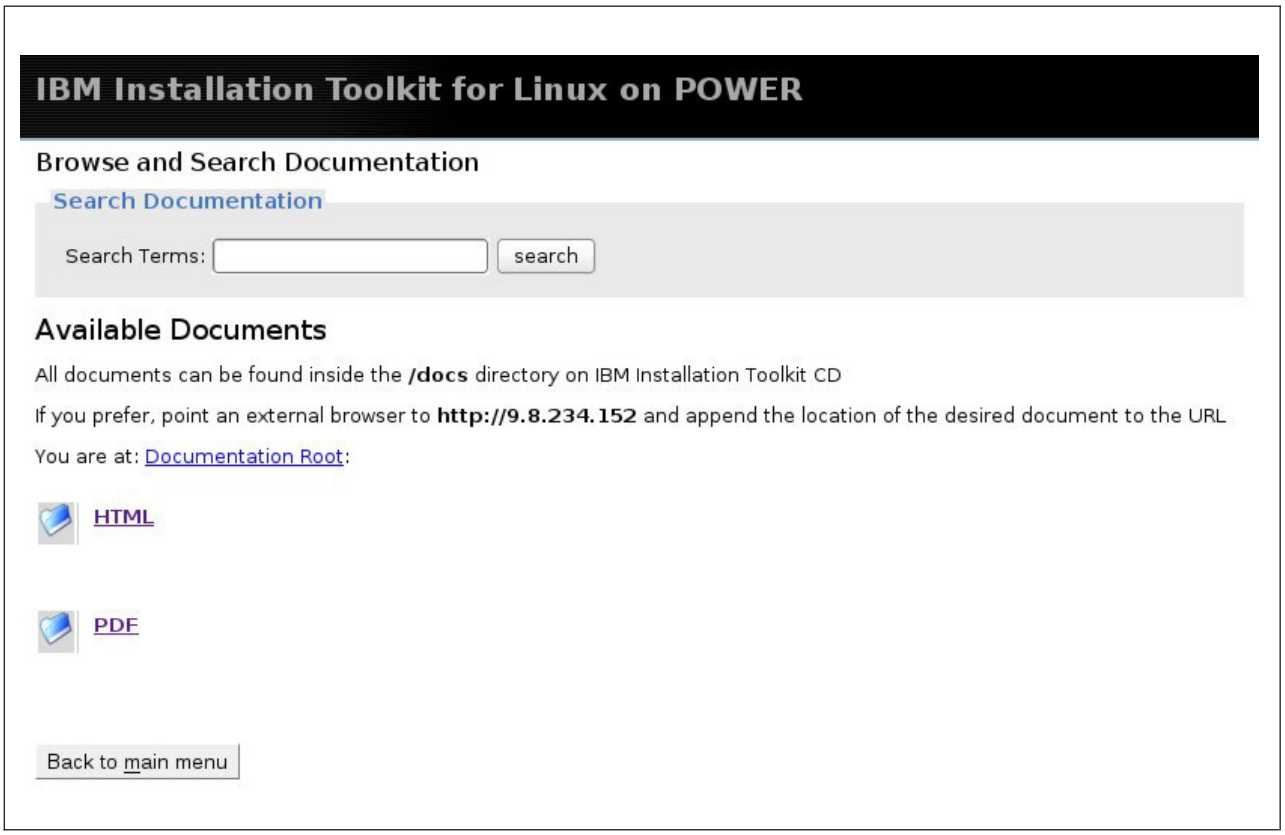

Figure 92. Browse Documentation window

```
IBM Installation Toolkit for Linux on POWER
.....................................................................
Browse and Search Documentation

Search Documentation
Search Terms:  [                   ] [search]

Available Documents

All documents can be found inside the /docs directory on IBM Installation
Toolkit CD

If you prefer, point an external browser to http://10.0.0.12 and append the
location of the desired document to the URL

You are at: Documentation Root:

DIR HTML

DIR PDF
```

Figure 93. Browse Documentation window (Text mode)

Searching documentation

Use the *Documentation Search* text box at the top right of the Welcome Center's Utilities window. When you use search, the term is returned in order of relevance (expressed in percentage) and followed by the location of the term on the DVD. The result of a documentation search is like what is shown in the figure below:

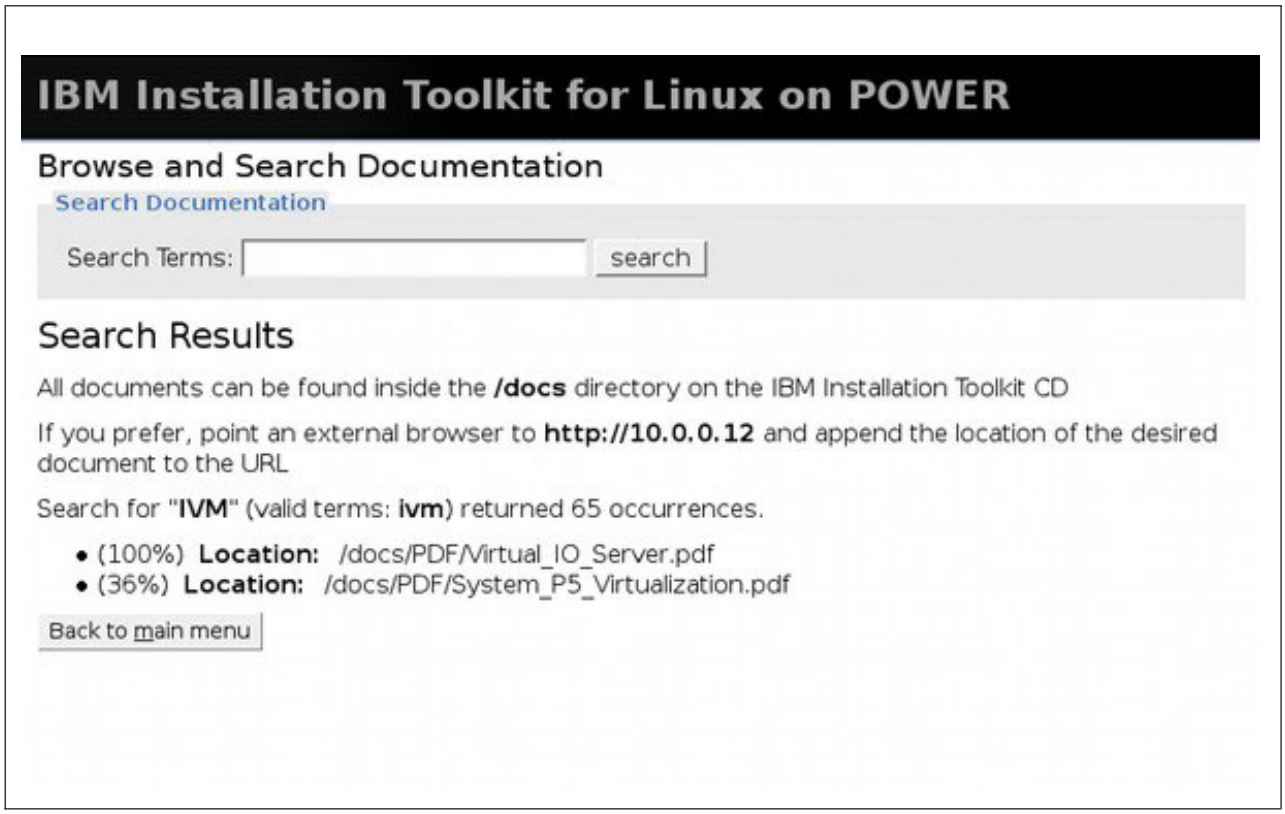

Figure 94. Search Result window

```
IBM Installation Toolkit for Linux on POWER
....................................................................
Browse and Search Documentation

Search Documentation
Search Terms:  [                    ] [search]

Available Documents

All documents can be found inside the /docs directory on IBM Installation
Toolkit CD

If you prefer, point an external browser to http://10.0.0.12 and append the
location of the desired document to the URL

Search for "IVM" (valid terms: ivm) returned 65 occurrences.

  * (100%)  Location:  /docs/PDF/Virtual_IO_Server.pdf
  * (36%)  Location:  /docs/PDF/System_p5_Virtualization.pdf

Back to main menu
....................................................................
Home=top  End=bottom  Tab=nextlink  Esc+Tab=backlink  Arrow keys  Enter
```

Figure 95. Search Result window (Text mode)

The HTML results of a search are links to specific sections inside the document. Click the links to read the contents.

Note: Use the **B** or **b** keys to go back if you are in text mode.

Registering at IBM

You can register at the IBM Web site through the IBM Installation Toolkit Welcome Center.

Select the Register at IBM Web site option in the Welcome Center Help window to register at the IBM Web site. After you register, you get access to the IBM Installation Toolkit forum (http://www.ibm.com/developerworks/forums/forum.jspa?forumID=937) as well as other content available at the IBM Web site. In order to register, select **Click here to register** and you are redirected to the IBM registration page.

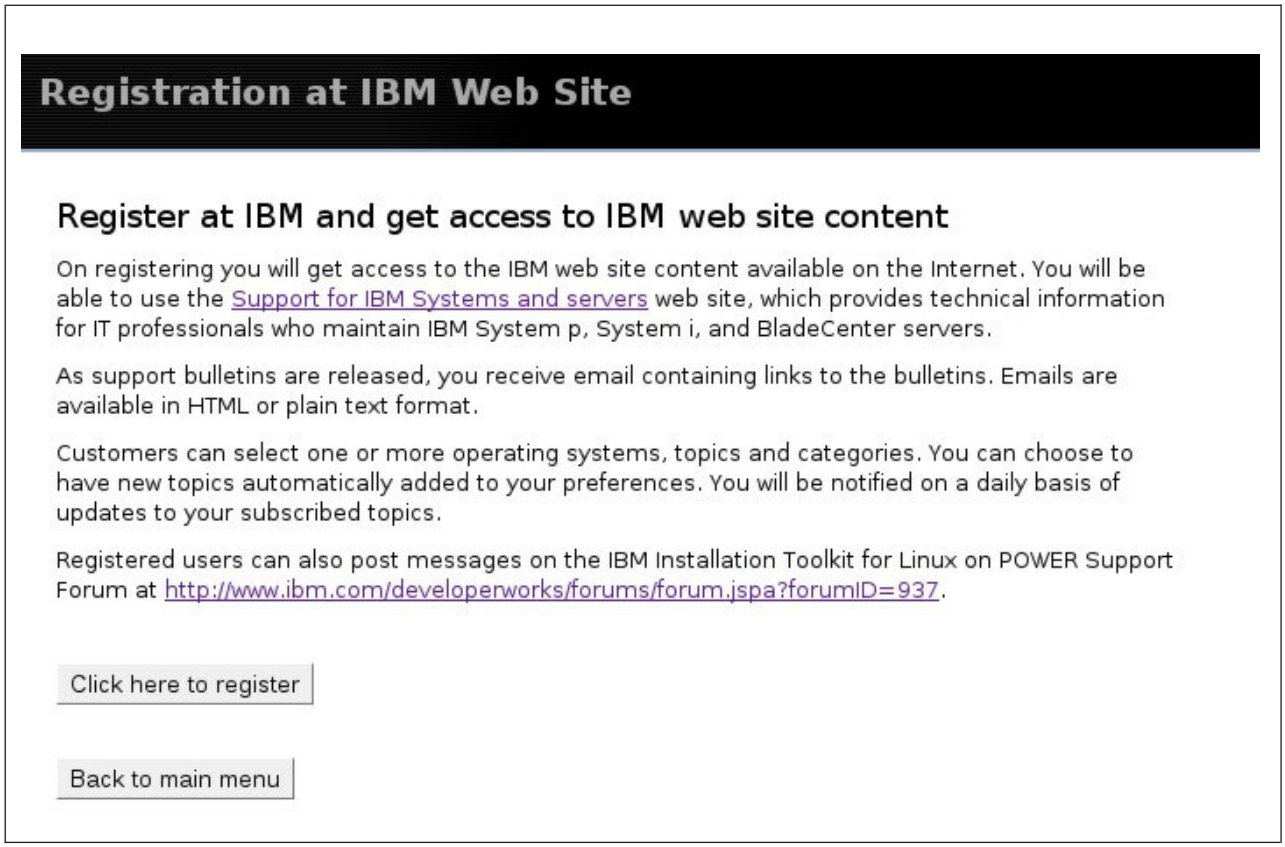

Figure 96. Register

Note:

- Before being directed to the page shown in figure, the Welcome Center informs you if your network is not configured.
- You need to have a gateway and a DNS server configured in order to access the external network (Internet).

Chapter 7. Recovery tools

The IBM Installation Toolkit bootable image loads a minimal Linux system in order to run Linux install, firmware update, diagnostic and recovery tools, and other applications.

As a common Linux System, this minimal Linux system comes with a wide-range of applications that allow you to perform system diagnostic and recovery tools. Besides *sysdiag*, (IBM Tool to system diagnostic - for more information refer to “Using diagnostic tools” on page 74), you can use 1000+ well-known Linux applications. These applications include system shells (bash, sh), line editing utilities (sed, awk), text editors, Linux partitioners (fdisk, sfdisk), mount/umount applications, chroot, archivers (tar, gzip/gunzip), and a **python** interpreter. For a complete list of applications available, you can either type TAB key twice on system shell or check the following directories on a system booted with the Toolkit:

- /sbin
- /usr/sbin
- /usr/local/sbin
- /root/bin
- /usr/local/bin
- /usr/bin
- /usr/X11R6/bin
- /bin

All these applications have their own documentation. They can be found at the Web site http://www.linuxmanpages.com/. Most of these applications have a built-in help, which serves as a quick reference for common-used options. In general, this built-in help can be accessed by giving a ″help′′ argument to any command (for example: `mount -help`), but this action may vary from application to application.

Chapter 8. IBM Installation Toolkit System Tools

The IBM Installation Toolkit System Tools includes a Server management tool, a Server consolidation tool, and a Task monitor.

The server management module is designed to help administrators set up and configure a network boot server and an installation server. The server consolidation module is designed to help administrators to migrate a server from System x to POWER machines. The task monitor allows you to monitor tasks that are running in the background.

In order to start using System Tools, type `systemtools` at the command prompt and point your browser to the server IP address on port 8080.

Note: You may need to configure your firewall to allow incoming connections on port 8080 to be able to connect to System Tools.

The main window is displayed below:

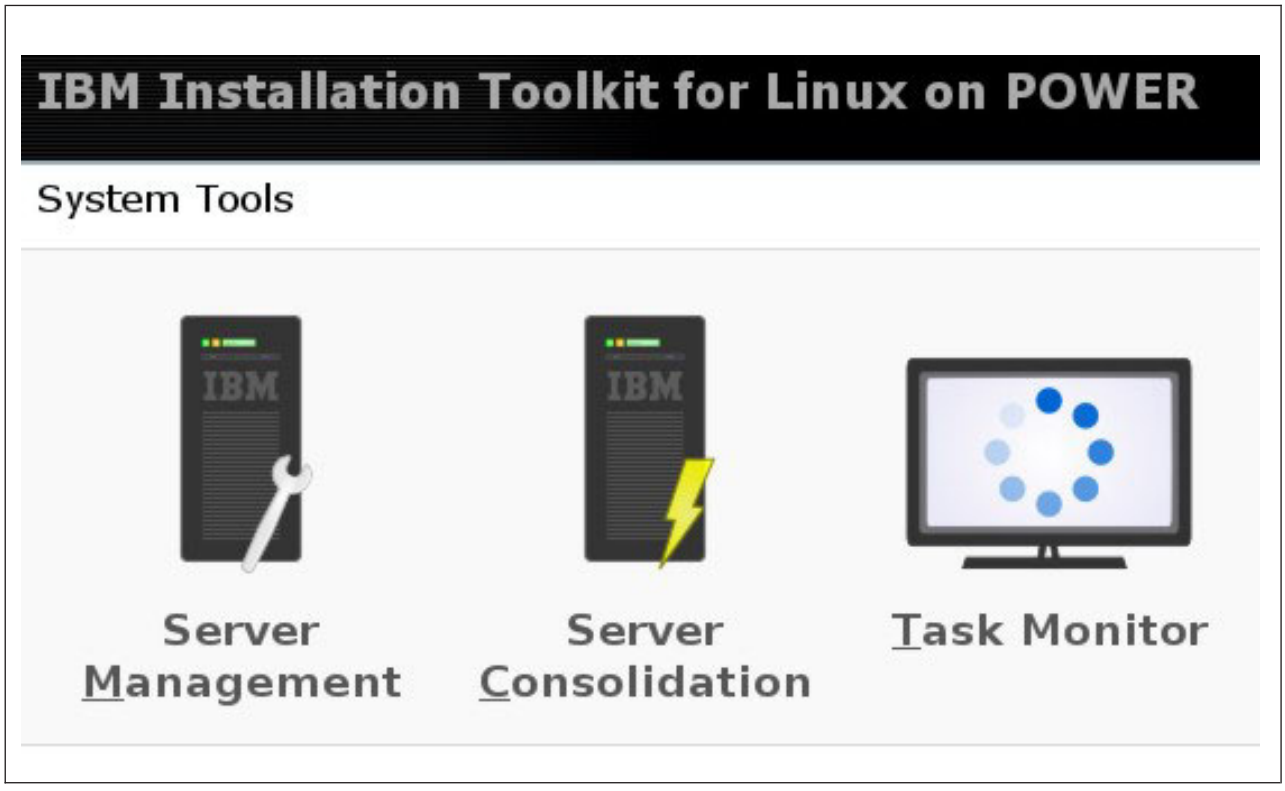

Figure 97. System Tools main window

If you have not installed System Tools using PowerPack, you can do it manually. In order to do install manually, locate the following files:

- `systools-<version>.noarch.rpm` file
- `wui-<version>.noarch.rpm` file
- `wui_core-<version>.noarch.rpm` file
- `sct-pexpect-<version>.noarch.rpm` file
- `PAM-authenticate-<version>.ppc64.rpm` file

These files are found inside the /suse/noarch or /RedHat/RPMS directories in the IBM Installation Toolkit DVD or an ISO file that you can download from the Internet.

Additionally, you may have to locate additional files when installing on these distributions:

RHEL4
libxml2-python-<version>.ppc.rpm

RHEL5
libxml2-python-<version>.ppc.rpm

SLES9 python-xml-<version>.ppc.rpm

SLES10
libxml2-python-<version>.rpm and python-xml-<version>.ppc.rpm

These packages can all be found on the distribution installation media.

When you have copied these files to your server, type rpm -ivh <files>, where <files> is a list of all the rpm packages listed above.

Note: You may experience problems with some SELinux configurations when running System Tools on RHEL installations. In this case, you should consider setting SELinux to permissive mode when a System Tools task is running.

Server Management Tool

The Server Management Tool allows you to set up an IBM Installation Toolkit server, which can be used to manage Linux distributions repositories and to allow client systems to boot the IBM Installation Toolkit from the network.

This module has three basic parts:

- *Network Server Setup/Update*: Responsible for setting up the basic information needed by System Tools to manage network resources and provide Network Boot capabilities.
- *Manage Network Resources*: Provides distribution management capabilities to System Tools, making it possible to add or delete repositories of RHEL/SLES distributions or IBM packages.
- *Manage Client Systems*: Manages clients that use the Network Boot feature of IBM Installation Toolkit. This option allows you to add or remove client machines.

The figure below displays these options:

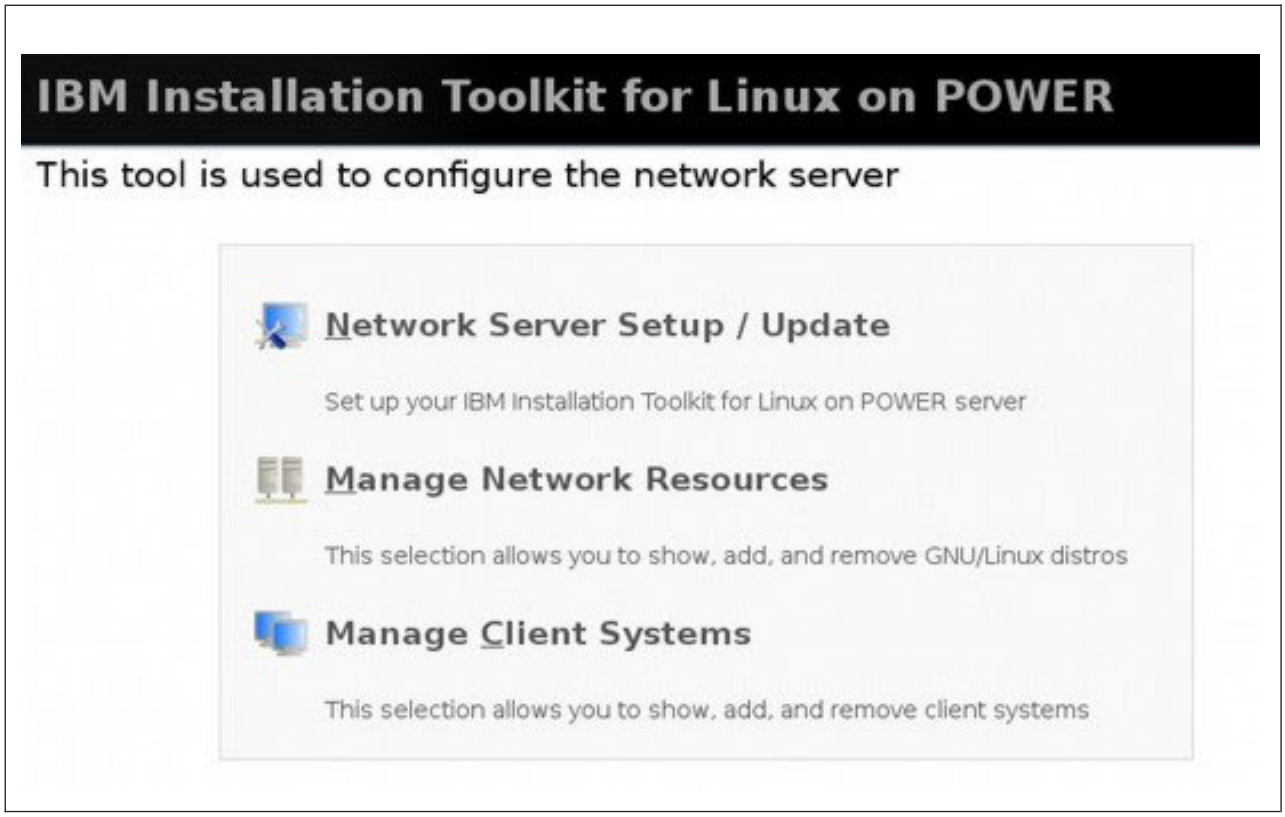

Figure 98. Server Management Module window

Setting up or updating the Network Server

The Network Server Setup/Update module is responsible for the server environment initial configuration, setting up the TFTP export directory, file sharing protocol, protocol export directory, IBM Installation Toolkit base directory, and IBM Installation Toolkit data source.

