

iSCSI Boot SLES 10

Software-Based iSCSI Boot
For SLES 10 on IBM Blades

For Evaluation Purposes Only

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1 SLES 10

This procedure is for evaluation purposes only. Do not use in a production environment.

1.1 Infrastructure Preparation

You will need:

1. IBM BladeCenter (chassis for Blades)
2. IBM HS20 Blade Model 8843 (server computer)
 - a. Latest BIOS Firmware Update
 - b. Latest BMC Firmware Update
3. IBM iSCSI Configuration Manager (software utility)
4. iSCSI Target such as an IBM N3700 (storage appliance)
5. DHCP Server

The following link can assist in locating some of the required items:

<http://www-03.ibm.com/servers/eserver/bladecenter/storage/iscsi.html>

1.2 Requirements

1. Configure your iSCSI Target to provide a LUN
 - a. Preferably the LUN is cleared out when created (all zeros in the first sector at a minimum)
2. Configure your Blade for iSCSI Boot (DHCP Mode)
3. Configure DHCP with a reservation (for the Blade) that includes the appropriate Option 17 root-path
4. Power on the Blade and verify that the IBM iSCSI Firmware Initiator is invoked and that it successfully logs in to the iSCSI Target.

You cannot proceed past this point until your SAN configuration is verified as described.

5. SUSE Linux Enterprise Server 10
 - a. Install from DVD (or CDs) only. Network installations are not supported.

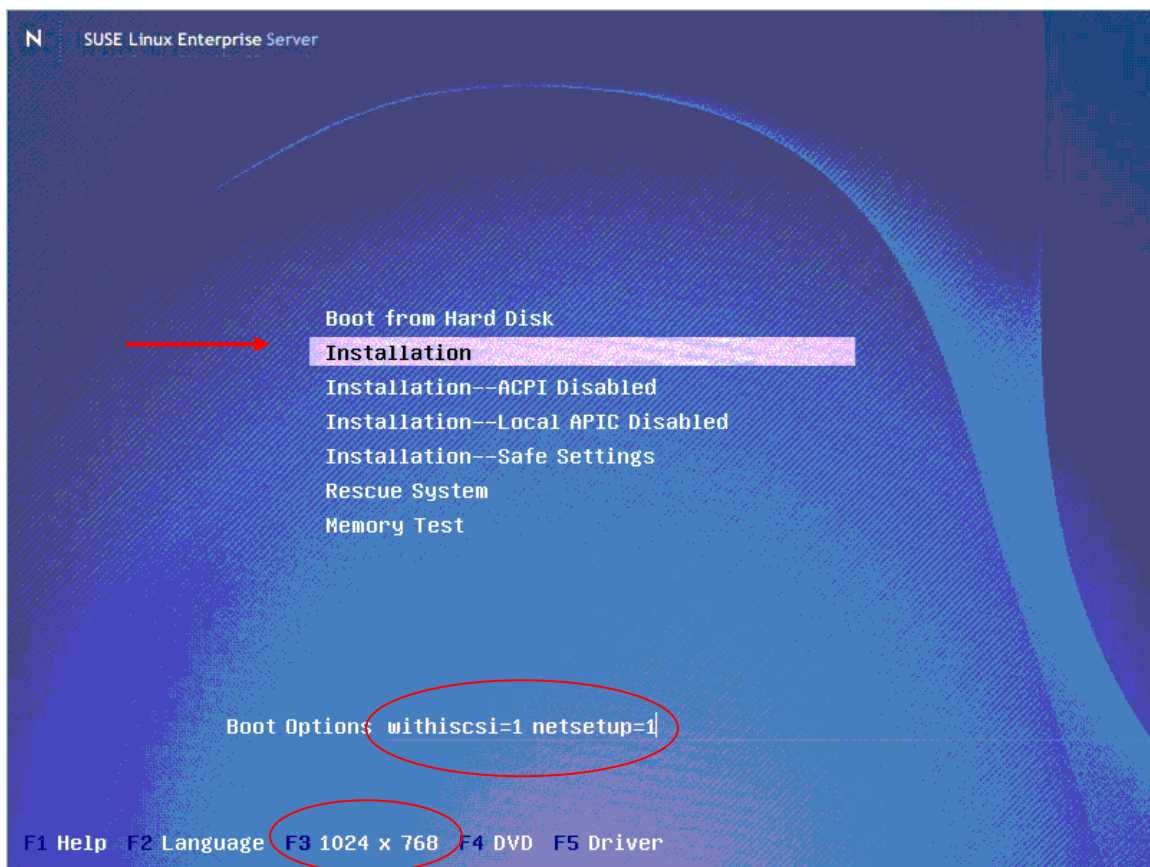
1.3 Install SLES 10

The list of possible consoles used to install SLES 10 includes a local console or “Remote Console” via the web interface of the Management Module (MM). Use of the Remote Console will require selecting a video mode compatible with the Remote Console. See the Help (ie “?” link) on the MM web Remote Console web page.