To set up or update the network server, follow these steps:

1. Select **Network Server Setup/Update** from the Server Management Tools module.

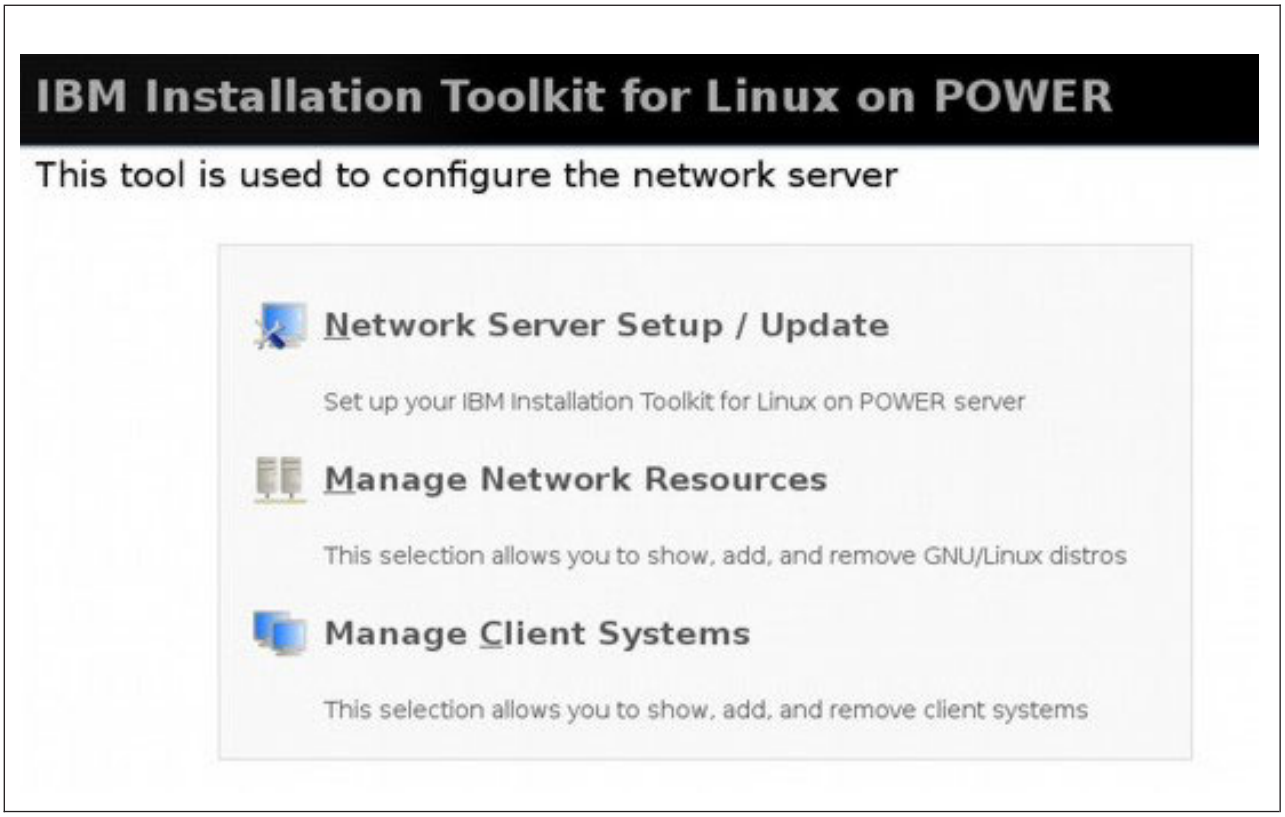

Figure 99. Server Management Module window

2. On the Network Server Setup/Update window, you can enter or change the following information:
   - *TFTP export dir*: This directory is the location that is made externally visible through the TFTP server. Files related to the Network Boot feature of IBM Installation Toolkit is copied to this location, so that they are externally accessible. Make sure that the TFTP server is correctly configured to serve this directory by looking at the TFTP configuration file (`/etc/xinetd.d/tftp`).
   - *Protocol*: This field indicates the protocol that is used to share files between your client systems and the Toolkit Server. The Toolkit assumes that you will independently configure your server to share files with client systems. The Toolkit does not restrict how you do this configuration, but it needs to know the underlying protocol, so that the Toolkit base directory can be registered and made available to client systems. Available protocol choices are HTTP, FTP, and NFS.
   - *Protocol Export dir*: This field identifies the path that is used by the protocol mechanism to provide external access to the IBM Toolkit base directory. For example, if the protocol is HTTP, then the client accesses a distribution repository through the URL, http://toolkitserver_IP/IBMIT/distro/. A similar URL is generated for the FTP protocol. In this example, the protocol export directory is IBMIT. The Toolkit assumes that the administrator will configure the Web-server with the appropriate alias that links IBMIT with the IBM Toolkit base directory. If the protocol is NFS, export the IBM Toolkit base directory so that the managed clients have access to the Toolkit-managed data. Consult your product documentation for more information.
   - *IBM Toolkit base dir*: The IBM Toolkit base directory stores the distributions repositories and other packages.
   - *IBM Toolkit source*: The IBM Toolkit source is the CD-ROM, DVD-ROM, or ISO image file location. This information is used to copy the required contents from the source location.

Figure 100. Server Setup main window

3. When you have finished, click **Submit**. Confirm your choices on the Summary page and click **Continue** to save the configuration parameters and start copying the required files.

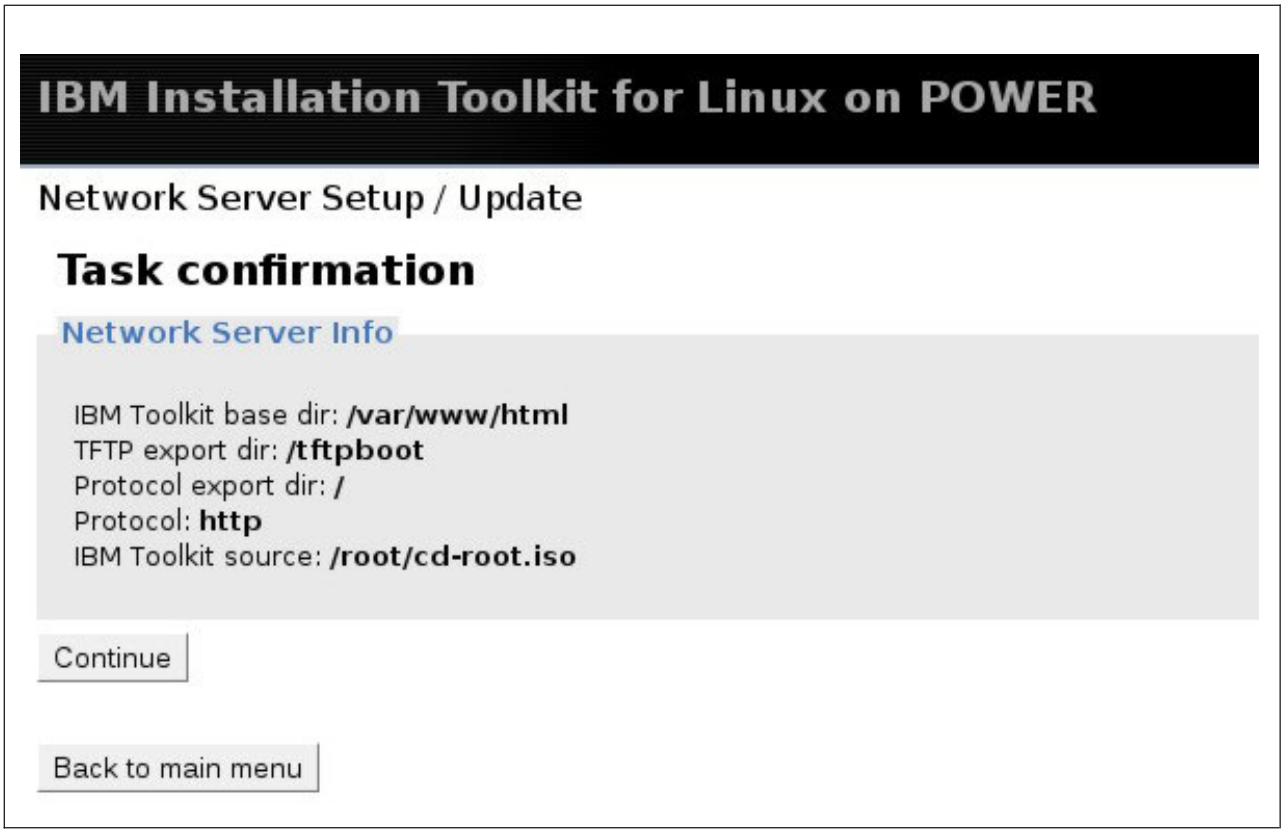

Figure 101. Summary window

Manage network resources

The Manage Network Resources module is responsible for distributions repositories and IBM packages repository management.

A distribution repository is required in order to install a Linux distribution through the network. One of the advantages of installing a distribution through the network is the higher data transfer rate of network devices compared to CD/DVD-ROMs and fully automatic installation processes without needing to change any CD/DVDs. The data is copied continuously from the network install server. Similarly, an IBM Toolkit packages repository is required to enable the installation of additional IBM packages through the network.

To set up a distribution repository, follow these instructions:

1. Select **Manage Network Resources** from the Server Management Tools module.

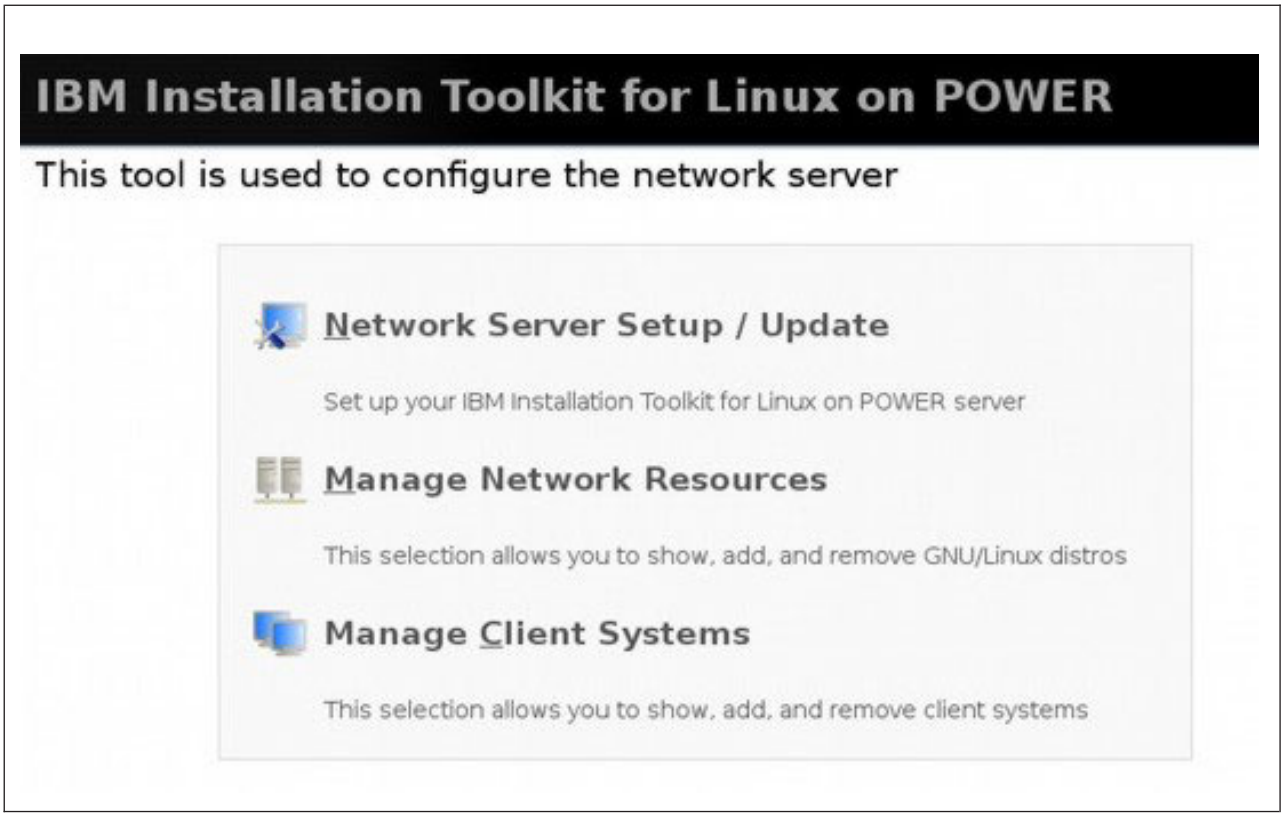

Figure 102. Server Management Module window

2. From the **Manage network resources** window, you can add and delete network resources.

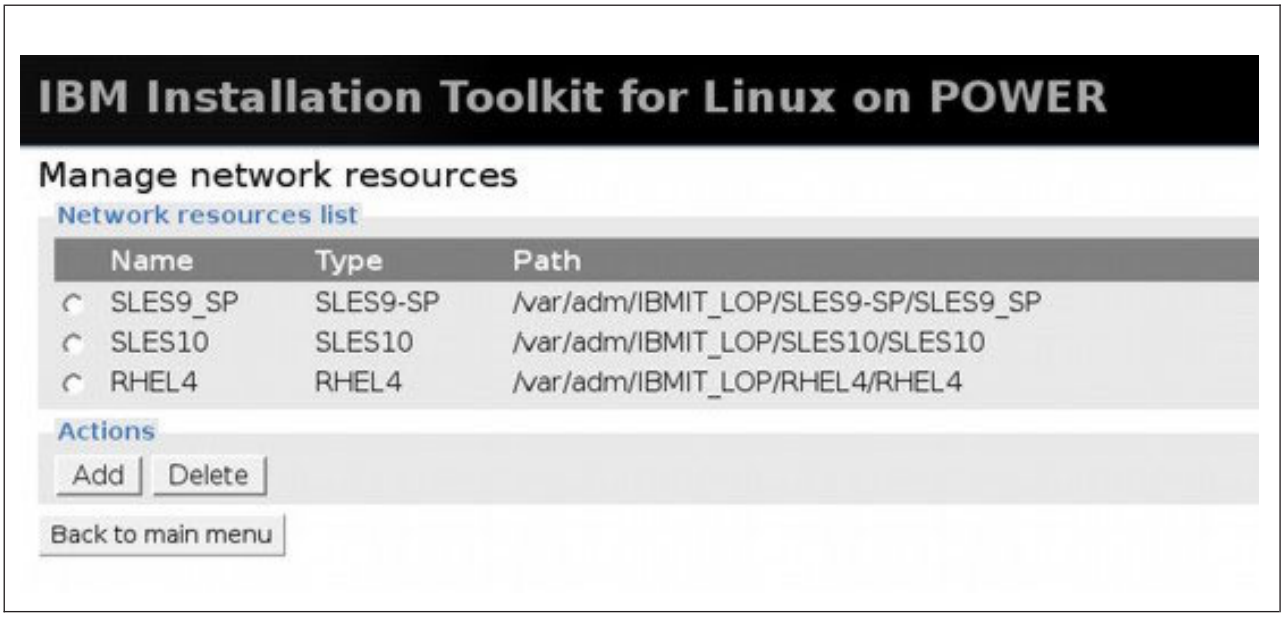

Figure 103. Manage network resources window

3. To create a network resource, select **Add**.
   a. On the new Manage network resources window, enter the following information:
      - *Nickname*: A user defined identifier for the repository.

- *Distro type*: The type of the distribution repository that is going to be created. Available options are SLES 9 + Service Pack, SLES 10/SLES10 + Service Pack, RHEL4, RHEL5 or IBM Toolkit.
- *Distro source*: The source of the data that will be copied into the repository. The source can be either a set of CD-ROMs, a DVD-ROM, or a set of ISO image files.

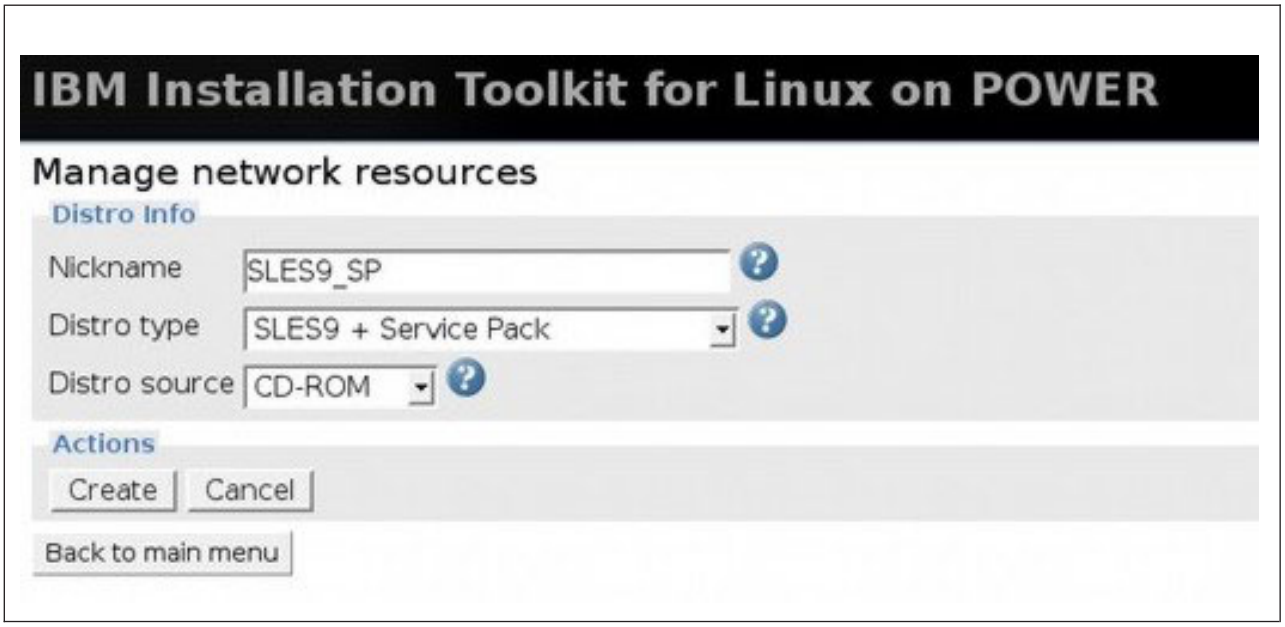

Figure 104. Creating a repository

After providing the required information, click **Create** to go to the next step.

b. If *CD-ROM* was the chosen media type, provide the CD/DVDs in the same order as requested by the system. When a CD/DVD is copied, load the next CD/DVD and click **OK**.

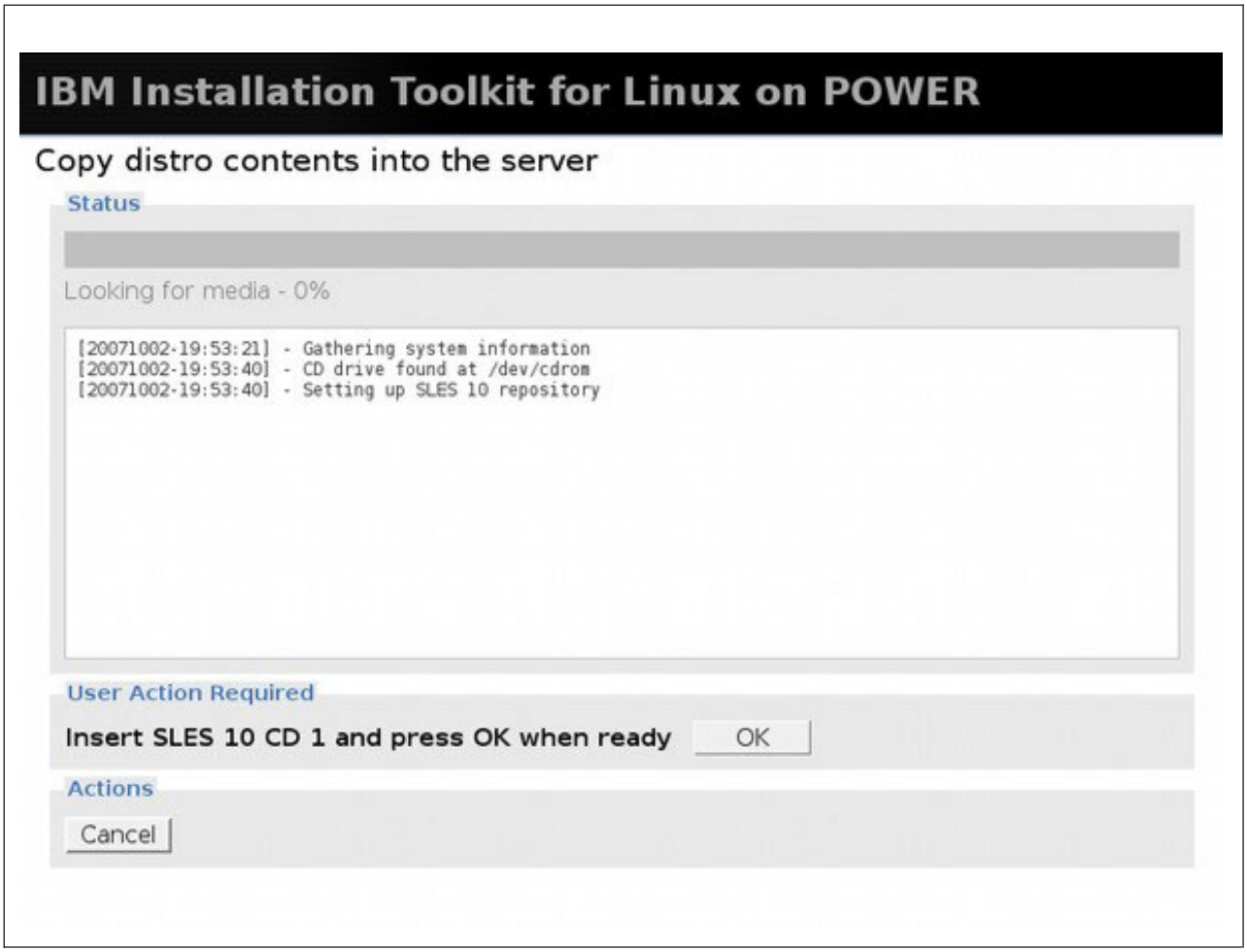

Figure 105. Copying Data from CD/DVDs

c. If *ISO Image* was the chosen media type, specify the directory containing the ISO image files.

   To copy the contents to the new repository, select all the ISO image files related to the distribution repository that is being set up. The files do not need to be provided in order.

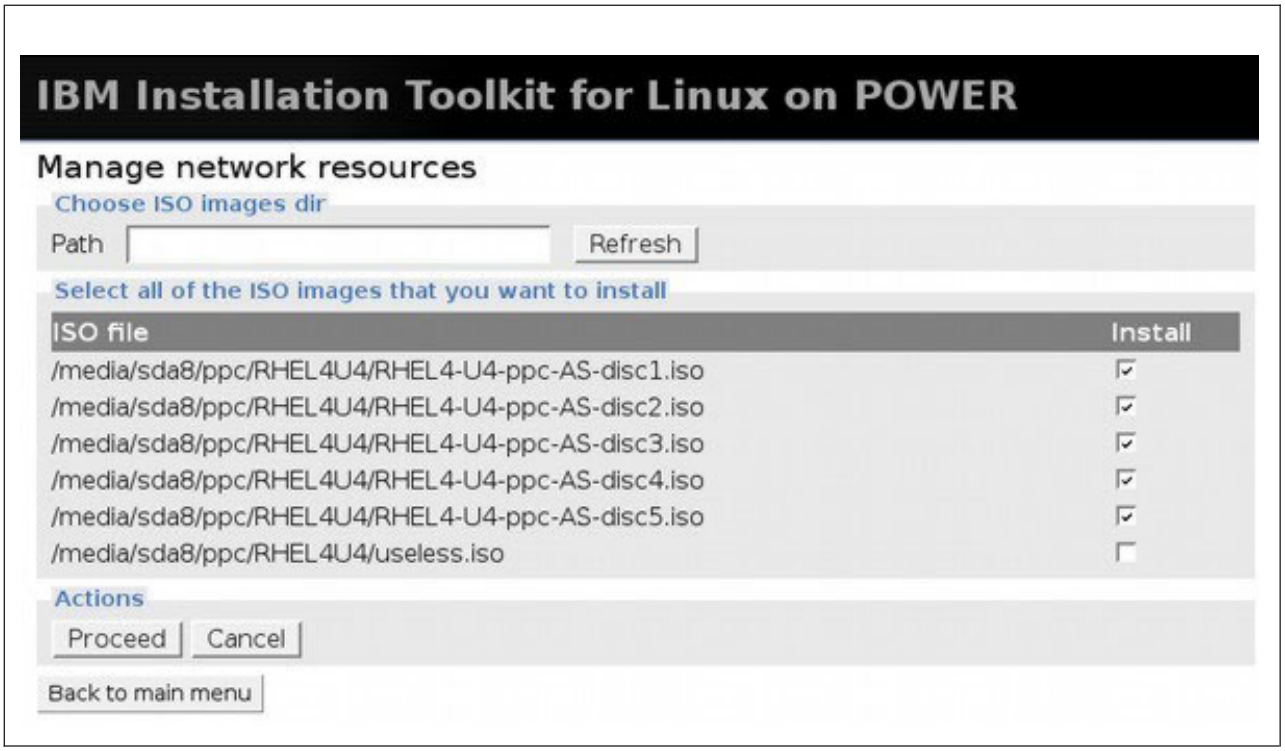

Figure 106. Selecting ISO images to copy from

When you are finished adding ISO images to copy from, click **Proceed**. The required data is copied to the new repository.

4. If a repository is not being used anymore, you can select it on the main screen of *Manage network resources* and click **Delete**. The resource and all the data contained in it is deleted.

Managing client systems

The Manage Client Systems module of the System Tools provides an easy way to register and unregister client machines that are permitted to use the Network Boot feature.

The clients registered within this module are set up to receive the IBM Installation Toolkit images upon Network Booting.

For the configuration details regarding client machines, see "Setting up boot device in SMS window" on page 11.

To register or unregister a client machine, follow these steps:

1. Select **Manage Client Systems** from the Server Management Tools module.

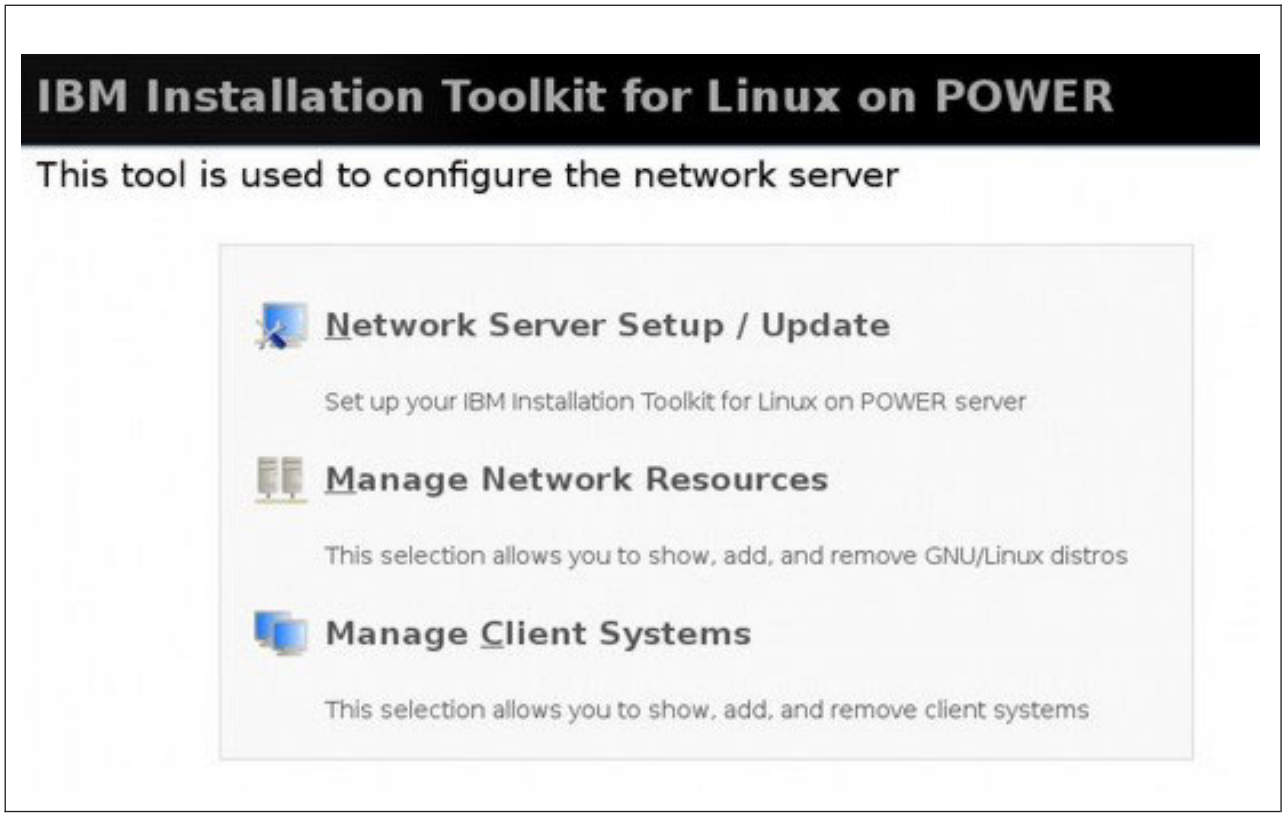

Figure 107. Server Management Module window

The Client Systems Management displays options according to your current DHCP server configuration file status.

2. If a file is missing, empty, or without a subnet configuration, the Subnet Creation window is displayed. Enter a Header, subnet, netmask, and Subnet header. Headers are used for identification purposes and do not affect the configuration itself. You can include additional headers by clicking **Add header** or **Add subnet header**. When you are finished, click **Next >>**. The Registered Client Systems window is displayed and you can jump to step 5.

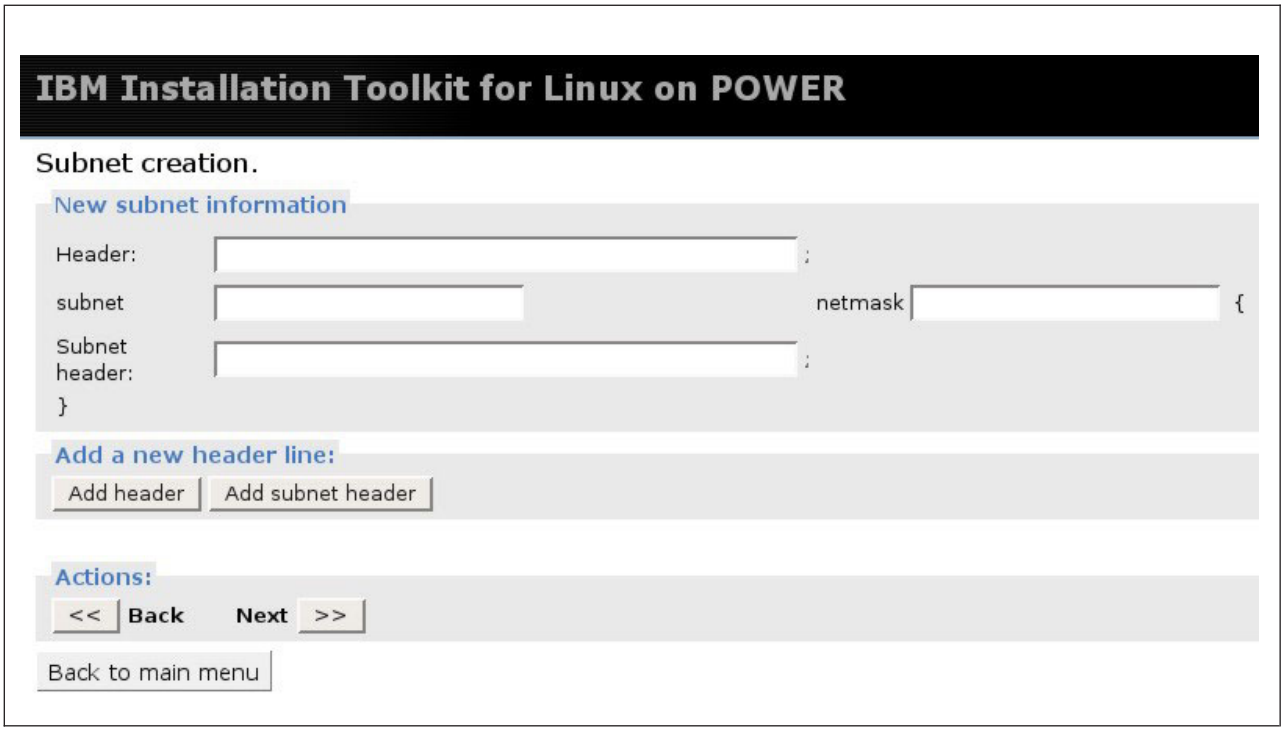

Figure 108. Subnet Creation window

3. If you have a subnet without hosts configured or more than one subnet configured (such as one subnet and hosts outside of it or multiple subnets), the Subnet Configuration window is displayed. Select an existing subnet or Create subnet. If you select Create subnet, go back to step 2.

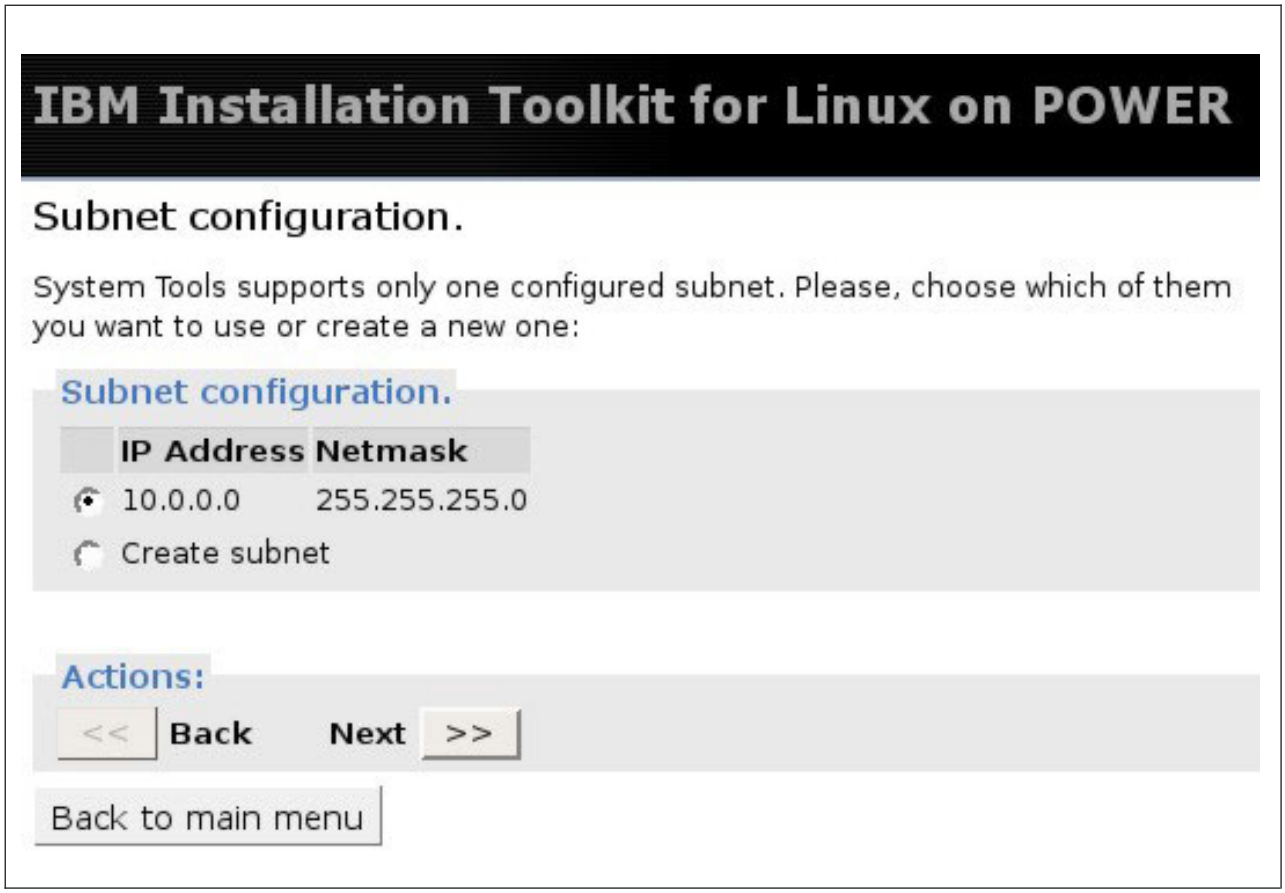

Figure 109. Subnet Configuration window

After you have selected your subnet, click **Next >>**.

4. On the Hosts configuration window, select the host to use. You can select multiple hosts.

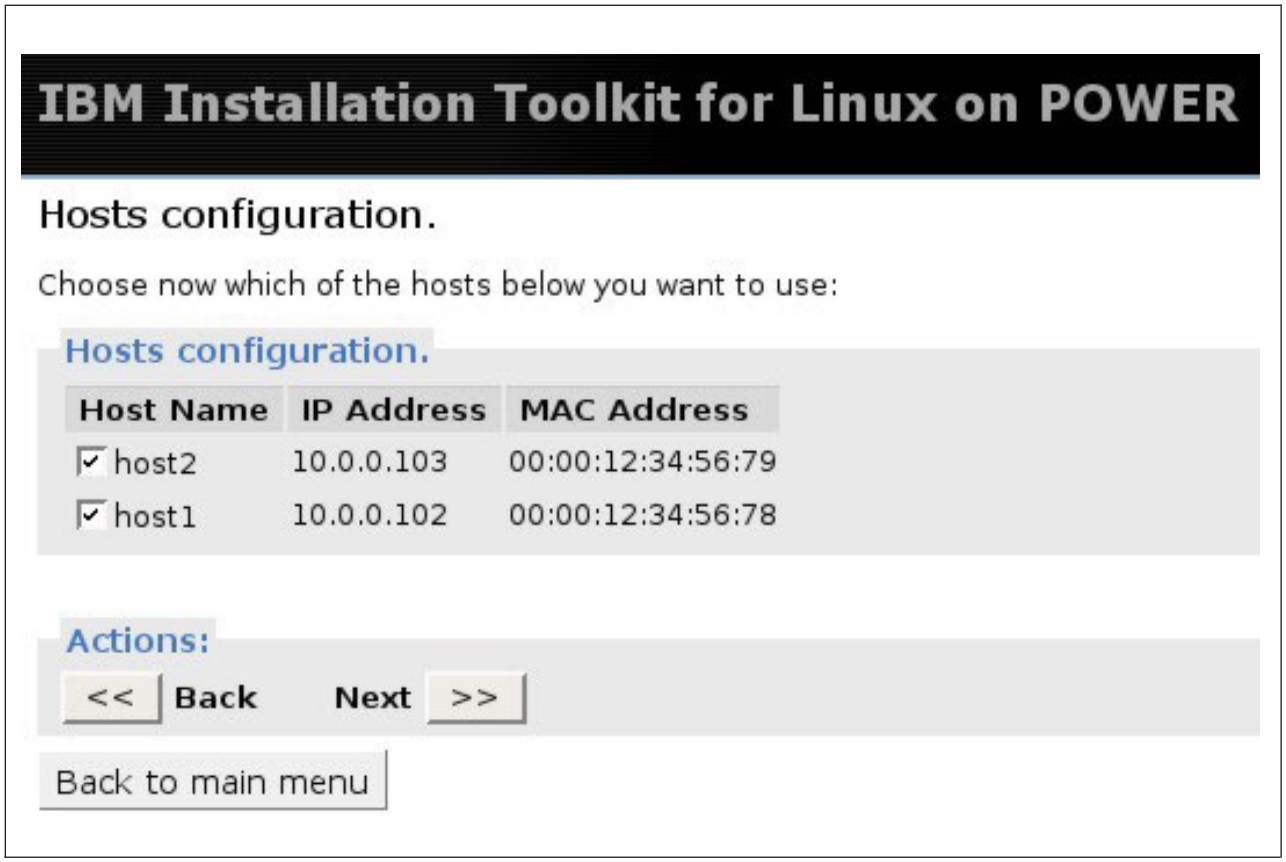

Figure 110. Hosts Configuration window

When you are finished, click **Next >>**.

5. At the Registered Client Systems window, you can add or remove a client machine. This window displays the currently registered systems along with their configured IP addresses, MAC addresses, and additional comments.

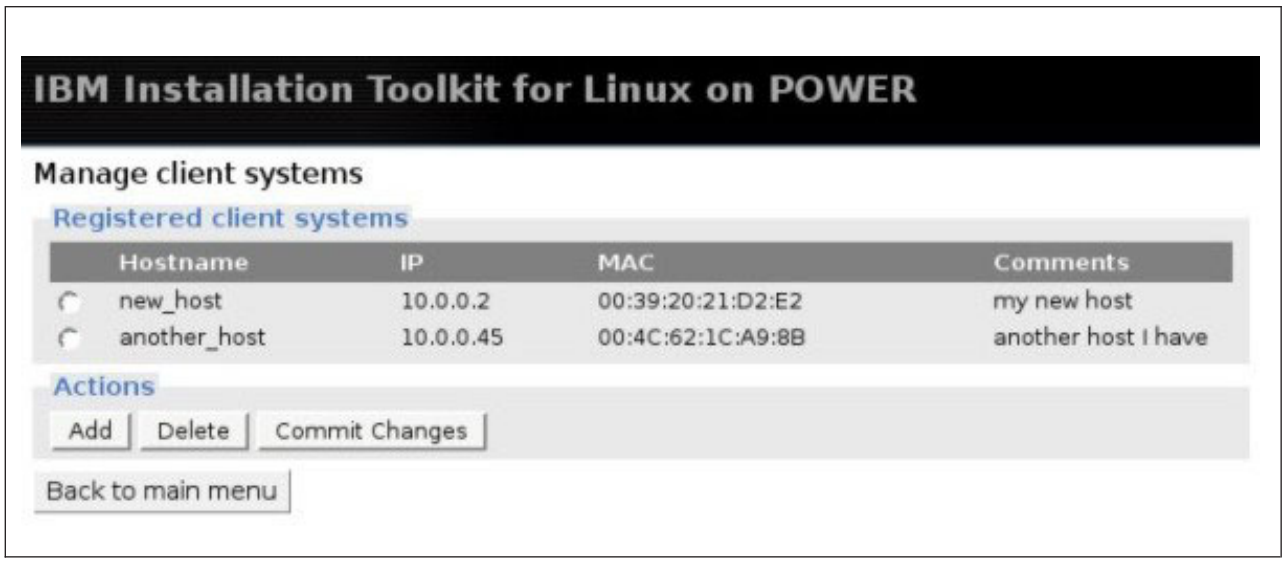

Figure 111. Registered Client Systems window

To register a new client machine, click **Add**.

6. On the New Client information window, enter the following information:

- *Hostname*: The client machine host name, an identifier used to create this machine entry into the dhcpd.conf file.
- *IP*: The IP address that is assigned to the MAC (hardware) address of this machine. This address is fixed and will be assigned to this machine every time it connects to the local network.
- *MAC*: The client machine MAC address of the network device being used to boot through network.
- *Comments*: Additional comments used to identify this client machine.

Figure 112. Registering a new client machine

When all the fields are completed, click **Create** to register the new client machine.

7. If you want to remove a registered system from the list, select the system and click **Delete**. The selected machine is deleted and the list is refreshed.
8. When you have finished adding and deleting registered systems from the list, click **Commit Changes**.

   Be careful, System Tools will automatically update the dhcpd.conf file, and remove other subnets or hosts external to the configured subnet.

   The DHPCD configuration file window displays, showing the name of the dhcp configuration file that was found and modified on your system. You do not need to select specific clients, as **Commit Changes** generates entries for all of them automatically.

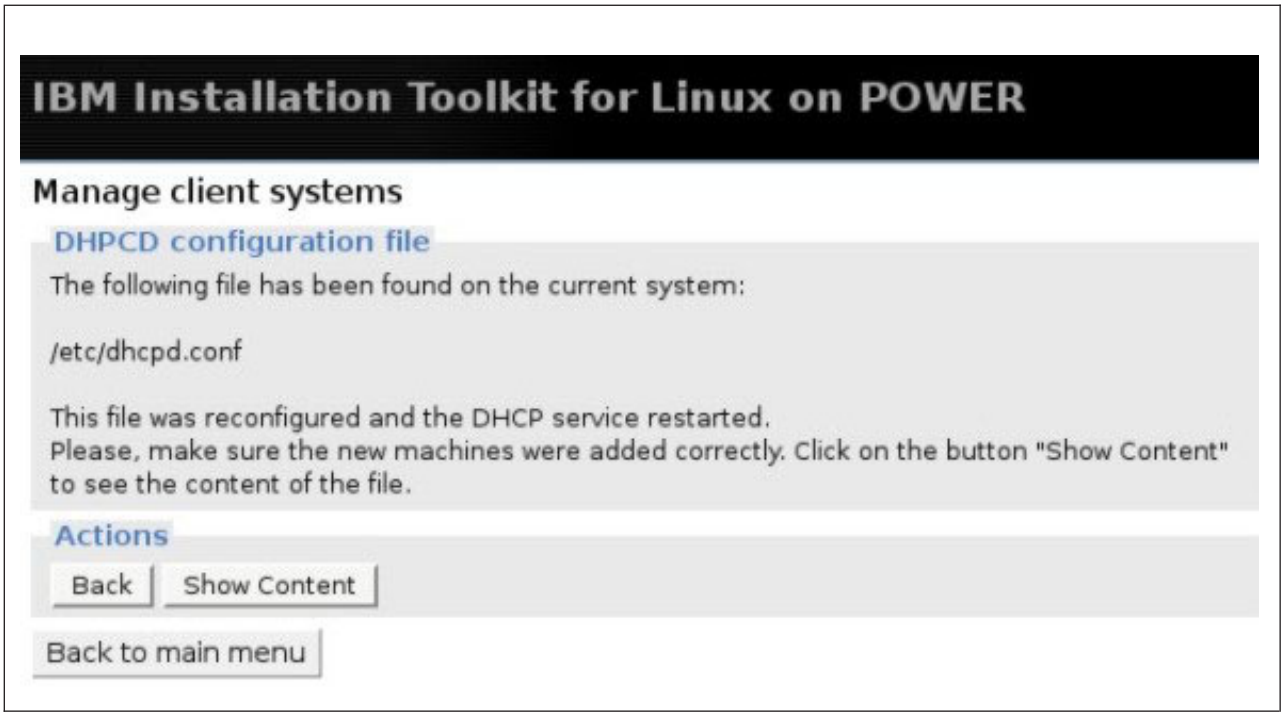

Figure 113. Submitting the changes

You can view the updated dhcpd.conf file by clicking **Show Content**.

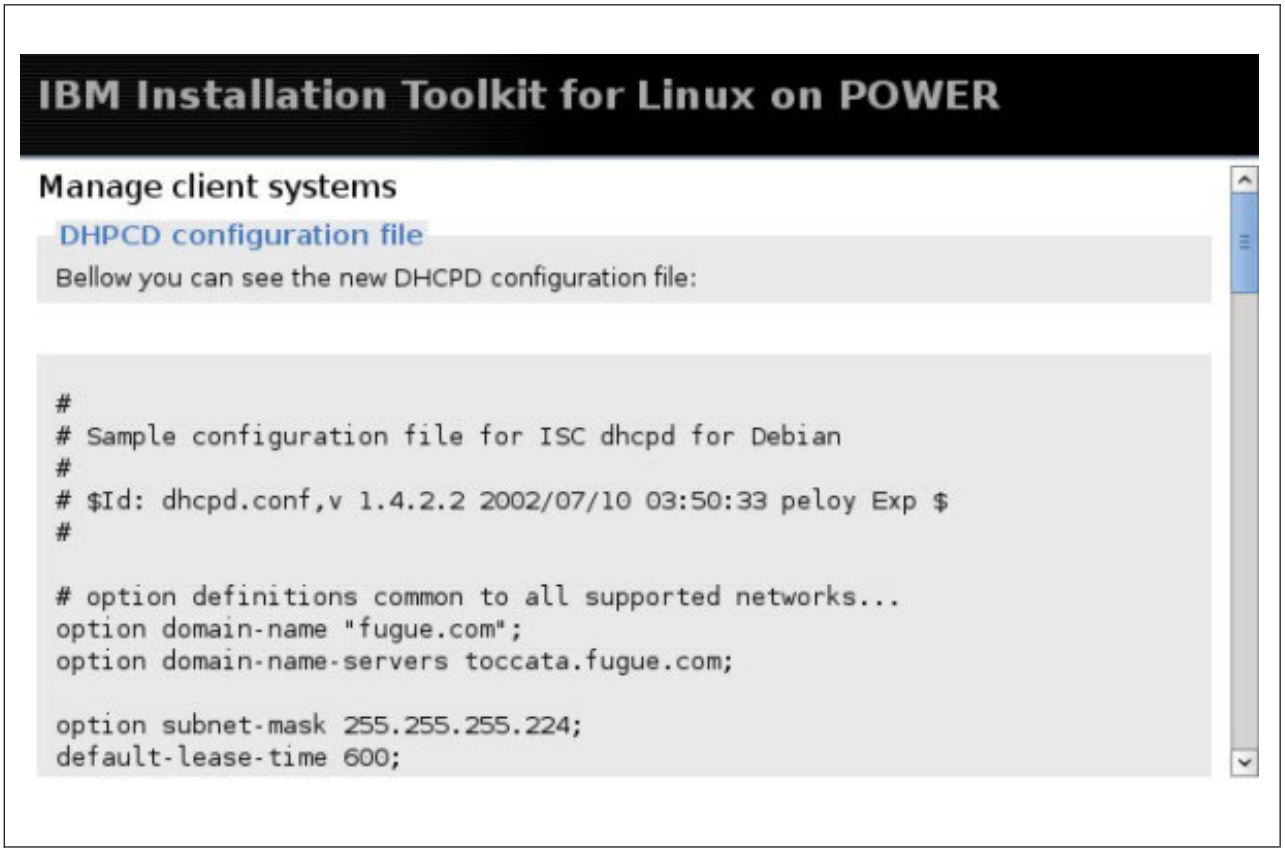

Figure 114. Showing the content of the updated dhcpd.conf file

Note: Whenever you add or delete a client system, you must click **Commit Changes** in order for the dhcpd.conf file be updated, allowing the changes to take effect.

IBM Server Consolidation Tool

The IBM Server Consolidation Tool (SCT) is an application that helps the administrator get through the most time consuming aspect of server consolidation - replicating the software stack and migrating application data from one machine to another.

The software stack that IBM SCT migrates is the commonly known LAMP Stack. LAMP stands for Linux + Apache HTTP Server + MySQL Server + PHP or Perl or Python. The tool finds the necessary information from a System X server (source machine) and installs a new Power server (target machine) with the same users, groups, configuration files, and data of the source machine.

The Server Consolidation Module window is displayed in the figure below.

Figure 115. Server Consolidation Module window

Server Consolidation tool environment

The IBM SCT works in a special environment provided by the System Tools. In order to understand how SCT works, you should know what the elements are in the solution.

The Server Consolidation Tool includes three important elements:

- *Source machine*: The x86 (32 bits or 64 bits) machine that will be migrated. The SCT can migrate only x86 Linux machines, with or without Apache, MySQL, PHP, Perl and Python applications.
- *Target machine*: The new server machine (System P or System I), that will be installed using the IBM Installation Toolkit for Linux and receive all the data and configuration files from the source machine.
- *Network Server machine*: The net boot server machine running the IBM Installation Toolkit System Tools. This machine will orchestrate all the migration steps between the source machine and the target machine.

To perform a migration, you need to connect remotely using a web browser to the Network Server machine using the same System Tools port. This machine retrieves the information from the source target,

creates a source profile with them, and uses it to replicate the LAMP Stack. After that, it performs a network installation of Linux, customizes the LAMP Stack, and copies data files from the source to the target machine.

The source and target machines must have network connectivity to migrate data such as files in /home, HTML, CGI scripts, MySQL databases, and so forth. Network connectivity is not required between the source and target machines if the transfer of these files is not wanted (that is, if you have not selected the options to migrate LAMP data and User data). In that case, the tool provides a clean installation of the LAMP stack. At a minimum, both the source and target machines must have network connectivity to the Network Server machine.