1.3.1 Installation Settings

Start the installation as follows:

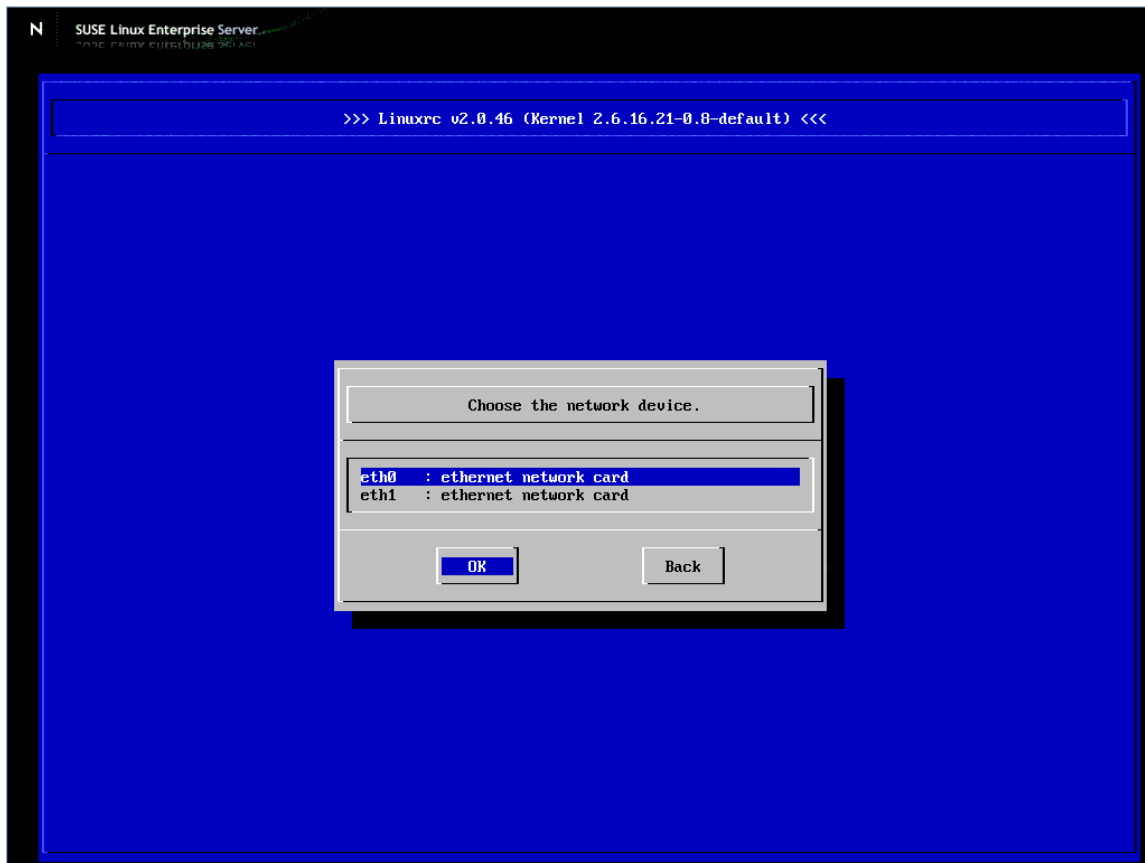
1. Boot the SUSE Linux Enterprise Server 10 DVD (or CD 1).
2. On the boot screen, press F3, scroll to 1024 x 768, and press Enter.
3. For an iSCSI Boot installation, select Installation and enter *withiscsi=1 netsetup=1* at the Boot Options prompt.
4. Press Enter.