Performing a migration

Before starting a migration, you should understand some special characteristics of the tool.

- The IBM SCT assumes that there is only one single disk in the target machine that fits the entire file system.
- If the sum of x86 partitions size is bigger than the available disk on System P machine, the installation will fail.
- The IBM SCT cannot migrate x86 LVM and RAID partitions. If the source system has an LVM, the migrator creates a physical partition on target system with the size of the LVM.
- The IBM SCT migrates only official packages from the Linux distributions of the source machine. If there is any application that was installed manually, or not the official version of the application, the IBM SCT either does not migrate the application or installs the distribution version.
- The IBM SCT does not migrate users passwords.
- The root password of the target machine is **passw0rd** (note the zero, instead of o). After the first access, you should change this password.
- The IBM SCT only migrates the ″DocumentRoot″ data specified in the Apache configuration files; the ″Alias″ data directories are not migrated by default.

Supported Linux distributions for migration

Use this information to determine which Linux distributions are supported by the Server Consolidation tool.

The IBM SCT supports the following Linux distributions:

- **i386 and x86_64**:
  - Red Hat Enterprise Linux 4 (GA, U1, U2, U3, U4, U5, U6, U7, and U8)
  - Red Hat Enterprise Linux 5 (GA, U1, U2, and U3)
  - SuSE Linux Enterprise Server 9 (GA, SP1, SP2, SP3, and SP4)
  - SuSE Linux Enterprise Server 10 (GA, SP1 and SP2)
- **PPC**:
  - Red Hat Enterprise Linux 4 (GA, U1, U2, U3, U4, U5,U6,U7, and U8)
  - Red Hat Enterprise Linux 5 (GA, U1, U2, and U3)
  - SuSE Linux Enterprise Server 9 (GA, SP1, SP2, SP3, and SP4)
  - SuSE Linux Enterprise Server 10 (GA, SP1, SP1 U1 and SP2)

You can only migrate between the same Linux distribution. For example, if the source machine has a RHEL5U1 version installed, the target machine can be versions RHEL5 GA, RHEL5U1, RHEL5U2, or RHEL5U3.

Using the Migration wizard

These instructions describe how to use Migration wizard to migrate to a new machine.

Before performing any migration, you first need to set up and configure the network boot server and installation server using the System Tools. For instructions about how to configure these System Tools services, see “Setting up or updating the Network Server” on page 85.

When the network boot server and installation server are set up and available, follow these steps:

1. Use your browser to initiate a LAMP stack migration by entering the IP address or host name of the network server machine plus the port 8080 (for example, http://9.8.234.4:8080), to access the tool.
2. From the IBM Installation Toolkit main window, click **Server Consolidation** and then **Server Consolidation Tool**.
3. Enter the IP address, the SSH port, and the root password for the source machine. This information is required in order to remote access the source machine. The default port of SSH is 22, but if you have changed this information, use the correct port.

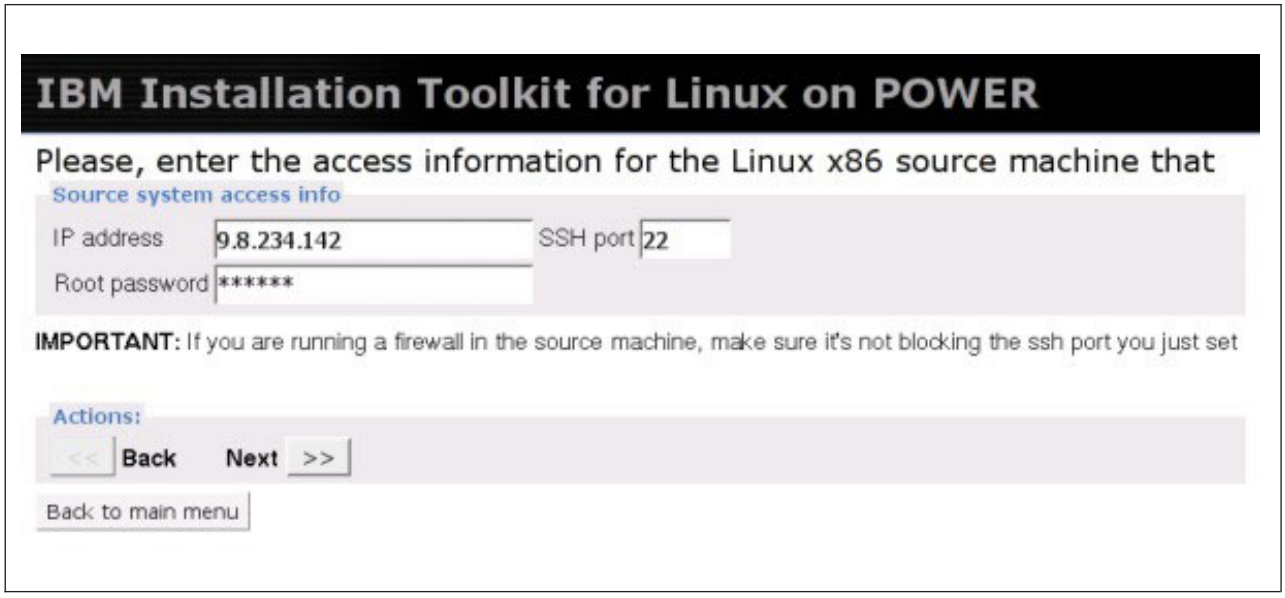

Figure 116. Getting information about the source machine

Note: If you are running a firewall in the source machine, make sure that it is not blocking the SSH port you just set. If this step is not successful, check the error messages displayed in the status box. Verify the source information and try again.

After entering all the necessary information, click **Next >>**.

4. The system attempts to get a source profile with all system information needed to perform the migration. This window works automatically and directs you to the next step if no problems occur.

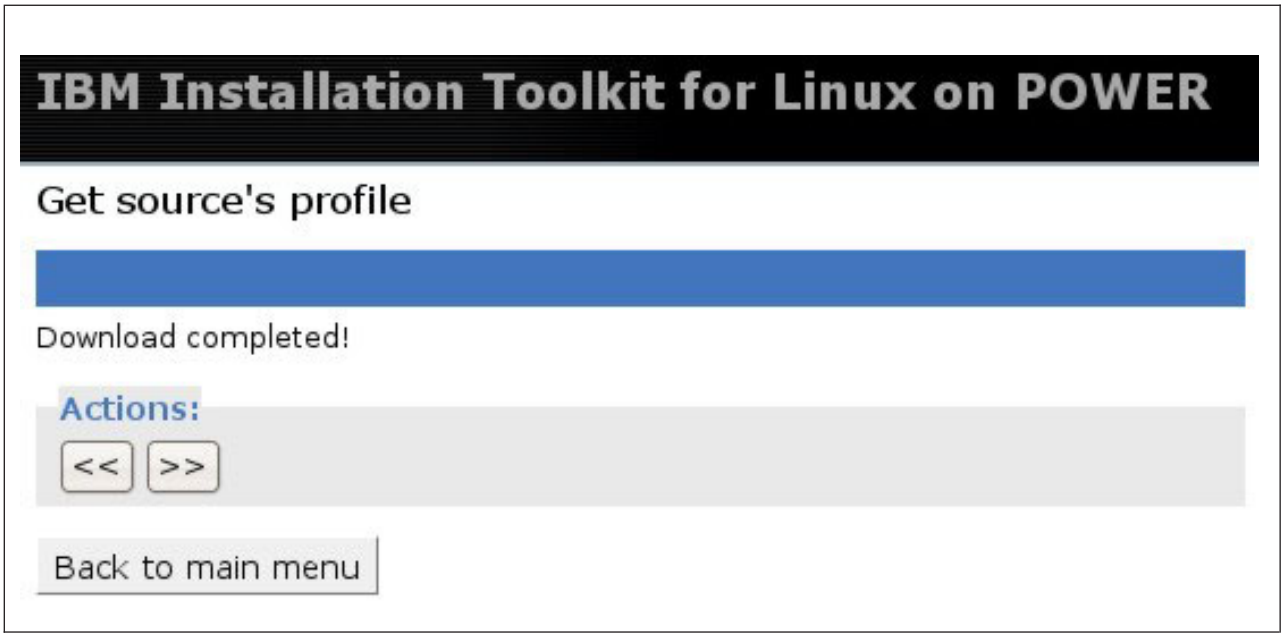

Figure 117. Getting the source profile

5. Verify the system type of the source machine and select the system type of the target machine to be installed from a list of options provided.

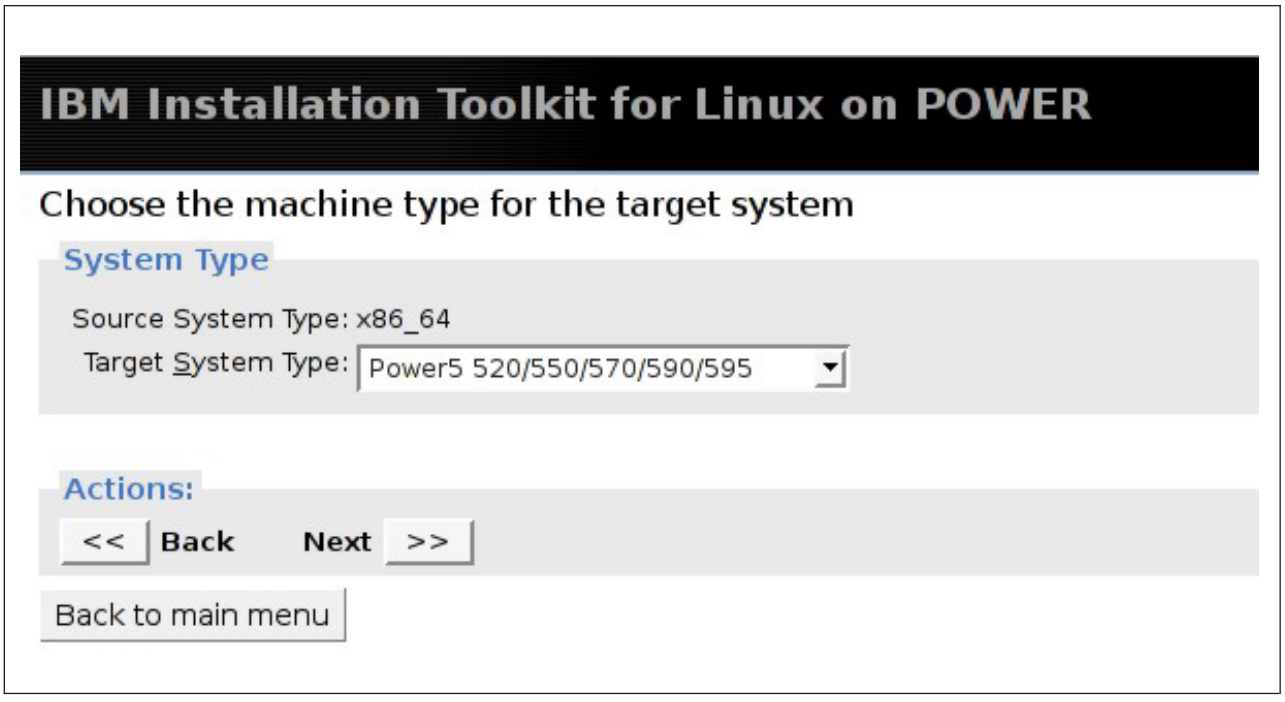

Figure 118. Selecting the target's system type

The available system type options for the target machine are:

- POWER5 520/550/570/590/595, POWER5 processor-based blades
- POWER6 520/550/570/575, POWER6 processor-based blades
- System i5 (iSeries®)
- IntelliStation® POWER 185 (ATX)

Click **Next >>**.

6. Select the specific target machine to install and the Linux distribution of the target that is to be used. The options available for Linux distribution depend on the system type chosen in the previous step. One option is always selected by default, and is equal to the source machine Linux distribution.

   The machines list is provided from the Client System Management step of the Server Management module. To be sure that your target machine is in this list, you need to register the machine using the Client System Management module. To register the machine, see "Managing client systems" on page 92.

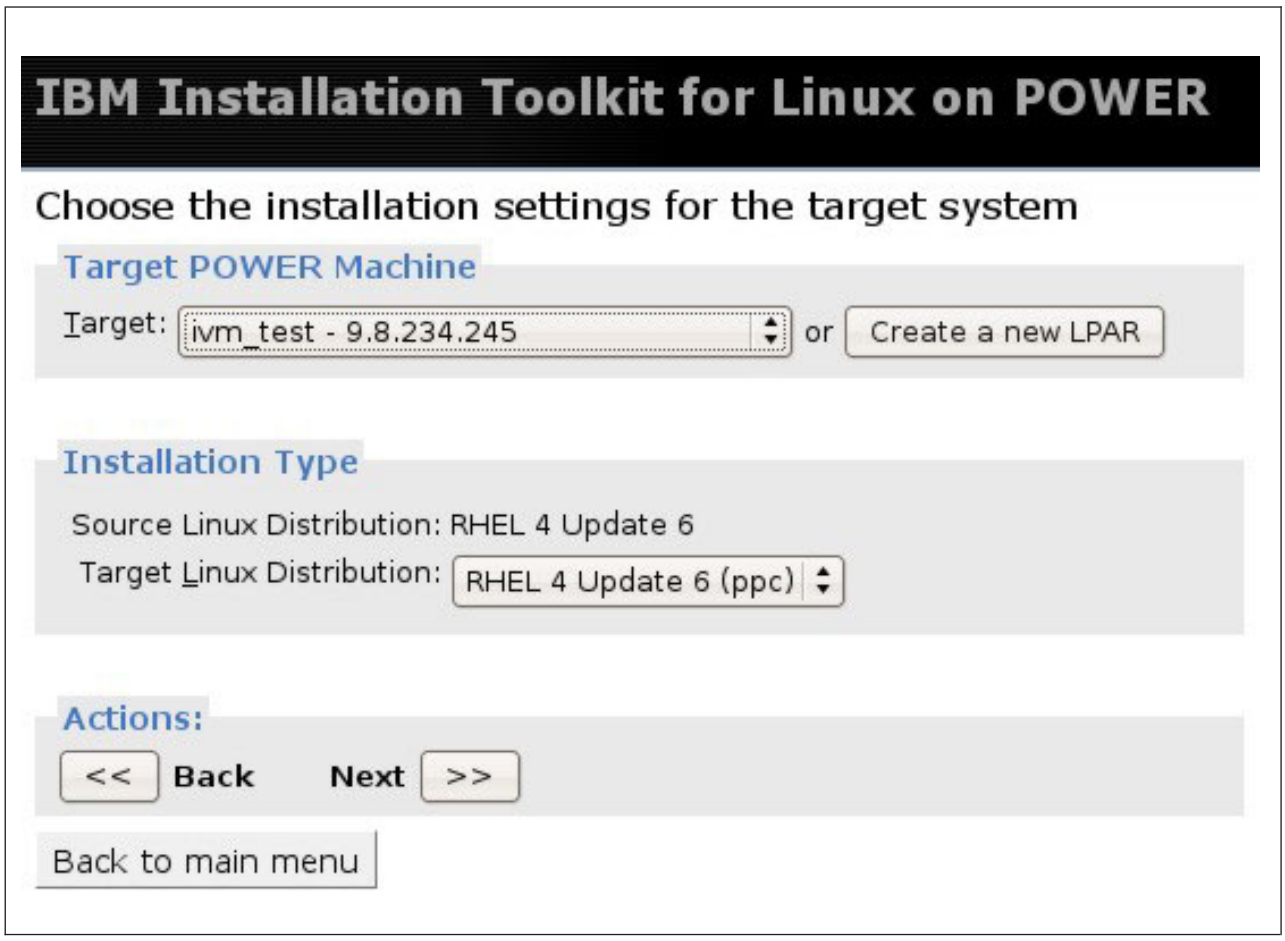

Figure 119. Selecting the target machine and target's Linux distribution

   You can also choose to create an LPAR. Click **Create a new LPAR** and follow the steps in "Creating an LPAR" on page 112.

   When you are finished, click **Next >>**.

7. Select the Network Install Server (distribution repository) and the IBM/Additional Packages Server (IBM Installation Toolkit repository). If there are not any repositories configured in the Network Server, you can enter a custom URL for another Server in the network.

Figure 120. Repository servers information

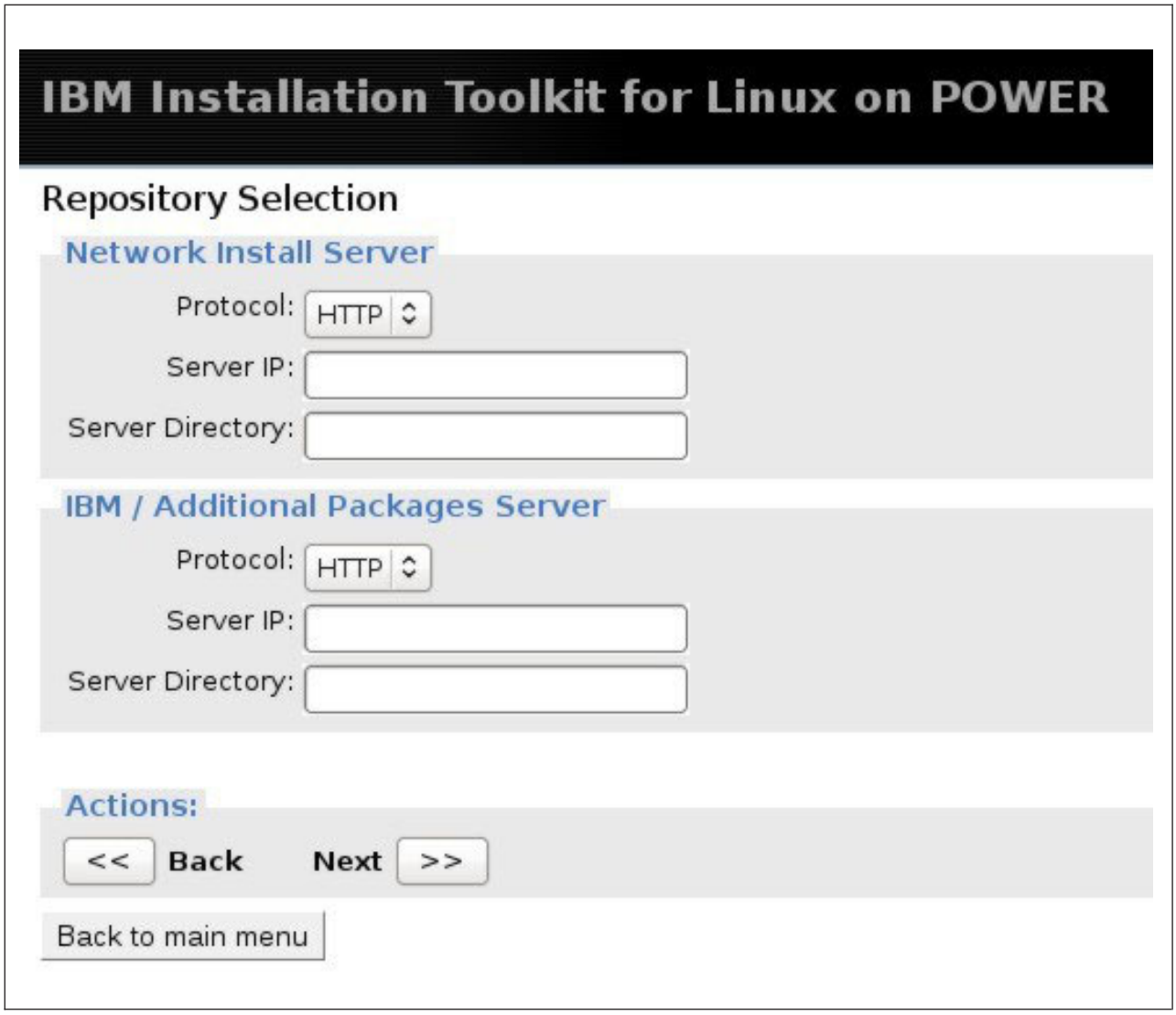

Figure 121. Repository Selection window - enter custom URL

Click **Next >>**.

8. Select the options to migrate all users and groups, the home directories, and the LAMP data from the source machine to the target one. The LAMP option is displayed only if there is the Apache or MySQL server applications on the source machine.

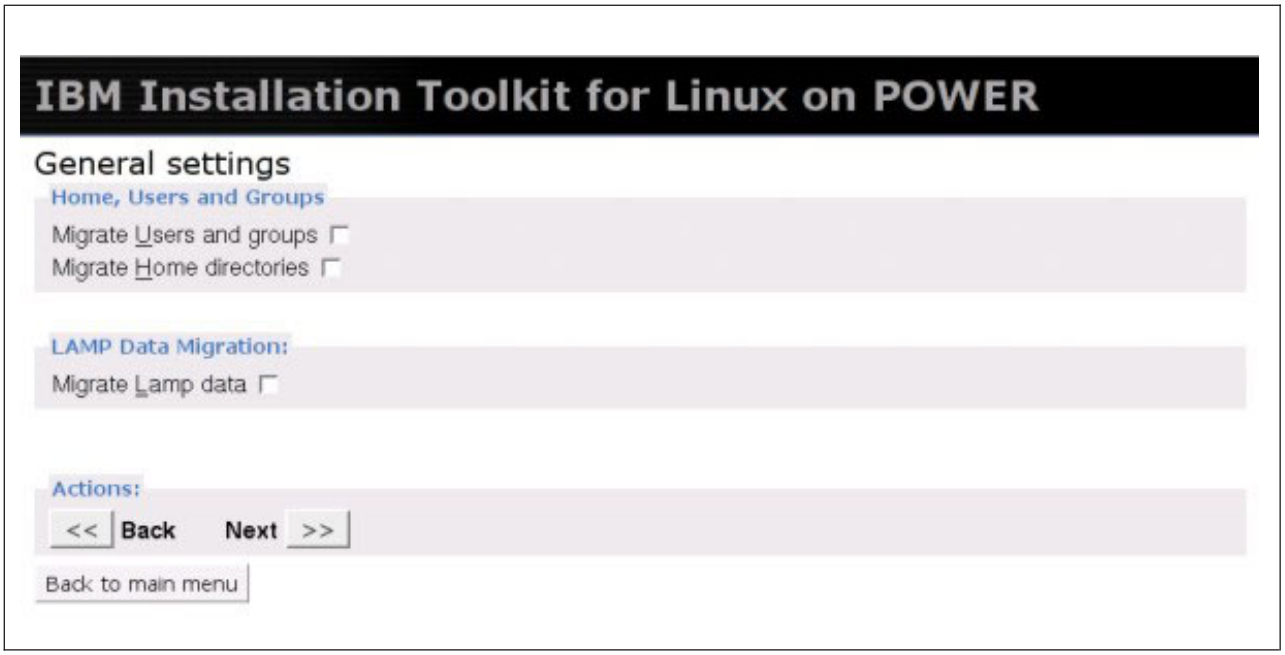

Figure 122. General Settings

Note: If you select the home directories option, the wizard automatically selects the user and groups option.

If you select the option of LAMP data migration and there is a MySQL Server in the source machine, a new field is displayed, asking for the MySQL root password.

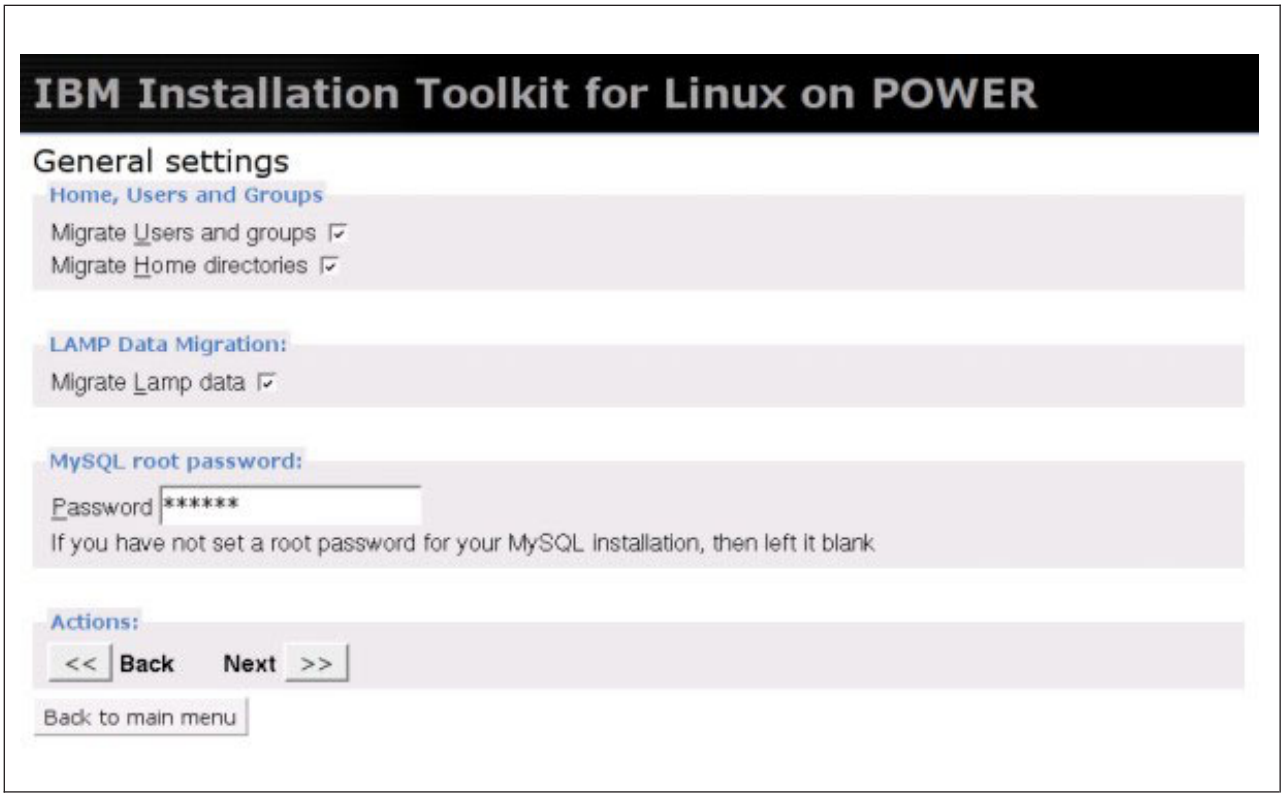

Figure 123. General Settings with MySQL root password

Note:

- To migrate the LAMP data the tool needs the root user password of the MySQL server, and not the root password of the system.
- Be sure that the MySQL Server is running or can be started in the source machine before starting the migration, otherwise MySQL data cannot be migrated.
- The IBM SCT will not analyze or modify the LAMP configuration files during or after the migration.

When you are finished, click **Next >>**.

9. (Optional) Select server profile options to install in the target system.

   The available options are:

   - Web server (Apache)
   - File server (Samba),
   - Print server (Cups),
   - Database server (PostgreSQL),
   - Database server (MySQL),
   - Directory server (Open LDAP),
   - Mail server (Sendmail),
   - Mail server (Postfix), and
   - DHCP and BOOTP server

   Note: If the source machine already has Apache and MySQL installed, these two options are not available in the list. They are migrated by default to the target machine.

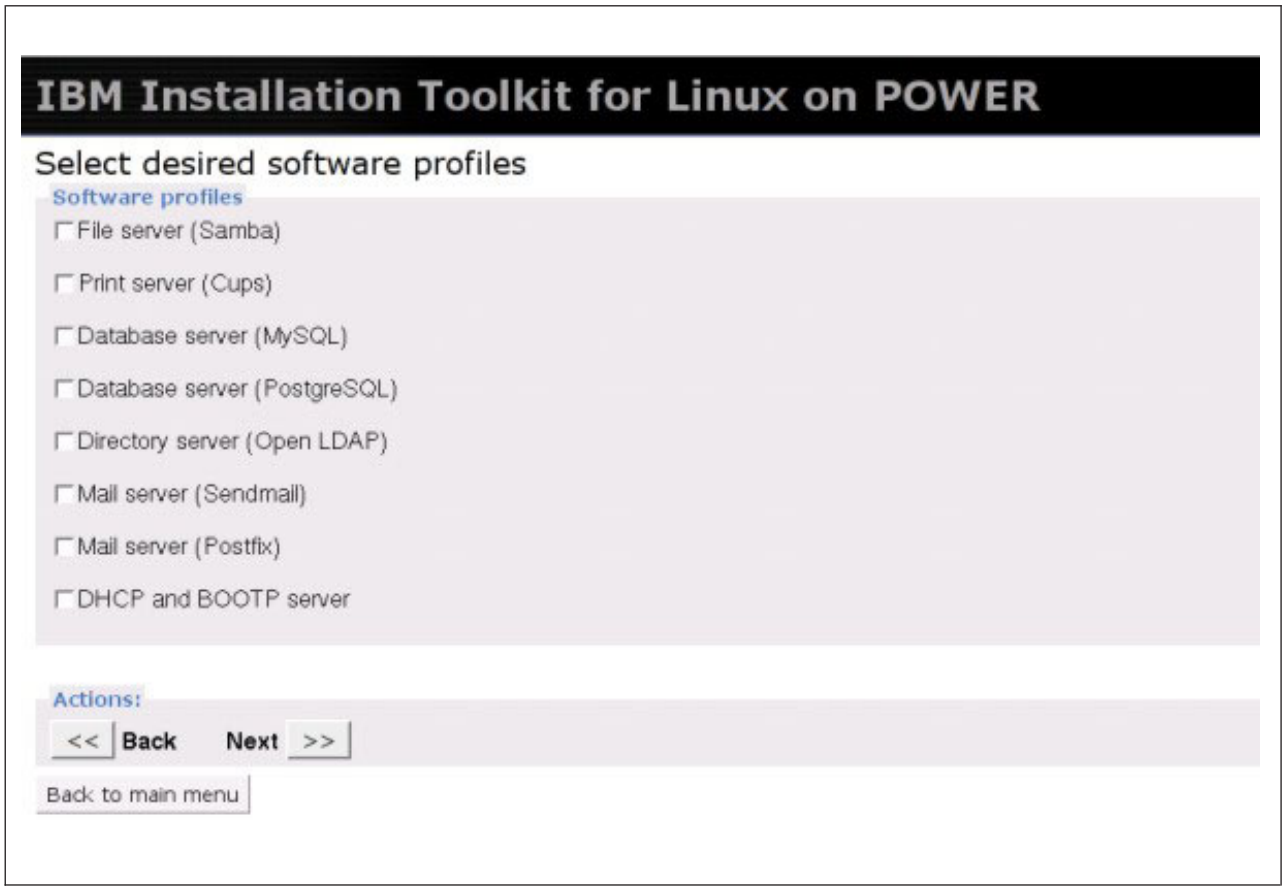

Figure 124. Server profile options

When you are finished, click **Next >>**.

10. (Optional) You can specify some additional data to be migrated to the default data processed by the IBM SCT. To add a new data, type the complete name in the **Path** field and click **Add**.

    The new data added is displayed in the **Selected data** box. For example, in the figure below, the */tmp* directory was added for migration. You can remove any data from the list by selecting the data (one or more) and clicking **Remove selected**.

    You cannot migrate the following paths:

    - */*
    - */bin*
    - */dev*
    - */lib*
    - */sbin*
    - */proc*
    - */usr*
    - */boot*
    - */etc*
    - *initrd*
    - */opt*
    - */selinux*
    - */sys*
    - */var*

    Note: Selecting a directory causes all the data inside the directory to be migrated.

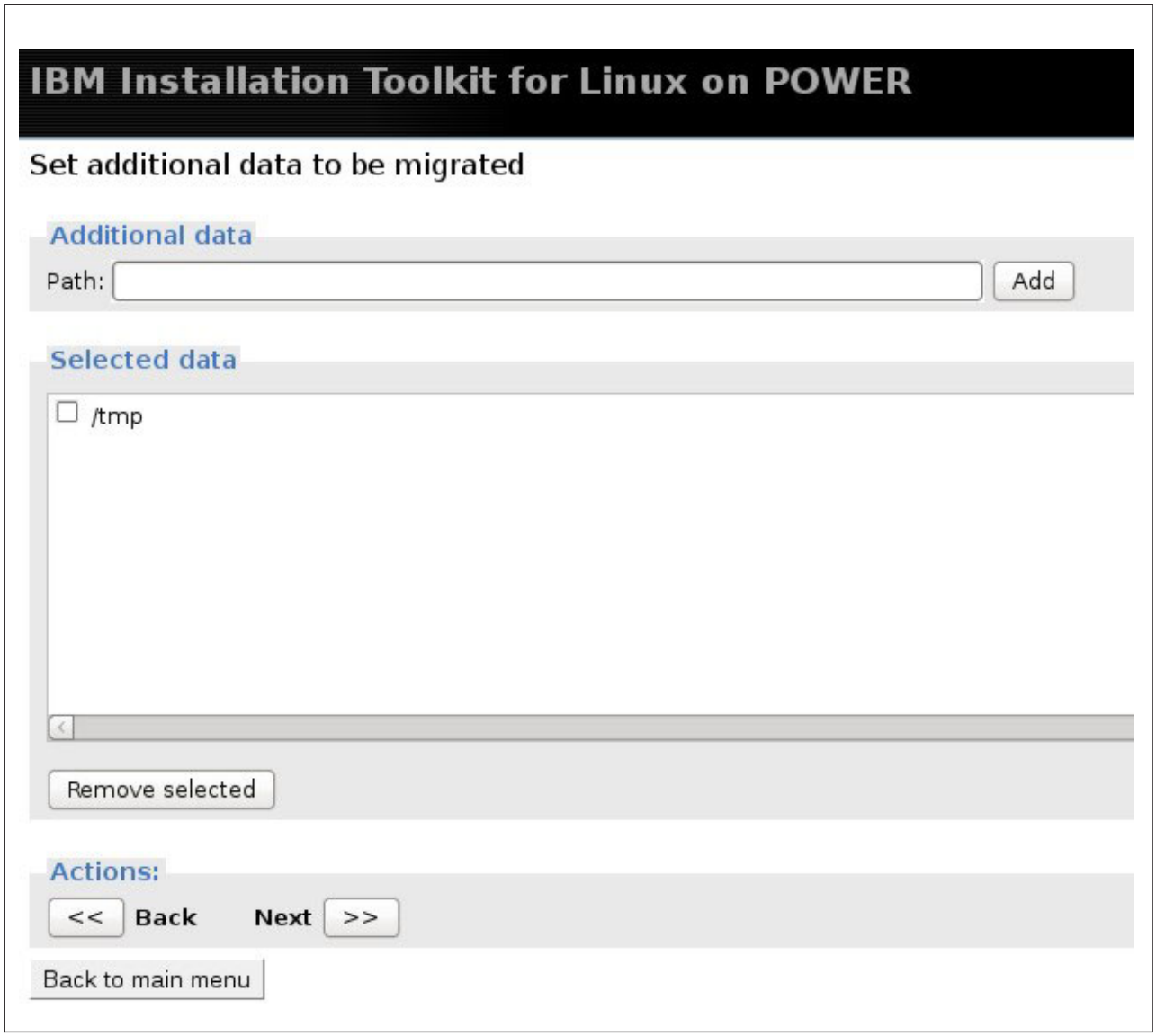

Figure 125. Additional data window - /tmp data.

When you are finished, click **Next >>**.

11. At this point, all the necessary information for migrating has been compiled. Verify the information in the Summary provided.

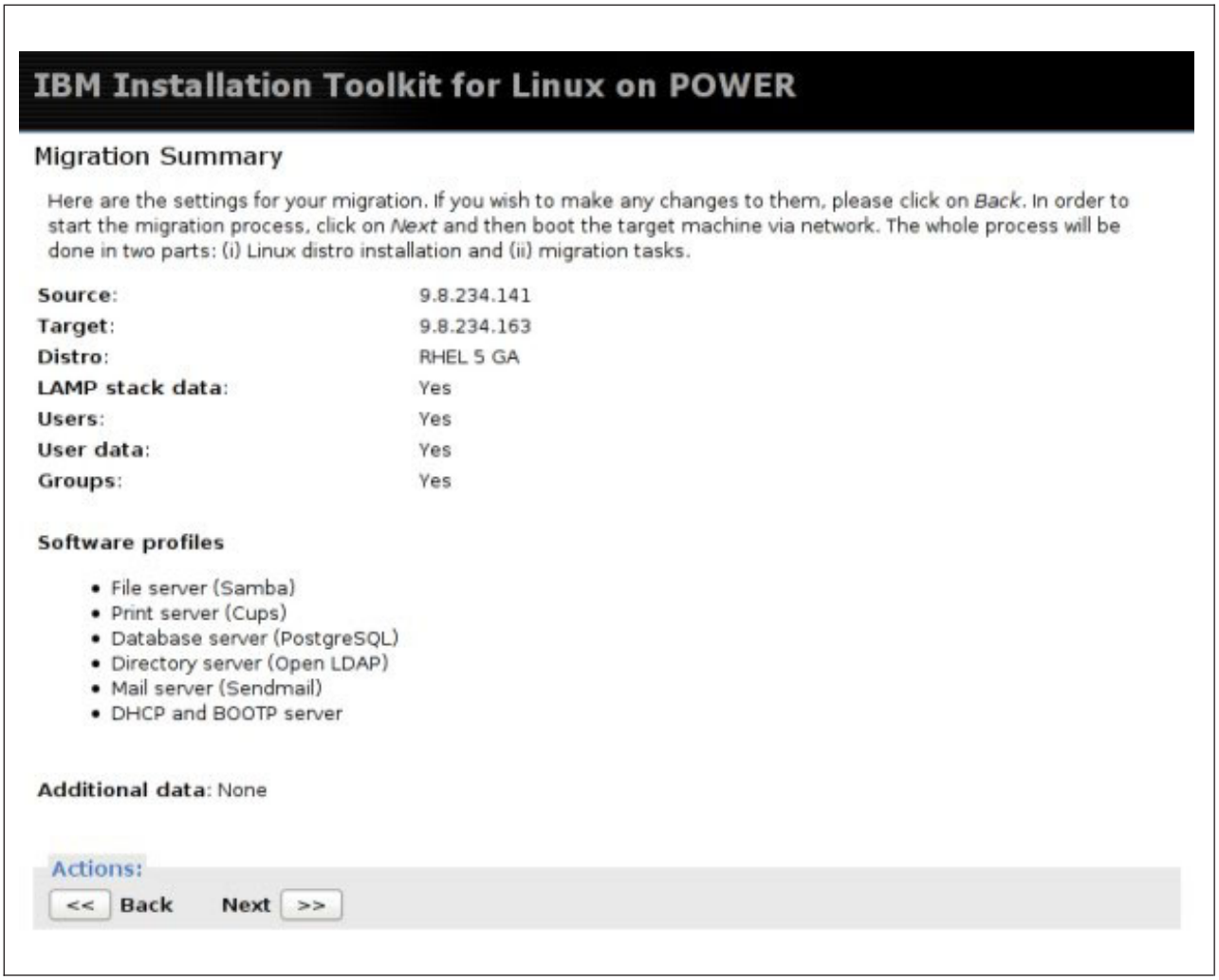

Figure 126. Summary

If you are satisfied, click **Next** in order to start the migration.

12. The migration is ready to run. You must boot the target machine via network in order for the installation to run.

    Note: You should record the task ID displayed so that you can easily monitor the progress.

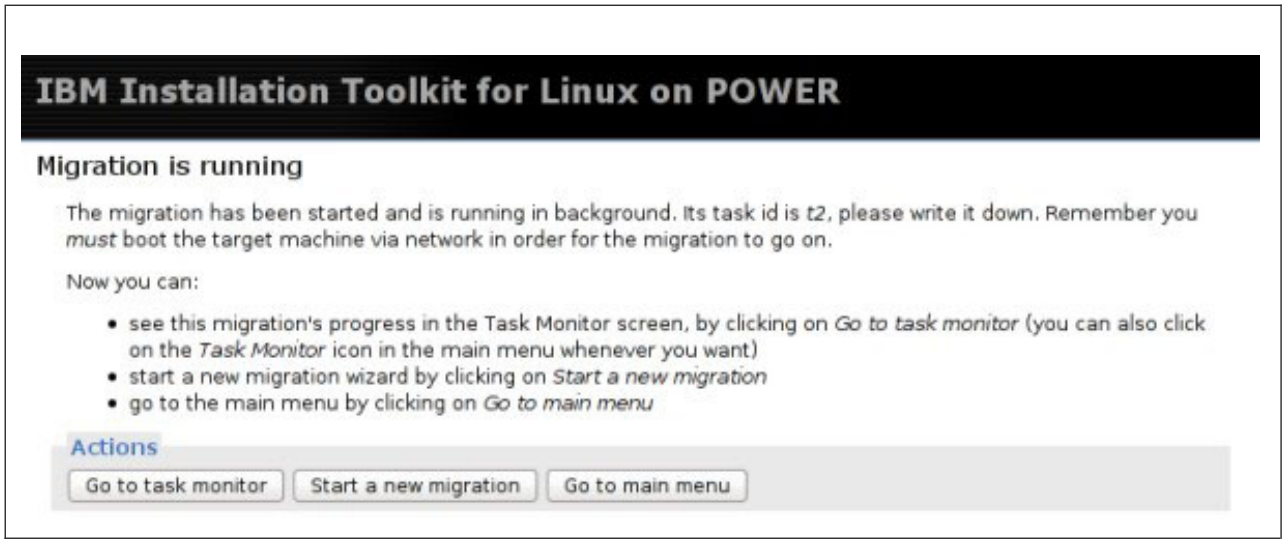

Figure 127. Migration started

If you want to monitor the migration progress, click **Go to task monitor**. Then select the task ID that you recorded previously and click **Details**. After the first boot of the installed system, all the data is migrated from the source to the target machine and you will receive at that window a confirmation that the migration finished.

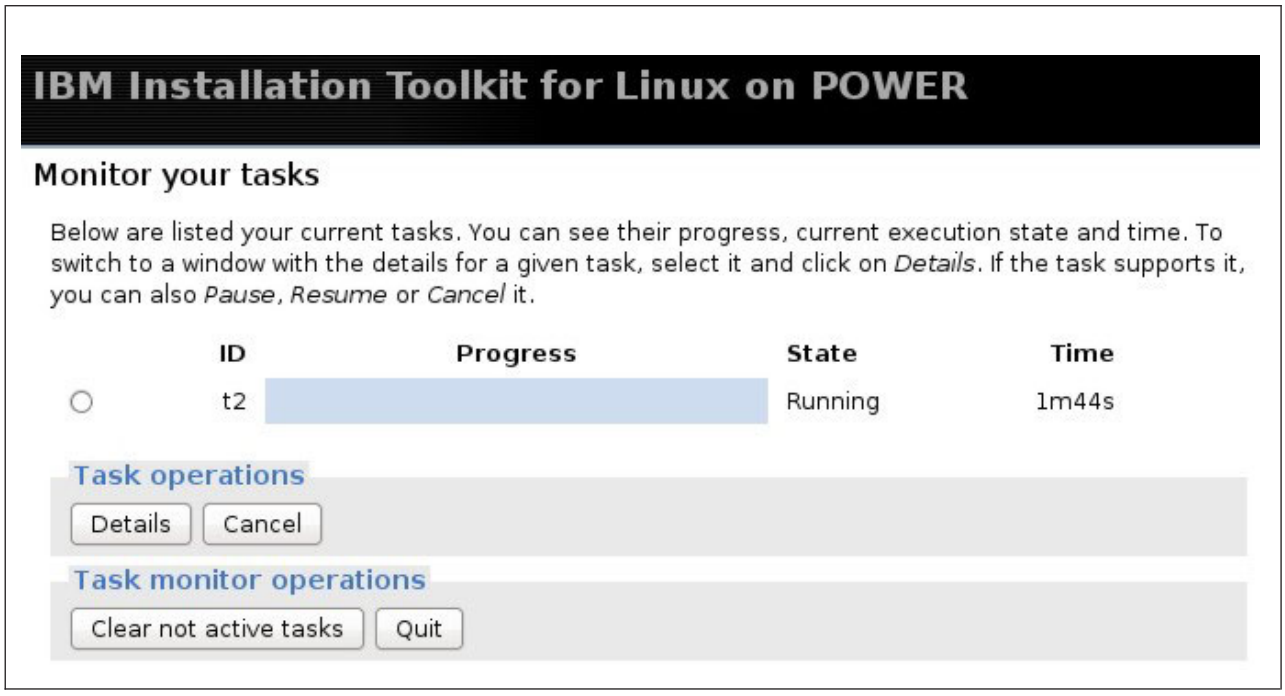

Figure 128. Monitor your tasks window

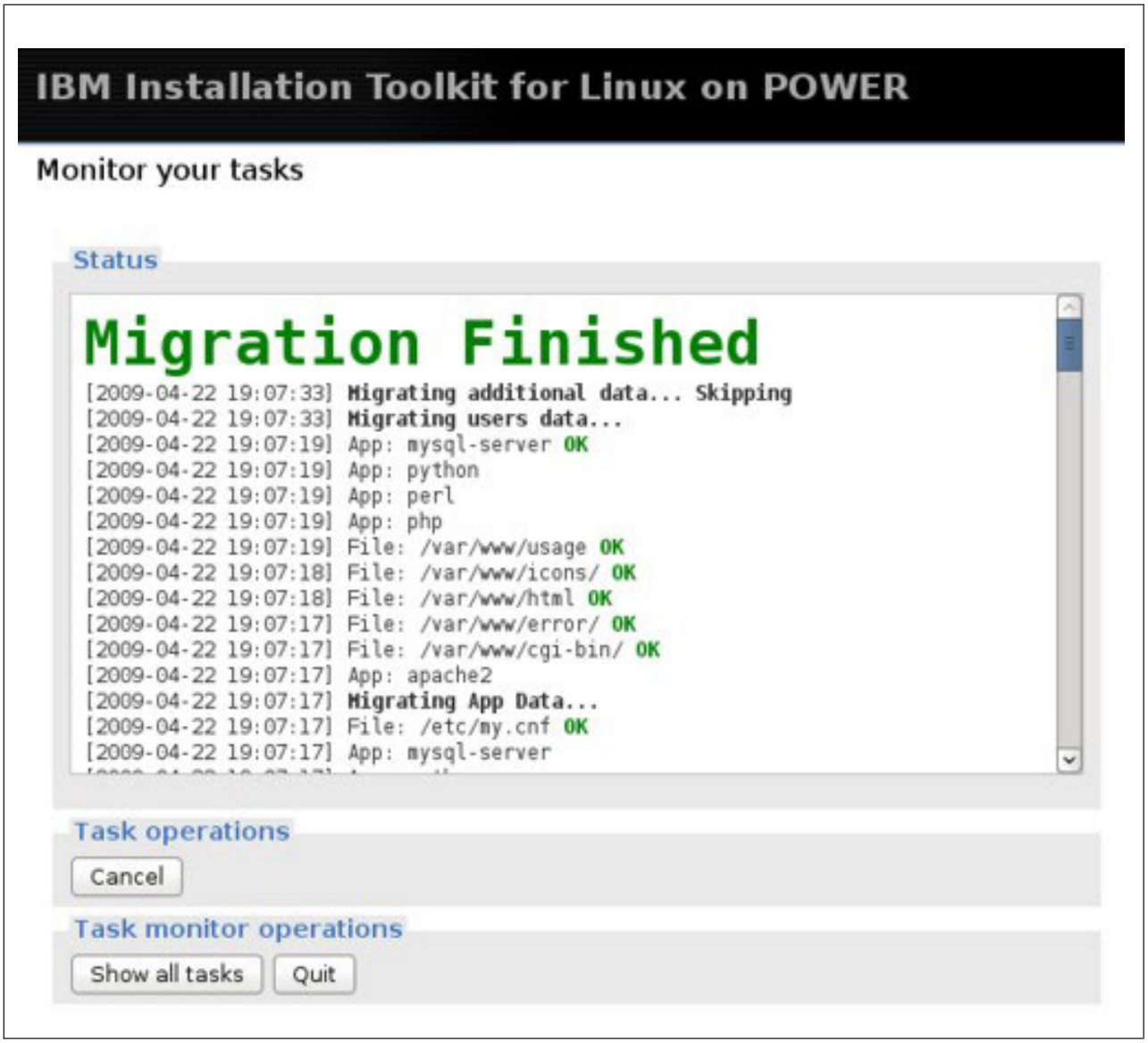

Figure 129. Status window: migration finished

Creating an LPAR

The LPAR creator feature allows you to create an LPAR when migrating.

When choosing a migration target, you can use an existing LPAR or create an LPAR to use.