1.3.2 Network

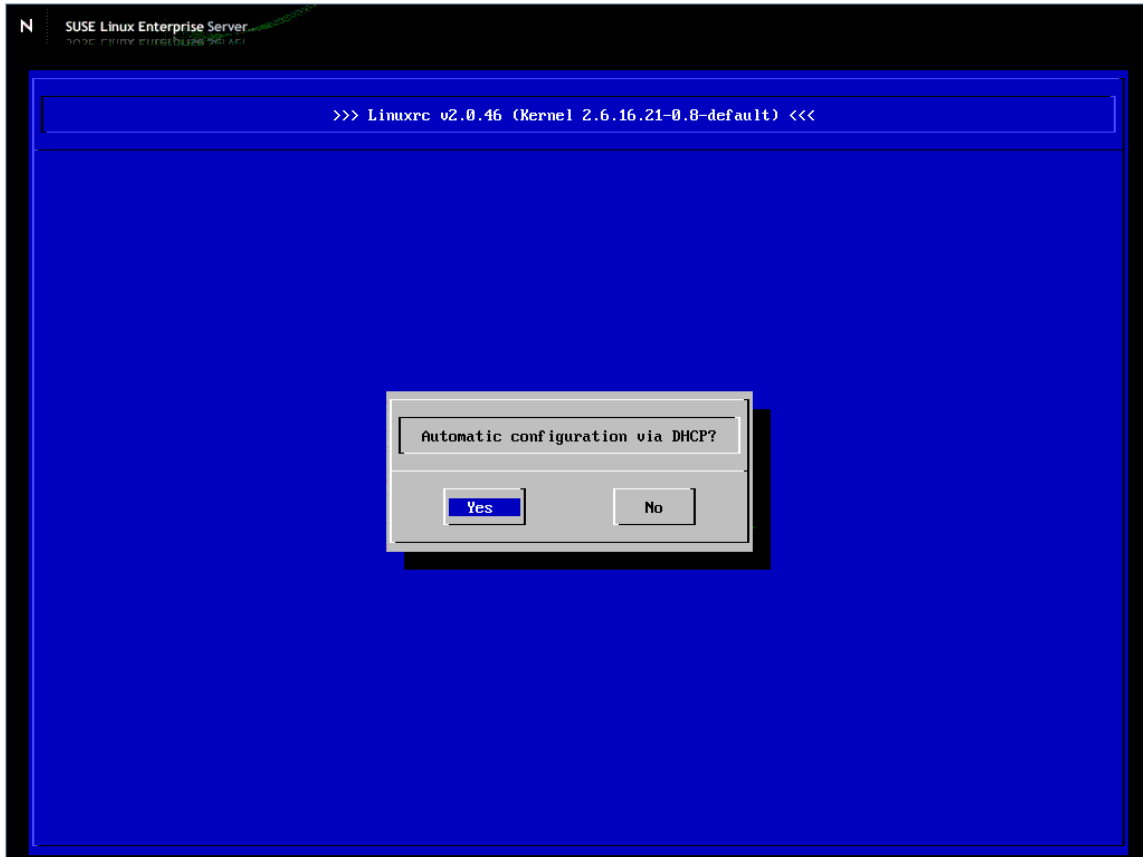
1.3.2.1 Network Device

5. When the “Choose the network device” screen is displayed, select the device connected to the iSCSI SAN and select OK.



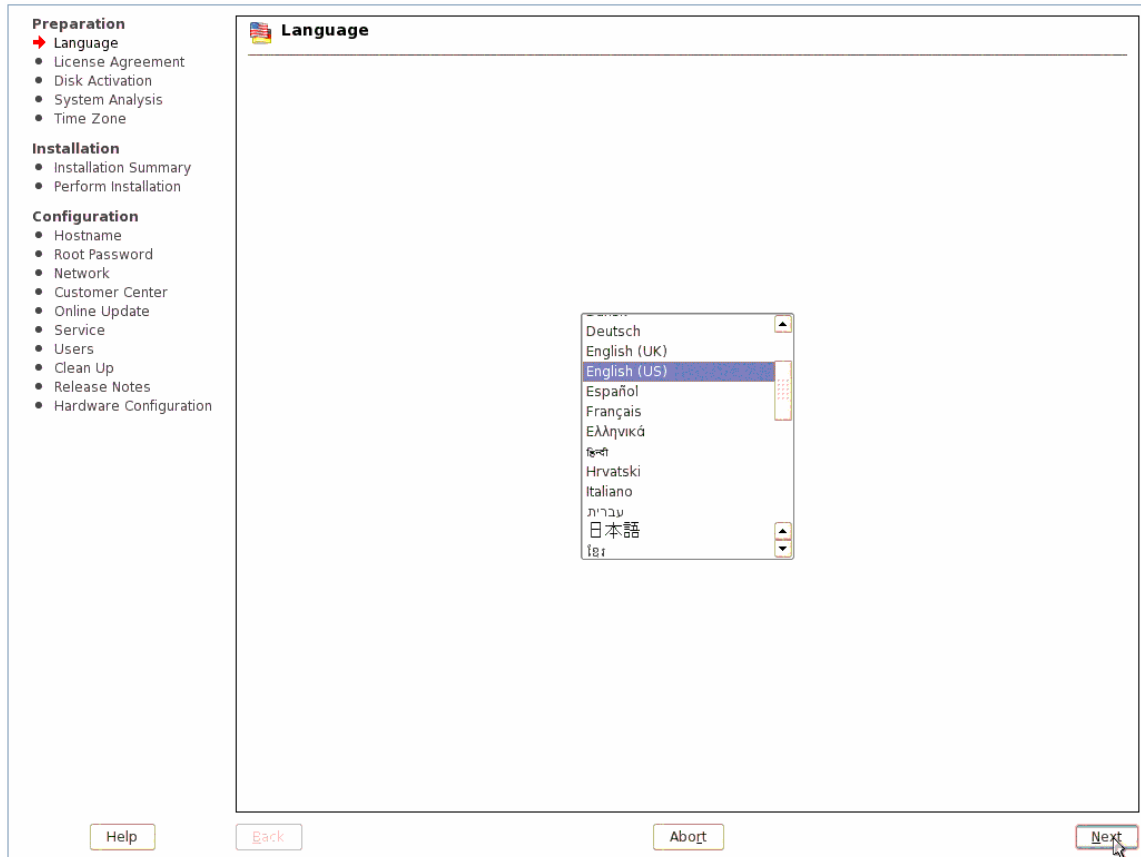
1.3.2.2 Network Configuration

6. At the “Automatic configuration via DHCP” prompt select Yes



1.3.3 Language

7. At the Language screen, select English (US)
8. Select Next



1.3.4 License

9. Read the License Agreement, and if you agree select “Yes, I Agree to the License Agreement”
10. Select Next

Preparation

- ✓ Language
- ➔ **License Agreement**
- Disk Activation
- System Analysis
- Time Zone

Installation

- Installation Summary
- Perform Installation

Configuration

- Hostname
- Root Password
- Network
- Customer Center
- Online Update
- Service
- Users
- Clean Up
- Release Notes
- Hardware Configuration

License Agreement

SUSE(r) LINUX Enterprise Server (SLES) 10 Novell(r) Software License Agreement

PLEASE READ THIS AGREEMENT CAREFULLY. BY INSTALLING OR OTHERWISE USING THE SOFTWARE (INCLUDING ITS COMPONENTS), YOU AGREE TO THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE WITH THESE TERMS, DO NOT DOWNLOAD, INSTALL OR USE THE SOFTWARE AND, IF APPLICABLE, RETURN THE ENTIRE UNUSED PACKAGE TO THE RESELLER WITH YOUR RECEIPT FOR A REFUND. THE SOFTWARE MAY NOT BE SOLD, TRANSFERRED, OR FURTHER DISTRIBUTED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM NOVELL.

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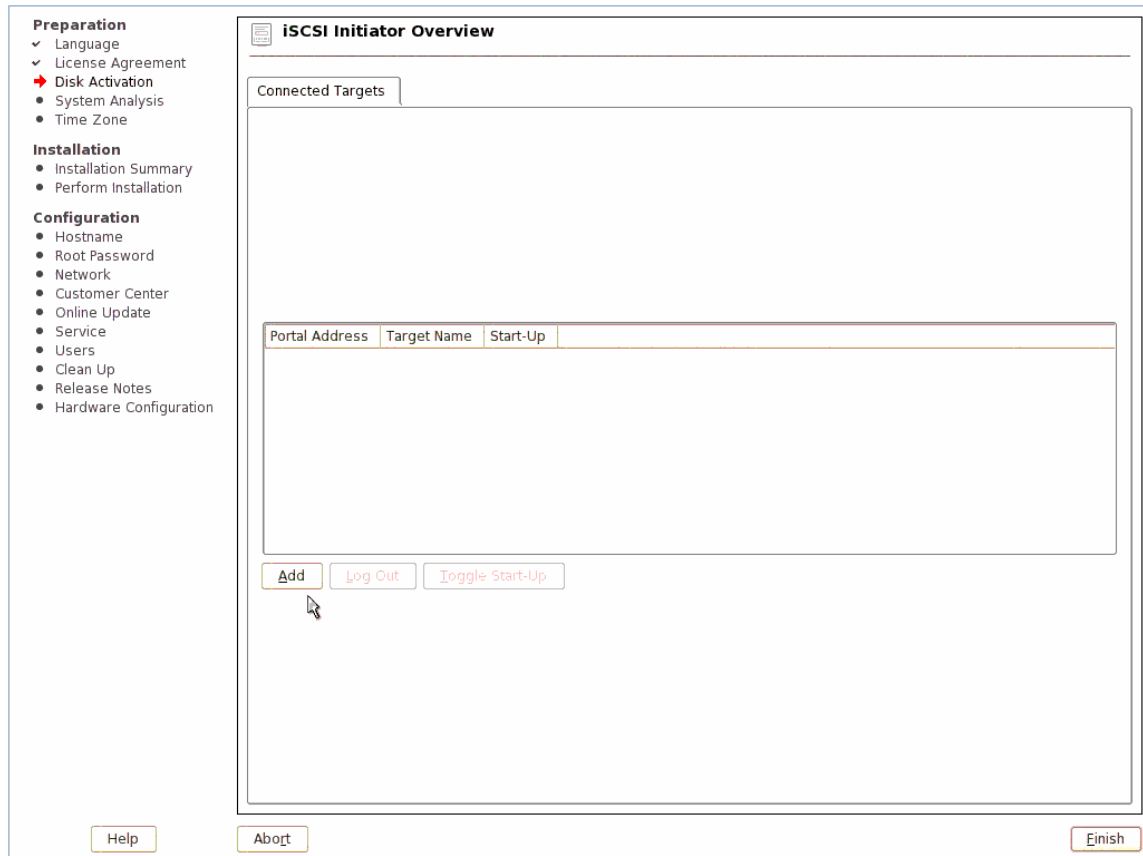
☒ Yes, I Agree to the License Agreement
☐ No, I Do Not Agree