To create an LPAR, follow these steps:

1. When selecting the target Linux distribution and machine, in the Migration wizard, click **Create a new LPAR**.

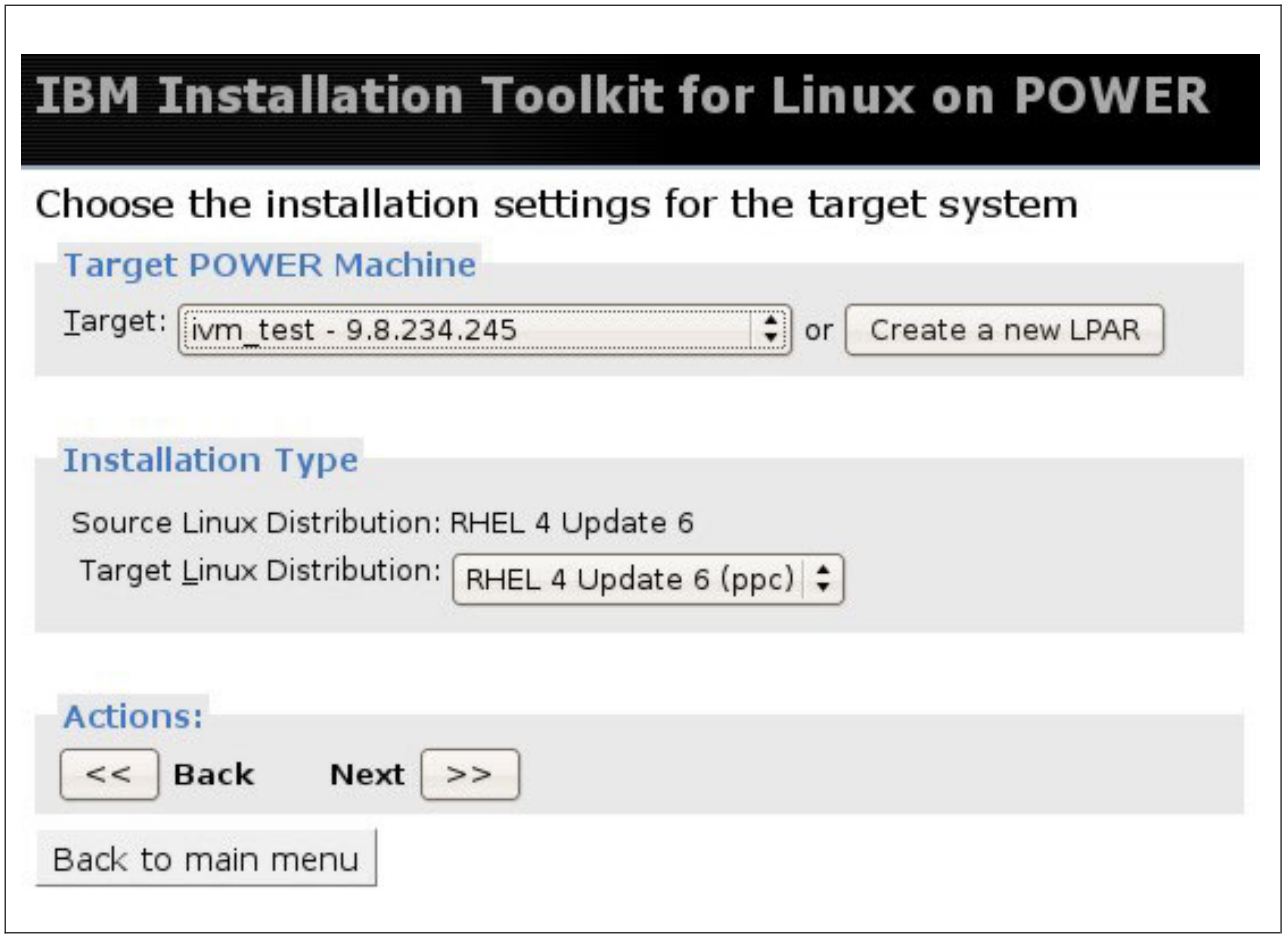

Figure 130. Selecting the target Linux distribution and machine

The New LPAR window opens.

2. Enter the POWER management system information. If you are using an IVM system, provide the IVM IP address, user name, and password. If you are using an HMC system, provide the HMC IP, user name, and password. If your IVM or HMC system uses an SSH port that it is not 22, change it here.

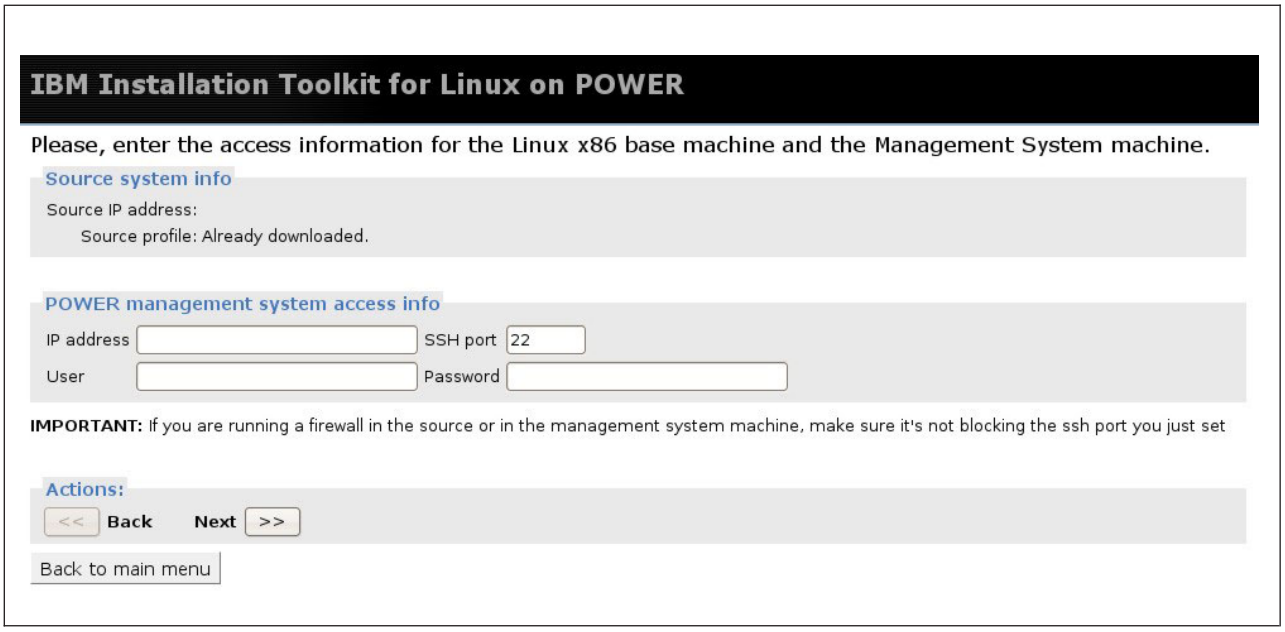

Figure 131. POWER management system access info

When you are finished, click **Next >>**.

Note: If you are running a firewall on the management system machine, make sure that it is not blocking the SSH port you just provided.

3. If you are using an HMC system, select the Managed System to hold the new LPAR and enter the information of the Managed System VIOS. You have to type the VIOS IP address, SSH port number, user name, and password. If you are using an IVM-managed system, this step is automatically skipped.

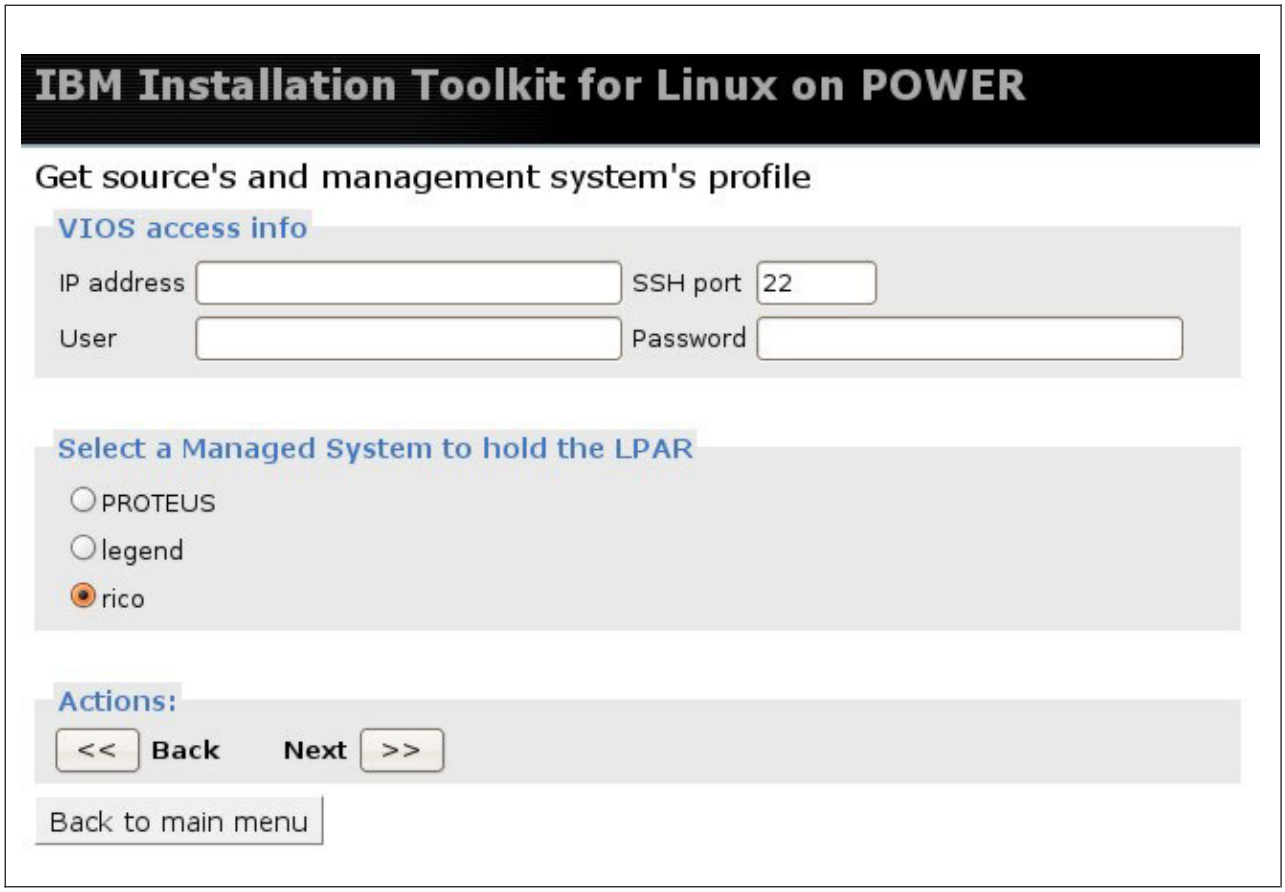

Figure 132. VIOS system access info

Note: On HMC systems, a free virtual SCSI adapter (vhost) is needed in order to create the LPAR.

When you are finished, click **Next >>**.

4. The next steps are the same for both IVM and HMC systems. Enter the new LPAR IP address (contact your Network Administrator if you are not sure about it) and the host name. The host name is used as the LPAR name as well.

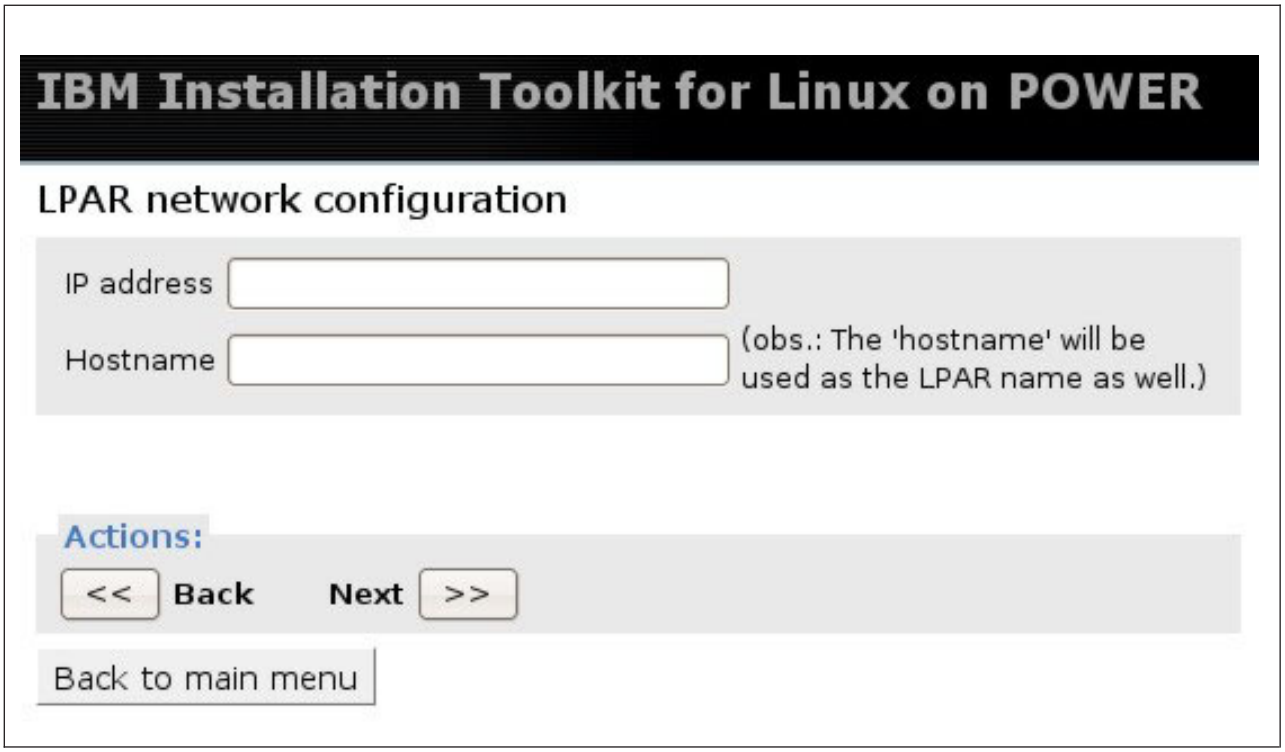

Figure 133. LPAR network configuration

When you are finished, click **Next >>**.

5. The next window is the LPAR Disk Configuration. Depending on the managed system configuration you may be asked to select to either create a storage pool or use an existent one for the LPAR virtual disk. In case there is no space available for the new virtual disk, you will be able to continue but the LPAR creation will fail.

Figure 134. LPAR Disk Configuration

Click **Next >>** to proceed.

6. The LPAR creator wizard displays information about the new LPAR and may display some warnings if your management system cannot provide the same configuration as the source being migrated.

   The first figure displays an LPAR Memory warning.

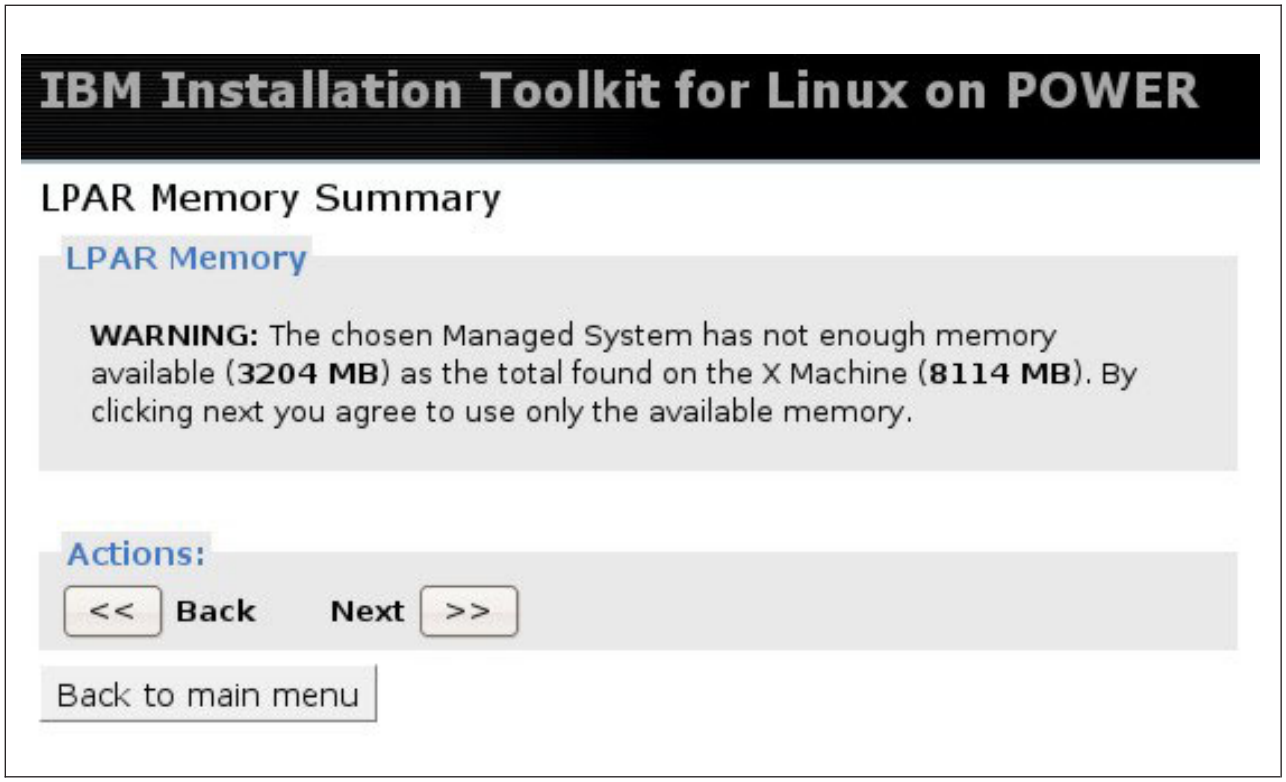

Figure 135. LPAR Memory Summary

If you agree with the warning message displayed, click **Next >>**.
The second figure displays a Processor warning.

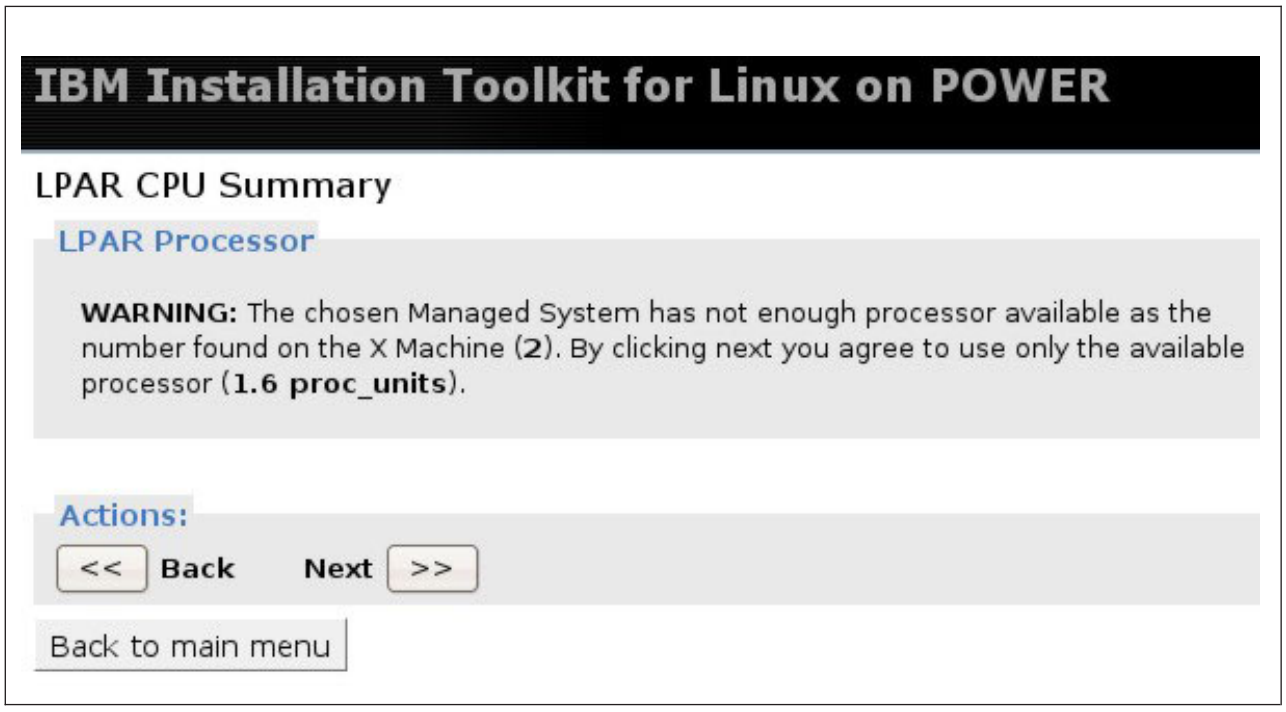

Figure 136. LPAR CPU Summary

Note: By default each virtual processor in the created LPAR uses one processor unit. This value can be changed later through HMC or IVM directly.

If you agree with the warning message displayed, click **Next >>**.

7. Verify all the settings and click **Next** to create your LPAR.

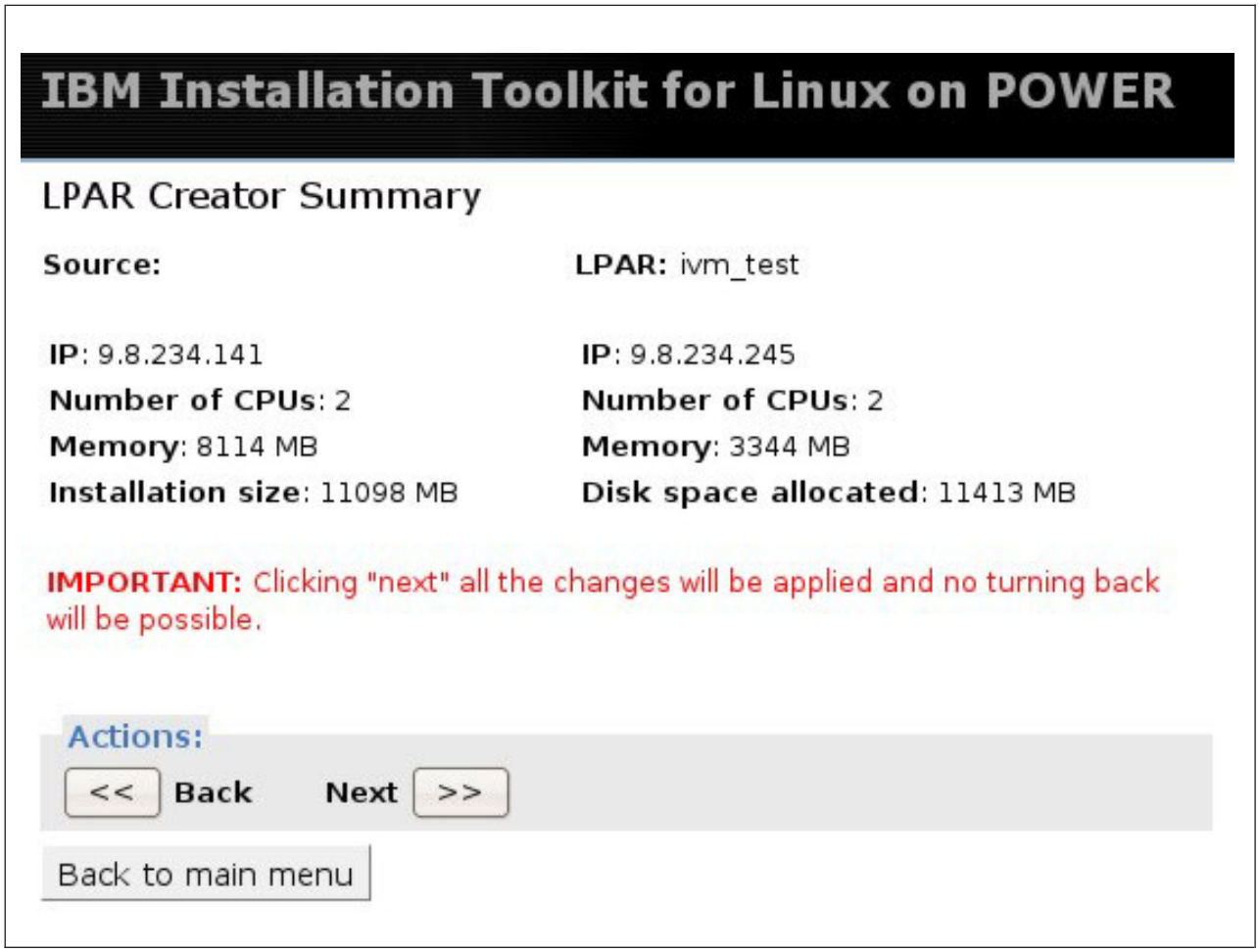

Figure 137. LPAR Creator Summary

At this point, you are redirected back to the main browser window and will be able to use the newly created LPAR as your migration target.

Displaying information using the Task Monitor

The Task monitor is a tool that allows you to monitor the progress of tasks that you are running in the background.

Task monitor has two windows: tasks overview and task details. The Task overview window displays a list of your tasks, while the Task details window displays information about the selected task.

For each task in the list, there are four columns: ID, Progress, State, and Time.

ID Displays the unique identifier for the task. You can use these identifiers to refer to the task whenever you need.

Progress
Displays a bar with the current progress of the task.

State Displays the current state for that task. Possible states include:

- Running: The task is running.

- Interactive: The task is stopped waiting for user interaction. You should move to the Task details window in order to find out what the task is requesting and do it.
- Paused: The task is in paused state.
- Canceled: The task has been canceled.
- Error: The task has finished with error. You should move to the Task details window in order to find out what happened.
- Completed: The task has finished with success.
- N/A: The task state in unavailable.

Time Displays the length of time that the task has been running.

You can cancel a task by selecting it and clicking **Cancel**.

If you click **Clear not active tasks**, all the tasks that have finished running, such as those tasks that are not in state *Running*, *Interactive*, or *Paused* are removed from the list. If you click **Quit**, you will leave task monitor and go back to the main window.