Help Back Abort Next

1.3.5 iSCSI Initiator

1.3.5.1 Initiator IQN

11. When you see the *iSCSI Initiator Overview* screen:



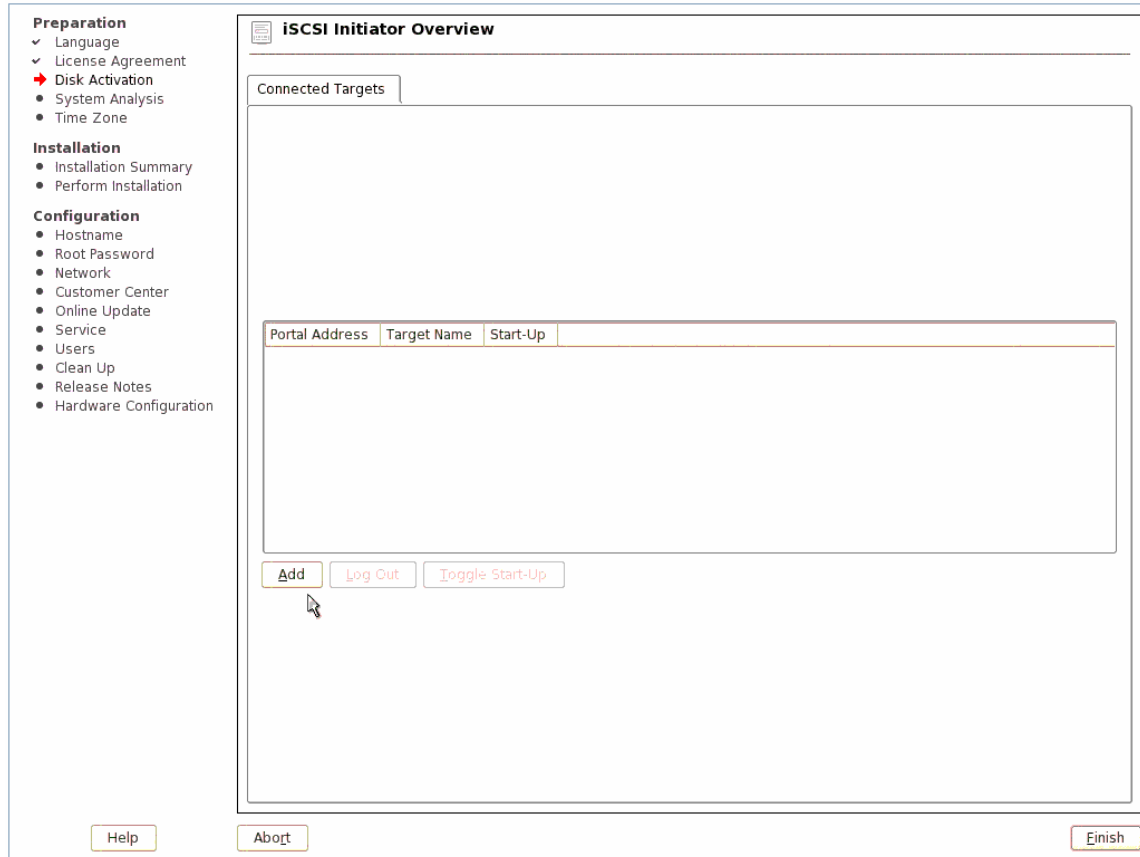
12. Enter the key sequence Ctrl-Alt-F2
13. Enter the command “cat /etc/initiatorname.iscsi” without the quotes.

```
/ # cat /etc/initiatorname.iscsi  
InitiatorName=iqn.2007-02.de.suse:01.ac88e9ddb562  
/ #
```

14. Configure your iSCSI Target by adding the iqn displayed to the iSCSI Target access list. Note this iqn is entered in addition to the iqn you entered in support for the iSCSI Firmware.
15. Enter the key sequence Ctrl-Alt-F7 to return to the Installation.

1.3.5.2 Overview

16. At the “iSCSI Initiator Overview” screen select Add.



1.3.5.3 Discovery Address

17. Enter the IP address of the iSCSI Target

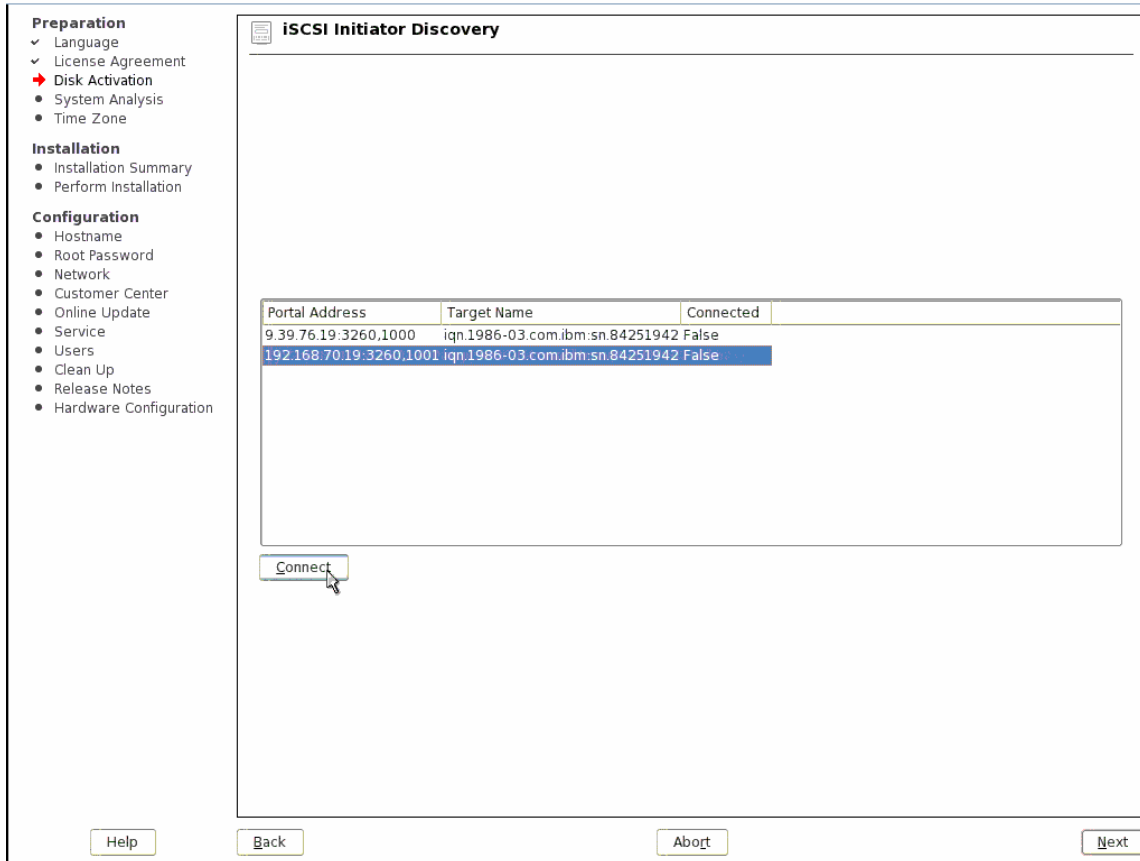
The screenshot shows the 'iSCSI Initiator Discovery' window. On the left is a navigation pane with sections: Preparation (Language, License Agreement, Disk Activation, System Analysis, Time Zone), Installation (Installation Summary, Perform Installation), and Configuration (Hostname, Root Password, Network, Customer Center, Online Update, Service, Users, Clean Up, Release Notes, Hardware Configuration). The 'Network' option is selected. The main area contains fields for 'IP Address' (192.168.70.19) and 'Port' (3260). Below these are three authentication options: 'No Authentication' (checked), 'Incoming Authentication' (unchecked), and 'Outgoing Authentication' (unchecked). Each of the last two has 'Username' and 'Password' input fields. At the bottom are 'Help', 'Back', 'Abort', and 'Next' buttons.

18. Click Next

19. If you did not capture the iqn via the previous Ctrl-Alt-F2 method you can check the log of the iSCSI Target which should display the iqn being attempted by this stage of the install process. Add the iqn to the access list of your iSCSI Target.