For example, if a migration is in progress and the target machine has not rebooted yet, the following window is displayed:

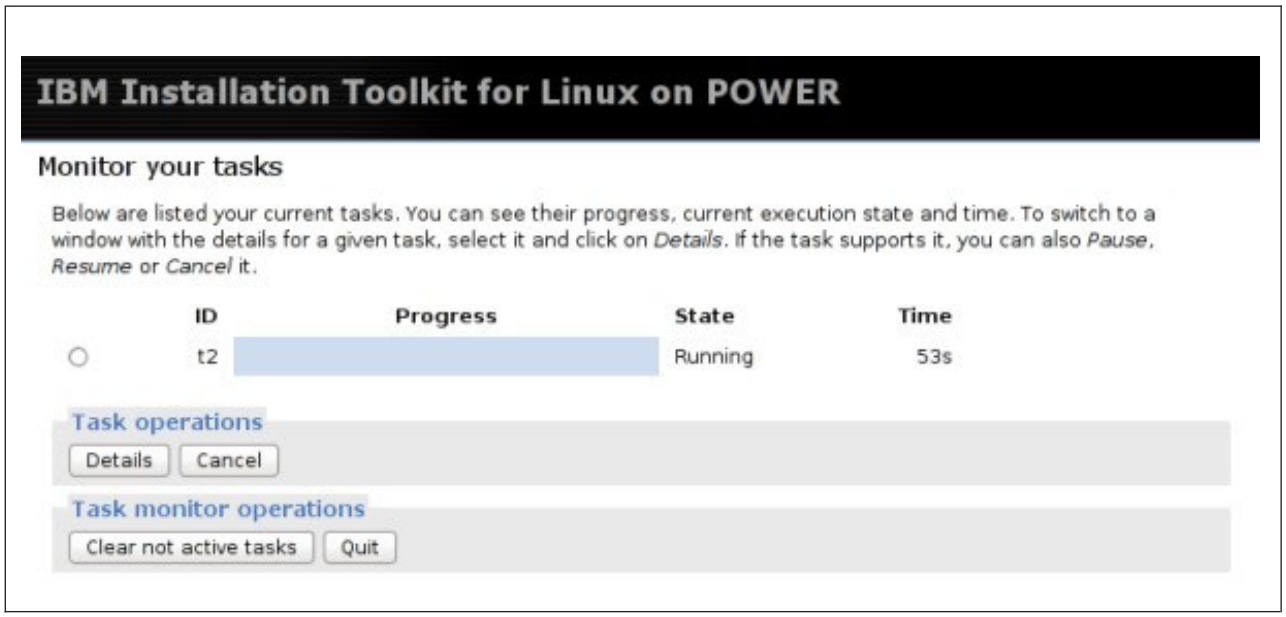

Figure 138. Task monitor window: select the task by its ID

You can select the task and then click **Details** to view the task details. The following window is displayed:

Figure 139. Status window: waiting for system to be installed

The details window is task-dependent; each task implements its own details window the way it prefers. For instructions about a specific task details window, refer to the section which describes that task in this manual.

Chapter 9. Known issues and workarounds

The following list includes known issues and workarounds for installing and using the IBM Installation Toolkit for Linux.

- Firefox is the only supported web browser for graphical installations.
- Qlogic FiberChannel cards are not supported on Power Architecture blades.
- Remote installations using Windows HyperTerminal, Internet Explorer and Web System Management PC Client are not fully supported and may cause navigation issues, such as Home/End keys not working.
- Mangled Linux startup messages can be safely ignored.
- If a second instance of Welcome Center is started, the first one will be terminated, and the terminal will be reset. As HMC and IVM virtual terminals cannot be reset, you will need to manually restart them.
- When using manual partitioning, depending upon the partitions you decide to keep, and the former partition scheme of your disks, the SLES installer (autoyast) makes decisions to create the partitions in order to optimize the SLES installation, based on the partition table that you defined. It means that autoyast can change slightly the partition scheme that you have defined in the Toolkit.
- The reuse of an existing partition will not be successful if you are installing a new SLES 10 system and the existing system is not SLES 10. In this case, the best practice is to delete all existing partitions and create new ones or to use automatic partitioning.
- When installing a new SLES 9 system, the error message "Could not set up swap partition /dev/sda5" (or another device) may be displayed if you re-use an existing partition. In this case, click **OK** and ignore the message.
- The root file system of the Live DVD is loopback-mounted on `/mnt/image`. So, if you unmount it or mount some other file system on it or any of its children directories, you will crash your system and will have to reboot it.
- When using the Welcome Center on an installed RHEL system in text mode, elinks prompts for a login and password. If you select **Cancel** to quit this operation, you need to press *Ctrl + C* to return to the console.
- After a SLES installation through network, Yast may warn you that it cannot connect to the packages repository during system boot. You can safely click **OK** to retry this operation.
- In installed RHEL systems, the text browser may not display the packages licenses description correctly when you choose to install new IBM packages using Welcome Center.
- SLES9 SP3 or 4 will not boot on HV2+ after system installation if you are using a Lanai Graphics Card. Removing the card will allow the system to boot.
- Pressing Tab twice in Dacomond terminal server during SLES9 SP3 first boot may hang the system.
- Serial terminal or serial-like terminals may not be the best for use as the terminal window refresh behavior is not adequate for this application. You may experience some window refresh problems when using it. You should consider using SSH sessions instead.
- When installing RHEL4 with the packages for graphics environments, GDM may not use the special RedHat theme, and warn you about the non-existence of a configuration file for itself. It uses the default configuration, though. Use RHEL's configuration center to correct this warning.
- When installing SLES9 SP4 with a non-virtualized CD/DVD drive, YaST may complain in first boot that it cannot find the drive. Click **show details** and remove the device entry after "cd:///;''.
- At the Client Systems Management, after choosing some hosts from an existent subnet, the dhcp server configuration file is changed, so you cannot go back in your browser and add more of these hosts. However, you can add them manually again and commit your changes.

- There is no mail profile for SLES 9 migrations because Postfix is installed by default during this distro installation and Sendmail conflicts with it.
- When rebooting for the first time, RHEL's yaboot may not work automatically. You may need to press **Enter** at the prompt "boot:".
- When doing a SLES 10 installation, if automatic configuration was chosen for the network interfaces and the network repositories reside in different networks than the one of the machine being installed, then during first boot Yast may present a warning box saying that it was unable to access the repositories. This warning box can be safely skipped, so the installation process can continue.
- If the migration of a user data fails when performing a System X to System P LAMP stack migration, the tool reports an error stating that "mysql-server migration failed".
- The System X to System P migration wizard only automatically migrates data under the "DocumentRoot" of the web server. Custom directories with data that should also be migrated must be manually migrated through the manual data migration functionality of this tool. Directories such as user's custom web server directories need to be manually included into a migration plan.
- The supported System i® machines can only be booted from the DVD drive if it has been virtualized (virtual DVD devices over the VSCSI interface). For more information about this topic, visit http://www-128.ibm.com/developerworks/forums/thread.jspa?threadID=200253. The online forum has a sticky thread on this topic as well: http://www.ibm.com/developerworks/forums/forum.jspa?forumID=937.
- The IBM installation Toolkit supports only Matrox graphics cards. If your system has another graphics card, the IBM Installation Toolkit will fail or start on text mode.

Chapter 10. Troubleshooting

This section provides information about all the warning and error messages that may be displayed when running the IBM Installation Toolkit.

The error messages are indexed by a unique code that you can use to gather additional information about what caused the error and the steps that you can take to solve the problem. The messages are subdivided into warning messages and error messages.

Warning messages

Warning messages are used to inform you of errors that could potentially compromise the system functioning or security.

These messages represent recoverable situations, allowing you to diagnose and correct the problem.

BRLCS0008W: This tool doesn't change the dhcpd.conf file. Please click on ″DHCPInfo″ to generate configuration text per client that must be copied and pasted into the server's dhcpd.conf file

Manually input the information shown in the ``DHCP Info'' into the server's DHCP configuration file. Otherwise, clients will not be able to boot the IBM Installation Toolkit over a network.

BRLCS0035W: DHCPD may not have restarted properly. Output: dhcp server start up output

After your changes are committed to DHCP server configuration file, the server is restarted. If there is something wrong this warning message and the output are shown.

BRLCS0041W: System Tools doesn't show hosts without the fields fixed-address and hardware.

Hosts from file are only shown with all needed information available.

BRLCS0042W: There aren't any host in the chosen subnet. Click Next to continue or Back to pick another one.

If you want to add hosts to an empty subnet choose Next, otherwise go Back and choose another subnet.

BRLDP0021W: Missing PReP partition

A PReP partition is missing and the disk partitioning will not finish without one. Create a PReP partition to complete the partition plan.

BRLDS0006W: Could not find any match for the term(s)

The IBM Installation Toolkit could not find any match for the term(s) you typed. Search for another term.

BRLDS0007W: Could not list empty directory: directory

The directory is empty and the IBM Installation Toolkit could not list its contents.

BRLIS0010W: There is already a network server set up. Creating a new server configuration will overwrite the old one, though its files will not be removed from the filesystem.

The message informs that a Toolkit server has been set up previously. Any new server configurations will overwrite the previous one, however its files will remain on the disk.

BRLIW0005W: Known issues with the following packages. They may yield errors during the installation process but they are still correctly installed. You may safely ignore those errors.: package(s)

Due to some incompatibilities between IBM packages and the Linux distributions' installers, an error message might be displayed during the installation process.

You can safely ignore this message because the packages will be correctly installed into the final system.

BRLIW0006W: Known issues with some packages. They may yield errors during the installation process but they are still correctly installed. You may safely ignore those errors.

Due to some incompatibilities between IBM packages and the Linux distributions' installers, an error message might be presented to the user during the installation process.

You can safely ignore this message since the packages will be correctly installed into the final system.

BRLIW0013W: You should not try to install a new system within your real system.

The IBM Installation Toolkit must be used to reinstall a Linux system. Trying to install a Linux system above an already existing installation would destroy all of the current data.

You cannot proceed with this option.

BRLIW0014W: License terms must be accepted

The IBM RAS Tools packages licenses were neither accepted or rejected. In order to proceed with the IBM RAS Tools packages installation process, accept the license terms. If you do not agree with the terms of the licenses, reject the license. Note that rejecting the license will make it impossible to install the IBM packages.

BRLIW0016W: No protocol specified for Install Server

You must choose a protocol to communicate with the server. The available options are HTTP, FTP or NFS. If the Install Server was set up by someone else and you do not have this information, contact your network administrator.

BRLIW0020W: Couldn't connect to server. Please check the configuration parameters!

The system tried to contact the installation server at the specified IP address using the specified protocol but did not obtain any reply.

This is probably caused by incorrect network configurations (incorrect IP address, incompatible protocol between the client and the server) or a temporary failure on the server.

Check the network configuration and make sure that the IP and network protocol used to access the server is correct. If the settings are correct, the server might be having problems. In this case, try again

later or contact the server's administrator for more information.

BRLIW0021W: No directory specified for Install Server

The directory field for the installation server was left blank. Specify the directory in order for the IBM Installation Toolkit to be able to retrieve the required packages.

BRLIW0023W: Red Hat Partitioning Issues

There are a few known issues regarding the Red Hat Anaconda installer, listed below, that might prevent you from successfully installing or booting your system later. Remember the following remarks when you are defining the partitioning scheme for your target system so that you will ensure it is going to work properly:

- The ″boot″ partition is mandatory and must be primary. You can either keep an existing one and set its mount point to ″boot″ or create a new one in case you have enough space for a new primary partition.
- In case you don't need to create any partitions, you can keep all of your existing ones as long as you have a primary ″boot″ partition.
- If you do not have space for a primary ″boot″ partition, nor an existing partition that could be mounted as ″boot″, you must delete one of your primary or extended partitions, freeing room for a new ″boot″ partition.

BRLIW0025W: Could not connect to Install Server

The system tried to contact the installation server at the specified IP address using the specified protocol but did not obtain any reply.

This is probably caused by incorrect network configurations (incorrect IP address, incompatible protocol between the client and the server) or a temporary failure on the server.

Check the network configuration and make sure that the IP and network protocol used to access the server is correct. If the settings are correct, the server might be having problems. In this case, try again later or contact the server's administrator for more information.

BRLIW0031W: No gateway specified

The gateway address of the manually network configuration was left blank. Specify the gateway address in order for the IBM Installation Toolkit to communicate with the installation and package servers.

BRLIW0048W: No network interface configured. You will not be able to get up to date IBM packages from Internet

IBM installation Toolkit automatically attempt to gather information about updates for IBM packages available on Internet. If your system does not have a Network Interface configured, you will not be able to get most up to date packages from IBM Web site. To fix this problem, go to the main window, enter *Utilities and configuration* tools, and click **network configuration**.

BRLMT0019W: Could not connect to Install Server

The system tried to contact the installation server at the specified IP address using the specified protocol but did not obtain any reply.

This is probably caused by incorrect network configurations (incorrect IP address, incompatible protocol between the client and the server) or a temporary failure on the server.

Check the network configuration and make sure that the IP and network protocol used to access the server is correct. If the settings are correct, the server might be having problems. In this case, try again later or contact the server's administrator for more information.

BRLMT0058W: You need to migrate Users and Groups if you want to migrate the users' home directories

The user tried to migrate only the home directory from the Source to Target machine. The migration of this directory happens only if the user selects the option to migrate the users and groups.

Select the ″Migrate Users and groups″ option and try again.

BRLMT0067W: Can't translate from Source to Target

Some error happened during the translation from Source system information to Target information, and the process cannot continue. The user needs to restart the migration wizard.

BRLMT0068W: Can't create FastStart File

Some error happened during the creation of the FastStart file. Check if the TFTP Server directory permissions are correct.

BRLMU0001W: Firmware update disabled

The Firmware update is disabled when the context does not permit this feature to be used. This could happen while trying to update the firmware of an unsupported architecture.

BRLMU0006W: Could not determine system's architecture

The architecture of the machine running the IBM Installation Toolkit could not be automatically determined. This probably means that you are running the system using an HMC machine. If this is your case, you should use the HMC's interface to perform the action.

BRLRT0014W: Invalid IP address for Packages Server

The provided IP for the IBM RAS Tools packages' server is either incomplete or in an invalid format. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1 and 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0.

BRLRT0015W: Could not connect to the Packages Server

The system tried to contact the IBM RAS Tools packages server at the specified IP address using the specified protocol but did not obtain any reply.

This is probably caused by incorrect network configurations (incorrect IP address, incompatible protocol between the client and the server) or a temporary failure on the server.

Check the network configuration and make sure that the IP and network protocol used to access the server are correct. If the settings are correct, the server might be having problems. In this case, try again later or contact the server's administrator for more information.

BRLRT0016W: Invalid Packages Server directory

The specified directory for the IBM RAS Tools packages server is not in a valid format. The directory entry must start with a slash (″/″) and should not contain any empty spaces.

BRLRT0017W: No protocol specified for Packages Server

The protocol for the IBM packages server was left blank. Specify the IBM package server in order for the IBM Installation Toolkit to be able to retrieve those packages.

BRLRT0018W: No IP address specified for the Packages Server

The IP address field for the IBM RAS Tools packages server was left Blank. Specify the IP address in order for the IBM Installation Toolkit to be able to retrieve those packages.

BRLRT0019W: No directory specified for the Packages Server

The directory field for the IBM packages server was left blank. Specify the IBM packages server in order for the IBM Installation Toolkit to be able to retrieve those packages.

BRLSS0005W: Destination directory will be created

Some process of the Welcome Center needs to install or create something in the new system and the specified destination directory does not exist. At the end, the process will create the directory and finish the commands.

BRLWW0013W: Server interrupted by keyboard, quit.

The Web server was interrupted using the keyboard. To restart, run the Welcome Center.

Error messages

Error messages inform you of errors that could potentially compromise the system's functioning or security.

These messages represent recoverable situations, allowing you to intervene and correct the problem or to end the process without completing it.

BRLCC0001E: Could not find server information file

The server information file was not found.

BRLCD0001E: Could not convert document document_name

The document could not be converted.

BRLCS0001E: No Hostname specified

The hostname field of the management client wizard was left blank. Specify the hostname in order for the IBM Installation Toolkit to be able to add a new client info into the database.

BRLCS0002E: No IP specified

The IP field of the management client wizard was left blank. The user needs to specify this information in order for the IBM Installation Toolkit to be able to add a new client information into the database.

BRLCS0003E: No MAC address specified

The MAC field of the management client wizard was left blank. Specify a MAC address in order for the IBM Installation Toolkit to be able to add new client information into the database.

BRLCS0004E: Invalid IP

The provided IP is either incomplete or in an invalid format. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1, 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0. If you do not know this information, contact your network administrator.

BRLCS0005E: Invalid MAC address

The provided MAC address is either incomplete or in an invalid format. The MAC address must follow the format [??]:[??]:[??]:[??]:[??:[??], where ? should be an integer from 0 to 9 or upper case characters from A to Z. Examples of valid addresses are 00:15:58:0B:5A:5F, 12:29:80:00:30:03 and 22:4C:90:00:30:03. If you do not know this information, contact your network administrator.

BRLCS0006E: Could not write configuration file

The management client wizard could not write the configuration file.

BRLCS0007E: No client selected

You did not select a client from the list or there is no client in the database to execute the action.

BRLCS0009E: Invalid hostname

The hostname field of the management client wizard was left blank. Specify the hostname in order for the IBM Installation Toolkit to be able to add a new client info into the database.

BRLCS0010E: No client machines registered

To commit your changes add at least one host.

BRLCS0011E: Missing DHCPD configuration file

There is no configuration file available to be changed.

BRLCS0012E: Client hostname already in use

There is already a hostname with that name configured. Delete it or change the hostname of the new one to be added.

BRLCS0013E: Client MAC already in use

There is already a client using this MAC address, change it, or delete the old one.

BRLCS0014E: Client IP already in use

This IP is already in use. If you do not know this information, contact your network administrator.

BRLCS0031E: Failure writing the dhcpd.conf. Restoring the original dhcpd.conf

There was some error writing the file, please start again.

BRLCS0034E: No output from restarting dhcpd. Probably an error. Check/var/log/messages

Your server did not start right, check the error message.

BRLCS0036E: The host you are trying to add already exists in the DHCP configuration file. Please delete this host entry from the DHCP file and try again. The host hostname was not inserted.

The host already exists, use another or delete it and try again.

BRLCS0037E: There was an error restarting dhcpd. Please fix it. The error message is: output

Please verify your DHCP server file configuration.

BRLCS0038E: System Tools doesn't support more than one subnet in dhcpd.conf. Please configure only one subnet in the file manually.

Use only one subnet to configure all hosts.

BRLCS0039E: The MAC address you are trying to add already exists in the DHCP configuration file. Please delete the corresponding host entry from the DHCP file and try again. The existent host with this MAC is hostname.

There is already a client using this MAC address, change it, or delete the old one.

BRLCS0040E: System Tools doesn't support hosts out of subnet blocks. Either remove these hosts or move them within the subnet.

Use only hosts that are part of the subnet chosen.

BRLCS0043E: There was an error restarting DHCP server. Please verify it yourself. Receiving the message: error message.

Please verify your DHCP server file configuration.

BRLCS0044E: Invalid IP for hostname

The provided IP is either incomplete or in an invalid format or already in use. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1, 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0. If you do not know this information, contact your network administrator.

BRLDP0001E: No partition selected

Select a partition from the list presented.

BRLDP0002E: Invalid Partition Size

Type an integer number greater than zero in the field 'Size' to create the partition requested.

BRLDP0003E: Invalid Mount Point Path

Type a valid mount point in the field 'Mount Point'. The common Linux mount points used to create new partitions are the following: */*, */bin*, */boot*, */dev*, */etc*, */home*, */mnt*, */opt*, */proc*, */root*, */sbin*, */tmp*, */usr*, and */var*.

BRLDP0004E: The partition size must not exceed the available space

The partition size requested is greater than the available free space on the disk. Enter a size for the new partition that does not exceed the available space for it.

BRLDP0005E: There is not enough space to create a new partition

The creation of the new partition will not be completed because there is not enough available space on the disk. Enter a partition size for the new partition that does not exceed the available free space on disk.

BRLDP0006E: You can't move an existing partition or move a new partition to an existing partition's position

You tried to move an existing partition to a space previously allocated to another partition or moved a new partition to an existing partition's position. To do this, you must move an existing partition or a new partition to a free space.

BRLDP0007E: Cannot resize an existing partition

You can not resize an existing partition.

BRLDP0008E: Cannot edit a prep boot partition

You can not edit a prep boot partition. You can only create a prep boot partition by clicking the ″Create PReP'' button.

BRLDP0009E: Cannot create REISER partition in RHEL

Reiserfs can only be used to create a partition in SLES installations. For RHEL installation, you can use only EXT3 partitions.

BRLDP0010E: There must be only one prep boot partition and it should reside in the first position on the disk

There is more than one prep boot partition in the partition table, and it is not in the first position of the partition table. Delete all of the prep boot partitions and create one in the first position of the partition table.

BRLDP0011E: No disks selected

If there are two or more disks in the system, to create or delete partitions you must choose one disk from the list in order to proceed.

BRLDP0012E: No PReP boot partition specified

Create a PReP boot partition to continue the installation.

BRLDP0013E: No '/'mount point specified

The user needs create a '/' partition to continue the installation.

BRLDP0014E: There are repeated mount points: mount_points_list

There is more than one partitions with the same mount point. Select one partition and change its mount point.

BRLDP0015E: '/'partition must have at least 3 GB

The '/' partition has less than 3 GB of space. Resize the partition.

BRLDP0016E: At least one swap partition must be specified

Create a swap partition to continue the installation process.

BRLDP0017E: Cannot edit this partition

Some partitions are not editable for security reasons.

BRLDP0018E: No'/boot' mount point specified

Create a 'boot' partition to continue the installation.

BRLDP0019E: '/boot' partition must have at least 32 MB

The 'boot' partition has less than 32 MB of space. Resize the partition.

BRLDP0020E: Attempted to delete free space

Do not attempt to delete the disk free space.

BRLDP0026E: SLES 9 doesn't support use of /boot partitions

According to Novell, on Power Systems, the YaST2 expert partitioner suggests creating a partition for /boot. This partition is not needed on Power Systems and should not be created, because it may confuse the boot loader installation process and lead to an unbootable system. Instead, a primary partition of type "PReP boot" (type 0x41) with no mount point and a recommended size of 16MB must be present.

BRLIS0001E: No TFTP Path specified

The TFTP export directory field of the "Network Server Setup/Update" wizard was left blank. Specify the protocol export directory in order for the IBM Installation Toolkit to be able to copy all necessary files to setup the TFTP service.

BRLIS0002E: No Web-server Path specified

The protocol export directory field of the "Network Server Setup/Update'' wizard was left blank. Specify the protocol in order for the IBM Installation Toolkit to be able to copy all necessary files to setup the repository.

BRLIS0003E: No ISO image file specified

The IBM Toolkit source field of the "Network Server Setup/Update'' wizard was left blank. Specify the complete path with the ISO files in order for the IBM Installation Toolkit to be able to copy all necessary files to the repository directories.

BRLIS0004E: No repository path specified

The IBM Toolkit base dir field of the "Network Server Setup/Update'' wizard was left blank. Specify a base directory in order for the IBM Installation Toolkit to be able to copy all necessary files to setup the IBM Installation Toolkit repository.

BRLIS0005E: Invalid TFTP Path

The specified TFTP export directory is invalid. Specify a valid destination directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLIS0006E: Invalid Web-Server Path

The specified protocol export directory is invalid. Specify a valid destination directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLIS0007E: Invalid ISO image file

The specified IBM Toolkit source information is invalid. Specify a valid destination directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces. This information must include the ISO file name.

BRLIS0008E: Invalid Repository Path

The specified IBM Toolkit base directory is invalid. Specify a valid destination directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLIS0009E: Could not write configuration file

The IBM Installation Toolkit was not able to write its configuration file to disk. Check if the write permission is correctly configured on directory /opt/wui or some other problem is preventing the Toolkit to write the file on that directory.

BRLIW0004E: License terms declined

You didn't accept some license terms. In order to proceed, it's required that the you accept the licensing terms.

BRLIW0009E: License terms must be accepted or declined

You neither accepted nor rejected the IBM Installation Toolkit license. In order to proceed with the installation process, you must accept the license terms. If you do not agree with the terms of the licenses, reject the license. Note that rejecting the license will make it impossible to install the IBM packages.

BRLIW0011E: Root password does not match.

The two fields of the root password are different. Retype the root password in order for the IBM Installation Toolkit to set the root password for the new system.

BRLIW0017E: No IP address specified

The IP address field was left blank. You must specify an IP address for the network card being configured.

BRLIW0018E: Invalid IP address for Install Server

The provided IP for the installation server is either incomplete or in an invalid format. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1, 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0.

BRLIW0022E: License terms must be accepted or declined

In order to enter Welcome Center, you must accept the license terms. If you do not agree with the terms of the licenses, reject the license. Note that rejecting the license will make it impossible to use Welcome Center

BRLIW0024E: Root password must be set

One of the two root password fields were left blank. Specify the root password in order for the IBM Installation Toolkit to set the root password for the new system.

BRLIW0026E: The inserted install server directory is not valid

The specified directory for the installation server is not in a valid format. The directory entry must start with a slash (’/’) and should not contain any empty spaces in it.

BRLIW0030E: No netmask specified

The netmask field was left blank. You must specify a network mask for the network card being configured.

BRLIW0032E: Invalid netmask

The netmask entered is invalid. You must specify a valid network mask for the network card being configured.

BRLIW0033E: Invalid gateway

The gateway entered is invalid. You must specify a valid gateway for the network card being configured.

BRLIW0034E: Invalid IP address

The IP address entered is invalid. You must specify a valid IP address for the network card being configured.

BRLIW0035E: Could not find a network interface

The system probably doesn’t have a network interface and the Welcome Center will quit. Attach a network card to your system and restart the Welcome Center.

BRLIW0036E: No network card selected

Choose a network card from the list presented to configure the network.