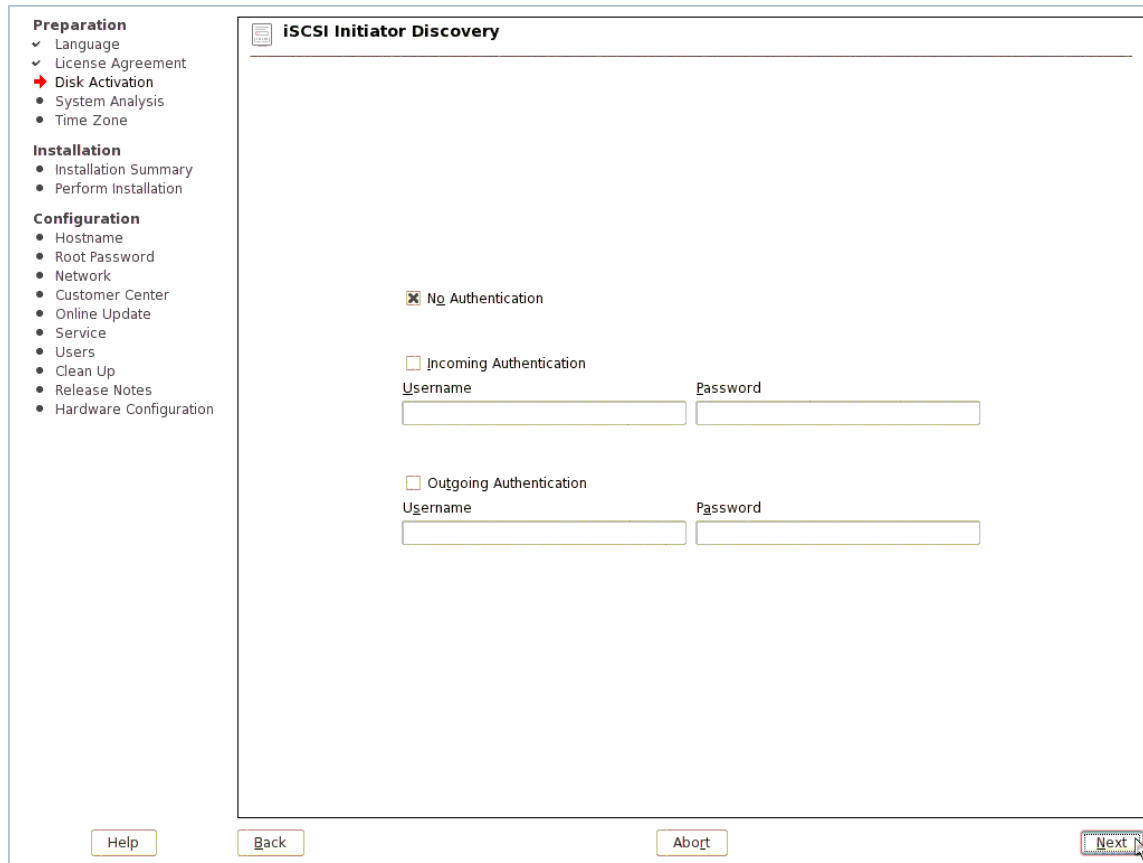
1.3.5.4 Portal Connect

20. In the “iSCSI Initiator Discovery” screen, select the correct iSCSI Target and Portal Address
21. Click Connect



1.3.5.5 Authentication

22. Enter the authentication information, if any. For our purposes, chose “No Authentication”.
23. Click Next

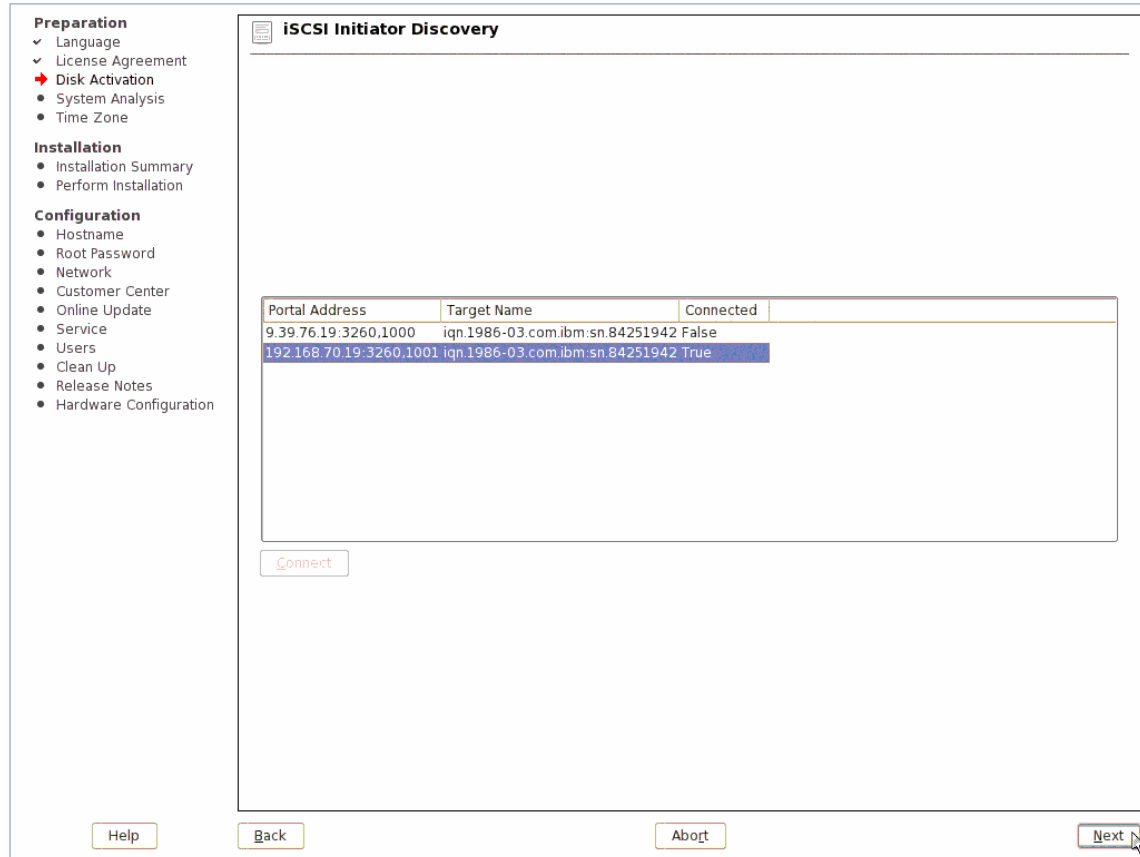


The image shows a screenshot of the 'iSCSI Initiator Discovery' window in a Linux installation environment. On the left is a navigation pane with sections: Preparation (Language, License Agreement, Disk Activation, System Analysis, Time Zone), Installation (Installation Summary, Perform Installation), and Configuration (Hostname, Root Password, Network, Customer Center, Online Update, Service, Users, Clean Up, Release Notes, Hardware Configuration). The 'Disk Activation' option is highlighted with a red arrow. The main area is titled 'iSCSI Initiator Discovery' and contains three authentication options: 'No Authentication' (checked), 'Incoming Authentication' (unchecked), and 'Outgoing