BRLIW0037E: Invalid IP address for Packages Server

The IP address of the packages server is incorrect. Specify a valid IP address in order to do a network installation.

BRLIW0038E: Could not connect to the Packages Server

The connection between the host and the packages server is not working. It is recommended that you verify the IP address and protocol chosen for the packages server communication. Most likely the IP address is not correct for the packages server IP, or the server is not set to work with the protocol chosen.

BRLIW0039E: Invalid directory for Packages Server

The specified directory for the packages server is not in a valid format. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLIW0043E: Fingerprint check failed on Packages Server

The Welcome Center could not check the fingerprint on the Packages Server repository. This means that either the information to contact the server is incorrect or that the specified repository was not set up with the System Tools. Contact the server administrator for more information.

BRLIW0044E: Fingerprint check failed on Install Server

The Welcome Center could not check the fingerprint on the Install Server repository. This means that either the information to contact the server is incorrect or that the specified repository was not set up with the System Tools. Contact the server administrator for more information.

BRLIW0047E: No disks found on current machine

No disks were found on current machine. In order to proceed with Linux installation, you must have one installed disk device on you machine.

BRLIW0051E: Invalid DNS address

The DNS address entered is invalid. You must specify a valid DNS address for the network configuration.

BRLIW0053E: Invalid RHN key format

The RHN key entered is invalid. You must specify a valid RHN key.

BRLIW0054E: Invalid hostname

The hostname entered is invalid. You must specify a valid hostname for the network configuration.

BRLIW0055E: No hostname specified

The hostname field was left blank. You must specify a valid hostname for the network configuration.

BRLIW1003E: There is no available install media

The IBM Installation Toolkit could not find any CD/DVD-ROM drive or network connection available on the system. At least one of these medias are required in order to allow the Toolkit to install.

BRLIW1004E: No disks found on current machine

The IBM Installation Toolkit could not find any disks available on the system. The system must have a disk in order to proceed with the installation.

BRLIW1005E: License terms must be accepted

The IBM Installation Toolkit will not allow to proceed until the license terms are accepted.

BRLIW1006E: Root password does not match

The root password and the confirmation entered are not the same. Make sure to type the same password on the root password and confirmation fields and try again.

BRLIW1007E: Root password must be set

The root password field was left blank. A root password must be entered in order to continue the installation process.

BRLHS0004E: 503 -Script failed.

The execution of some script within IBM Installation Toolkit failed. Report this problem in the IBM Installation Toolkit Support Forum (`http://www-128.ibm.com/developerworks/forums/dw_forum.jsp?forum=937&cat=72`) for the development team to fix the problem.

BRLLC0001E: Error creating storage pool

During the LPAR creation process an error occurred when trying to create the storage pool. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLLC0010E: Unable to list available storage pools.

The storage pools on the VIOS could not be listed. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLLC0011E: Target contains no Management System.

The information provided does not refer to a Management System. Verify the information entered to make sure it refers to a HMC or IVM Management system.

BRLLC0012E: The name cannot be resolved.

The hostname provided could not be translated to an IP address. Verify the hostname entered to make sure it can be resolved to an IP address.

BRLLC0013E: Provided IP is already in use.

The IP address entered cannot be allocated to the new LPAR because it is already in use by another device. Choose a free IP address that can be used by the LPAR. If unsure, consult your network administrator.

BRLLC0014E: Error creating virtual disk.

An error occurred during the LPAR creation process when trying to create the virtual disk. Check the log file at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLLC0015E: This IP is already configured to another machine.

The IP address provided for the LPAR is already assigned to another machine in the DHCP server. Choose a free IP address that can be used by the LPAR. If unsure, consult your network administrator.

BRLLC0017E: LPAR name already in use. Please choose a different one.

The name provided for the new LPAR is already in use by another LPAR on the Managed System. Choose another name for the new LPAR.

BRLMR0001E: Could not delete the specified repository

The IBM Installation Toolkit could not delete some repository from the repository file or could not delete the entire file.

BRLMR0002E: No Repository Name specified

The nickname field for the distribution was left blank. Specify a nickname for the distribution in order for the IBM Installation Toolkit to be able to add a new repository in your database.

BRLMR0003E: No Destination Path specified

The destination path field was left blank. Specify a destination path in order for the IBM Installation Toolkit to be able to continue.

BRLMR0004E: Invalid Destination Path

The specified destination path is invalid. Specify a valid destination directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLMR0005E: No Repository selected

You did not select a repository from the list of repositories to perform the action or there is no repository in the database.

BRLMR0006E: No ISO image path specified

The path field for the ISO image directory was left blank. Specify an ISO image directory path in order for the IBM Installation Toolkit to be able to find the ISO image files in the path to finish the creation of a new repository in the database.

BRLMR0007E: Invalid ISO image path

The specified ISO image path is invalid. Specify a valid path directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLMR0008E: IBM Installation Toolkit server must be set up first

Set up an IBM Installation Toolkit server before proceeding with this action.

BRLMR0009E: Repository nickname already in use

A previously configured repository is using the nickname entered. Choose a different one and try again.

BRLMR0010E: Invalid repository nickname

The repository nickname entered is invalid. Repository nicknames comprises letters, the underscore and numbers optionally separated by dots.

BRLMT0001E: No IP Address specified

It is necessary an IP address to proceed. This message could occurs when the Source or Target IP address is missing to execute some process. Inform a correct IP address to proceed.

BRLMT0002E: IP address is not valid

The IP address given is not valid. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1 and 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0.

BRLMT0003E: No port number specified

The SSH port number of the Source machine was not specified. The port number is necessary to upload the IBM Server Consolidation Tool public key to the source machine.

Inform the correct SSH port of the machine. If the user doesn't know this information, contact the machine's administrator.

BRLMT0005E: Root password not specified

The root password of the Source machine was not specified. This information is necessary to upload the IBM Server Consolidation Tool public key to the source machine, to execute all scripts to fetch the system information, and realize the migration of LAMP data from Source to Target machine.

Inform the correct password. If you don't know this information, contact the machine's administrator.

BRLMT0007E: There is no server set up. An IBM Installation Toolkit server must be set up first. Go to Server Management Server Setup/Update

There is no IBM Installation Toolkit server set up. The IBM Server Consolidation Tool needs that a complete Installation Toolkit server has been set up.

Go to Setting up or updating the Network Server and set up a server.

BRLMT0008E: This plugin is intended to be run on System Tools servers only

The IBM Server Consolidation Tool runs only inside the IBM Installation Toolkit for Linux System Tools. Execute the System Tools command and select the respective icon on main window to execute the Server Consolidation Tool.

BRLMT0009E: Port number is not valid

The SSH port number is not a valid port.

BRLMT0016E: ERROR: The client consolidation application didn't start.

The client application did not start.

BRLMT0018E: Invalid IP address for Install Server

The provided IP for the installation server is either incomplete or in an invalid format. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1, 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0.

BRLMT0020E: The inserted install server directory is not valid

The specified directory for the installation server is not in a valid format. The directory entry must start with a slash ("/") and should not contain any empty spaces in it.

BRLMT0021E: Invalid IP address for Packages Server

The provided IP for the packages server is either incomplete or in an invalid format. The IP address must follow the format [0-255].[0-255].[0-255].[0-255]. Examples of valid addresses are 10.2.0.1, 192.168.3.20. Invalid addresses are 455.303.100.20 or 10.0.0.

BRLMT0022E: Could not connect to the Packages Server

The connection between the Server Consolidation Tool machine and the Packages Server is not working. It is recommended that you verify the IP address and protocol chosen for the packages server communication. Most likely the IP address is not correct for the packages server IP, or the server is not set to work with the protocol chosen.

BRLMT0023E: Invalid directory for Packages Server

The specified directory for the packages server is not in a valid format. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLMT0024E: Fingerprint check failed on Packages Server

The IBM Server Consolidation Tool could not check the fingerprint on the Packages Server repository. This means that either the information to contact the server is incorrect or that the specified repository was not set up with the System Tools. Contact the server administrator for more information.

BRLMT0025E: Fingerprint check failed on Install Server

The IBM Server Consolidation Tool could not check the fingerprint on the Install Server repository. This means that either the information to contact the server is incorrect or that the specified repository was not set up with the System Tools. Contact the server administrator for more information.

BRLMT0026E: No protocol specified for Install Server

The protocol for the Install Server was left blank. Specify the protocol in order for the IBM Installation Toolkit to be able to retrieve the required packages. The available options are HTTP, FTP or NFS.

BRLMT0027E: No IP address specified for Install Server

The IP address field for the Install Server was left blank. The user needs to specify this information in order for the IBM Installation Toolkit to be able to retrieve the required packages for the Linux distributions.

BRLMT0028E: No directory specified for Install Server

The directory field for the Install Server was left blank. Specify the directory in order for the IBM Installation Toolkit to be able to retrieve the required packages.

BRLMT0029E: No protocol specified for Packages Server

The protocol for the IBM Packages Server was left blank. Specify a protocol in order for the IBM Installation Toolkit to be able to retrieve those packages.

BRLMT0030E: No IP address specified for Packages Server

The IP address field for the Packages Server was left blank. Specify the IP address in order for the IBM Installation Toolkit to be able to retrieve the required packages.

BRLMT0031E: No directory specified for the Packages Server

The directory field for the IBM Packages Server was left blank. Specify the IBM packages server in order for the IBM Installation Toolkit to be able to retrieve those packages.

BRLMT0032E: ERROR: Dependency error in client

There is no some dependency of the Server Consolidation Client application. Install the dependency and try again.

BRLMT0033E: Source architecture not supported

The architecture of the Source machine is not supported by the Server Consolidation Tool. The Source architectures supported are: x86 (i386, i486, i586 and i686) and x86_64.

BRLMT0034E: Source distro not supported

The distribution of the Source machine is not supported by the Server Consolidation Tool. The Source distributions supported are: RHEL 4 (and its updates 1, 2, 3, 4, 5 and 6), RHEL 5 (and its updates 1, 2 and 3), SLES 9 (and its service packs 1, 2, 3 and 4) and SLES 10 (and its service packs 1 , 1U1 and 2).

BRLMT0035E: There's no possible target distro to the current source

The Server Consolidation Tool could not translate the Source distribution information to a Target distribution value. Check if the Source distribution is one of the supported distros and try again.

BRLMT0036E: No hosts defined in System Tools. You need to first define hosts in Server Management in the main menu

There is no Target machine candidate to migrate. The user need to add, at least one, Target candidate to complete a migration. To add a machine as a Target candidate, use the *Server Management Manage Client Systems* of the System Tools' main menu.

BRLMT0037E: Target architecture not supported

The architecture of the Target machine is not supported by the Server Consolidation Tool. The Source architecture supported is: PPC.

BRLMT0038E: Target distro not supported

The distribution of the Target machine is not supported by the Server Consolidation Tool. The Source distributions supported are: RHEL 4 (and its updates 1, 2, 3, 4, 5 and 6), RHEL 5 (and its updates 1, 2 and 3), SLES 9 (and its service packs 1, 2, 3 and 4) and SLES 10 (and its service packs 1 , 1U1 and 2).

BRLMT0039E: Invalid MAC address to the target system

The MAC address of the Target machine is wrong or doesn't exist. Check the correct MAC address in the *Server Management Manage Client Systems* icon of the System Tools' main menu.

The MAC address must follow the format [??]:[??]:[??]:[??]:[??:[??], where ? should be an integer from 0 to 9 or upper case characters from A to Z. Examples of valid addresses are 00:15:58:0B:5A:5F, 12:29:80:00:30:03 and 22:4C:90:00:30:03. If you do not know this information, contact your network administrator.

BRLMT0040E: Error trying to set Target system

Some problem happened while the Server Consolidation Tool tried to set up the Target system informations. Please, restart the migration process.

BRLMT0072E: No hostname specified

The hostname of the Target machine is wrong or doesn't exist. Check the correct hostname in the *Server Management Manage Client Systems* icon of the System Tools' main menu.

BRLMT0075E: The given path does not exist in the source system

The path of the additional data doesn't exists in the Source machine. Check the correct path and try again.

BRLMT0076E: Error while connecting to source to validate the given path

The IBM Server Consolidation Tool could not connect to the Source machine to verify if the path of an additional file exists or not. Please, check if the network of the Source machine is up and running and try again.

BRLMT0077E: Migrating the given path would probably break the target system

The path of the additional file inserted is not a valid path to migrate. The following paths are considered not valid to migrate as additional file: */*, */bin*, */dev*, */lib*, */sbin*, */proc*, */usr*, */boot*, */etc*, *initrd*, */opt*, */selinux*, */sys* and */var*.

BRLMT0081E: SSH login failed

The IBM Server Consolidation Tool could not connect to a remote machine using SSH. Check if the SSH server is up and running in the remote machine and try again.

BRLMT0082E: There's no /root/.ssh dir in the client machine

The IBM Server Consolidation Tools could find two possible problems. First, there is no /root/.ssh directory in the Source machine. Please, create it and try again.

Second, the Source machine public key has changed and the Network Server machine (System Tools machine) doesn't recognize it any more. Please, delete the old Source machine public key information from the root *known_hosts* file and try again.

BRLMT0088E: Can't validate distro repository. Null distro.

The Install Server could not be validated. Please, check if there is a compatible Install directory (repository) with the Target distribution value.

BRLMT0089E: Can't validate distro repository. No Repository info.

The Install Server could not be validated. Please check if the Install directory (repository) is accessible via network.

BRLMT0090E: Protocol is not supported

The protocol chosen to install the distribution is not supported. The supported protocols are: HTTP, FTP and NFS.

BRLMT0091E: Can't validate PowerPack repository. Null Repository info.

The IBM Packages Server could not be validated. Please, check if the Packages directory (repository) is accessible via network.

BRLMT0093E: Error while creating symbolic links.

The IBM Server Consolidation Tool could not create the necessary symbolic links to run the client application. Check if you are running the System Tools as root and if the /etc directory has the correct permissions to execute the job.

BRLMT0095E: Error while transferring public key.

The IBM Server Consolidation Tool public key could not be transferred to the Source machine. Check if the SSH is up and running in the Source machine, or if the SSH port of the Source machine is open in the Source's firewall.

BRLMT0096E: Error while adding public key into authorized_keys file.

The IBM Server Consolidation Tool public key could not be inserted in the file that gives remote authorization to the Source machine. Check if the /root/.ssh/authorized_keys files exists and/or if its permissions are correct (root needs to write in it).

BRLMT0099E: Please, select only one Mail profile

The IBM Server Consolidation Tool only allows to select one Mail profile (for example Sendmail or Postfix) at the same time. Choose one of them to proceed.

BRLMT0100E: No Management System IP Address specified

The IP address field was left blank. You must enter the IP address of the Management System where the LPAR will be created.

BRLMT0101E: Management System IP address is not valid

The IP address entered for the Management System is invalid. Check the IP address typed and try again.

BRLMT0102E: No Management System port number specified

The SSH port field was left blank. You must specify a port number so that the Tool can connect to the Management System.

BRLMT0103E: Management System Port number is not valid

The SSH port number entered is invalid. field was left blank. You must specify a valid port number for the IBM Server Consolidation Tool to connect to the Management System.

BRLMT0104E: Management System User password not specified

The Password field was left blank. You must specify a user password so that the Tool can connect to the Management System.

BRLMT0105E: Management System User not specified

The User field was left blank. You must specify a user so that the Tool can connect to the Management System.

BRLMT0106E: VIOS Host not specified/valid.

The IP address field was left blank. You must enter the IP address of the VIOS where the LPAR will be created.

BRLMT0107E: VIOS User not specified

The User field was left blank. You must specify a user so that the Tool can connect to the VIOS.

BRLMT0108E: VIOS User password not specified

The Password field was left blank. You must specify a user password so that the Tool can connect to the VIOS.

BRLMT0109E: VIOS SSH Port not specified

The SSH port field was left blank. You must specify a port number so that the Tool can connect to the VIOS.

BRLMT0110E: Not able to find selected Managed System [SYSTEM_NAME] on HMC/IVM

The Tool was not able to find the Managed System you selected. Verify if the managed system on the HMC/IVM is correctly configured.

BRLMT0113E: Not able to fetch drc_name for: [DEVICE]

The Tool could not retrieve the drc_name for the device during the LPAR creation process. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLMT0114E: Error mapping vhost to physical devices

An error occurred during the LPAR creation process. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLMT0118E: Not able to bind LPAR [LPAR_NAME] to storage [STORAGE_NAME]

During the LPAR creation process the Tool could not bind the LPAR to the virtual disk. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLMT0119E: Not able setup DHCP Server for the new LPAR

The Tool could not register the new LPAR in the DHCP server. Check the log at /var/log/wui for details on the cause of the error.

BRLMT0120E: Not able to create virtual Ethernet adapter

During the creation process the Tool could not create a virtual Ethernet adapter for the new LPAR. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLMT0121E: You have no available memory to continue

There is no available memory in the managed system to be allocated for the new LPAR. Make sure to free some memory and try again.

BRLMT0122E: Can’t fetch MAC address for virtual network interface

The Tool could not retrieve the MAC address of the LPAR network interface when registering it on the DHCP server. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLMT0123E: Can’t remove LPAR

During the LPAR creation process an error occurred and the Tool failed to issue a command to remove the LPAR. Check the log at /var/log/wui for details and verify if the HMC/IVM system is properly configured.

BRLMT0124E: The MySQL root password entered is invalid. Please try again.

The MySQL root password supplied to the Tool is invalid. A valid password is needed in order to access the MySQL server on the source machine. Check the password and try again.

BRLMT0125E: There is a problem with the MySQL installation on the source machine. Please check before proceeding.

The Tool was not able to start the MySQL server on the source machine. Verify if the Mysql server is correctly configured and can be started.

BRLMU0008E: Invalid firmware file [FILE_NAME]. Please try again.

The firmware provided is not a valid one. Verify and provide a valid firmware file.

BRLNC0003E: No configuration type specified

Specify the type of configuration you want to use to configure the network card. The values are: Automatic (DHCP) or Manual.

BRLNC0004E: Cannot proceed without a network card

Attach a network card on the machine first to proceed with the installation.

BRLNC0005E: No network cards specified

Specify a network card from the list presented to configure the network after installation.

BRLNC0006E: Network is already configured

If you are trying to configure the network, it is already configured.

BRLNC0007E: Could not find a configured gateway

There is no default gateway configured. If you proceed, some IBM Installation Toolkit features that depend on an Internet connection won’t work. Configure a default gateway.

BRLNC0008E: Could not find a network card

Attach a network card on the machine first to proceed with the installation.

BRLPV0002E: Invalid directory name

The directory name entered is incorrect. Verify the name provided and try again.

BRLPV0003E: You must select at least 1 files in order to proceed the installation

No file was selected. At least one file needs to be selected so that the installation can continue.

BRLPV0008E: It has not been possible to complete the operation due to an error in the PowerVM Lx86 installer

An error occurred while running the PowerVM Lx86 installer. Check the log file at /var/log/wui for details on what may have caused the problem.

BRLPV0009E: It has not been possible to complete the operation due to a communication error with the PowerVM Lx86 installer.

An error occurred while running the PowerVM Lx86 installer. Check the log file at /var/log/wui for details on what may have caused the problem.

BRLPV0015E:Both the Translator and the X86 world are already installed. If you'd like to install these products again then first remove them

The Toolkit found an installation of PowerVM already running on the system. In order to install the PowerVM Lx86 again you have to uninstall the current installation first.

BRLPV0016E: You must accept the license if you want to install the PowerVM Lx86 system

The PowerVM Lx86 license was declined. In order to install the PowerVM Lx86 it is necessary to accept its license.

BRLPV0017E: PowerVM Lx86 does not support the current installed distro

The Linux distribution current installed on the system is not supported by PowerVM Lx86. In order to install the PowerVM, the machine has to be running a distribution supported by the program.

BRLPV0018E: Invalid path: ″PATH_NAME″. [ERROR_MESSAGE]

The directory could not be created. Follow the error message and verify if the permissions are correctly set so that the path can be created by the Toolkit.

BRLPV0019E: Can't use ″[PATH_NAME]″Because it already exists.

The provided path cannot be used because it already exists on the system. Enter a new path name that either is an empty directory or does not exist on the system.

BRLPV0020E: Unsupported distro selected

The Linux distribution selected for installation is not supported. Try selecting a different one.

BRLPV0021E: Invalid field: [FIELD_NAME]

The information entered for the field is incorrect. Verify the information provided and try again.

BRLPV0022E: There's no x86 distro available for the current running system

The Toolkit could not find any x86 Linux distributions available for the running system. Consider installing a supported distribution in order to install the PowerVM Lx86 application.

BRLPV0023E: Error creating the autorun file

An error occurred while creating the autorun file for the PowerVM Lx86 installer. Check the log file at /var/log/wui for details on what may have caused the problem.

BRLPV0025E: Error installing the PowerVM Lx86 installer

An error occurred when trying to start the PowerVM Lx86 installer. Verify if you entered a valid path to the PowerVM Lx86 installer file.

BRLPV0026E: You have neither a Translator nor a X86World installed

The Toolkit cannot uninstall the PowerVM Lx86 because it is not currently installed on the system.

BRLPV0027E: Error copying RPMs from media. Please, make sure you provided the correct medias for the chosen x86 Linux distribution, and that they are in perfect conditions

An error occurred when trying to copy files from the provided media. Verify if the media is correct for the Linux distribution selected and it is not corrupted.

BRLPV0028E: Could not locate the PowerVM Lx86 rpm

The Toolkit could not find a rpm file in the PowerVM provided media. Verify if the media is not corrupted.

BRLPV0029E: Could not locate the PowerVM Lx86 license file

A problem occurred when trying to display the PowerVM Lx86 license. Verify if the PowerVM Lx86 installation file is not corrupted and try to download the file again.

BRLPV0030E: Can't use ″PATH_NAME″ because it's a non empty directory.

The provided directory cannot be used because it is not empty. Enter a new path name that either is an empty directory or does not exist on the system.

BRLPV0031E: Can't use ″PATH_NAME″ as a path.

The provided directory cannot be used because it is a system reserved directory. Enter a new path name that either is an empty directory or does not exist on the system.

BRLPV0032E: ″FILE_NAME″ points to a file

The provided path cannot be used because it already exists on the system. Enter a new path name that either is an empty directory or does not exist on the system.

BRLPV0033E: Home directory must exist (″DIRECTORY_NAME″)

The home directory entered does not exist on the system. Make sure to provide a home directory that is available on the system.

BRLRG0001E: Network not configured. You must configure it to proceed with registration

The network is not configured. Configure the network in order for the IBM Installation Toolkit to be able to register an account for you at the IBM register site.

BRLRT0007E: License terms declined

You declined the license terms regarding the installation of IBM RAS Tools packages. In order to install the IBM packages, the user is required to accept the license terms that were presented. Different packages may have different license terms.

BRLRT0010E: License terms must be accepted or declined

You neither accepted nor rejected the IBM RAS Tools packages licenses. In order to proceed with the IBM RAS Tools packages installation process, you must accept the license terms. If you do not agree with the terms of the licenses, reject the license. Note that rejecting the license will make it impossible to install the IBM packages.

BRLRT0011E: IBM RAS Tools disabled

The IBM RAS Tools wizard is disabled when the context does not permit this feature to be used. This happens when trying to use the RAS Tools wizard from the IBM Installation Toolkit Live CD.

BRLRT0012E: One or more packages must be selected

You selected no IBM RAS Tools packages for installation. In order to continue with the IBM RAS Tools packages installation, select at least one package for installation.

BRLRT0021E: Fingerprint check failed on Packages Server

The packages server provided is not valid. The server must be a previously configured IBM Installation Toolkit repository.

BRLSI0001E: No IP address specified

The IP address field was left blank. Specify an IP address in order for the IBM Installation Toolkit to be able to set the IP address for the selected network interface.

BRLSI0002E: Invalid IP address ip_address_number

The IP address inserted is not a valid address. Specify a valid IP address in order for the IBM Installation Toolkit to be able to set the IP address for the selected network interface. If you do not know this information, contact your network administrator.

BRLSI0003E: No netmask specified

The network mask field was left blank. Specify a network mask in order for the IBM Installation Toolkit to be able to set the network interface correctly.

BRLSI0004E: Invalid netmask netmask_number

The network mask inserted is not a valid mask. Specify a valid network mask in order for the IBM Installation Toolkit to be able to set the selected network interface. If you do not know this information, contact your network administrator.

BRLSI0005E: Invalid gateway gateway_address

The gateway address set is not a valid gateway. Specify a valid gateway address in order for the IBM Installation Toolkit to be able to set the selected network interface. If you do not know this information, contact your network administrator.

BRLSS0003E: No destination directory specified

Specify a destination directory for the IBM Installation Toolkit to which Linux files will be copied.

BRLSS0004E: Invalid destination directory

The destination directory specified is invalid. Specify a valid destination directory. The directory entry must start with a forward slash (/) and should not contain any empty spaces.

BRLTM0001E: No task has been selected.

No task has been chosen. A task must be selected prior to accessing its details.

BRLTM0002E: Selected task does not support this operation.

The selected operation cannot be performed for the chosen task. The operations supported are task dependent.

BRLTM0003E: Error executing this operation.

An error occurred while executing the selected operation. Check the log file at /var/log/wui for details.

Part 2. Appendixes

Notices

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