Authentication' (unchecked). Below 'Incoming Authentication' are 'Username' and 'Password' input fields. Below 'Outgoing Authentication' are also 'Username' and 'Password' input fields. At the bottom of the window are four buttons: 'Help', 'Back', 'Abort', and 'Next'. The 'Next' button is highlighted with a mouse cursor.

1.3.5.6 Portal Connected

24. Note that “Connected = True” on iSCSI Target Portal you had selected.

25. Click Next



Preparation

- ✓ Language
- ✓ License Agreement
- ➔ **Disk Activation**
- System Analysis
- Time Zone

Installation

- Installation Summary
- Perform Installation

Configuration

- Hostname
- Root Password
- Network
- Customer Center
- Online Update
- Service
- Users
- Clean Up
- Release Notes
- Hardware Configuration

iSCSI Initiator Discovery

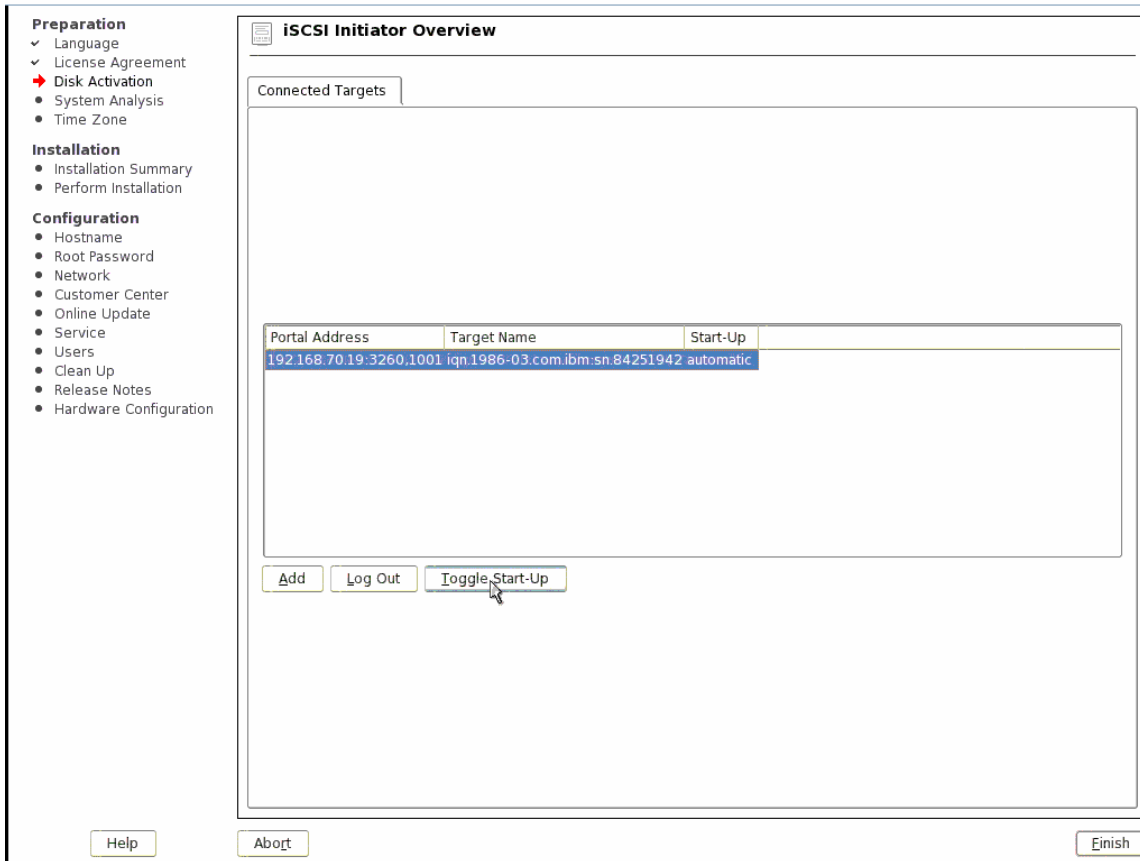
Portal Address	Target Name	Connected
9.39.76.19:3260,1000	iqn.1986-03.com.ibm:sn.84251942	False
192.168.70.19:3260,1001	iqn.1986-03.com.ibm:sn.84251942	True

Connect

Help Back Abort Next

1.3.5.7 Automatic Start Up

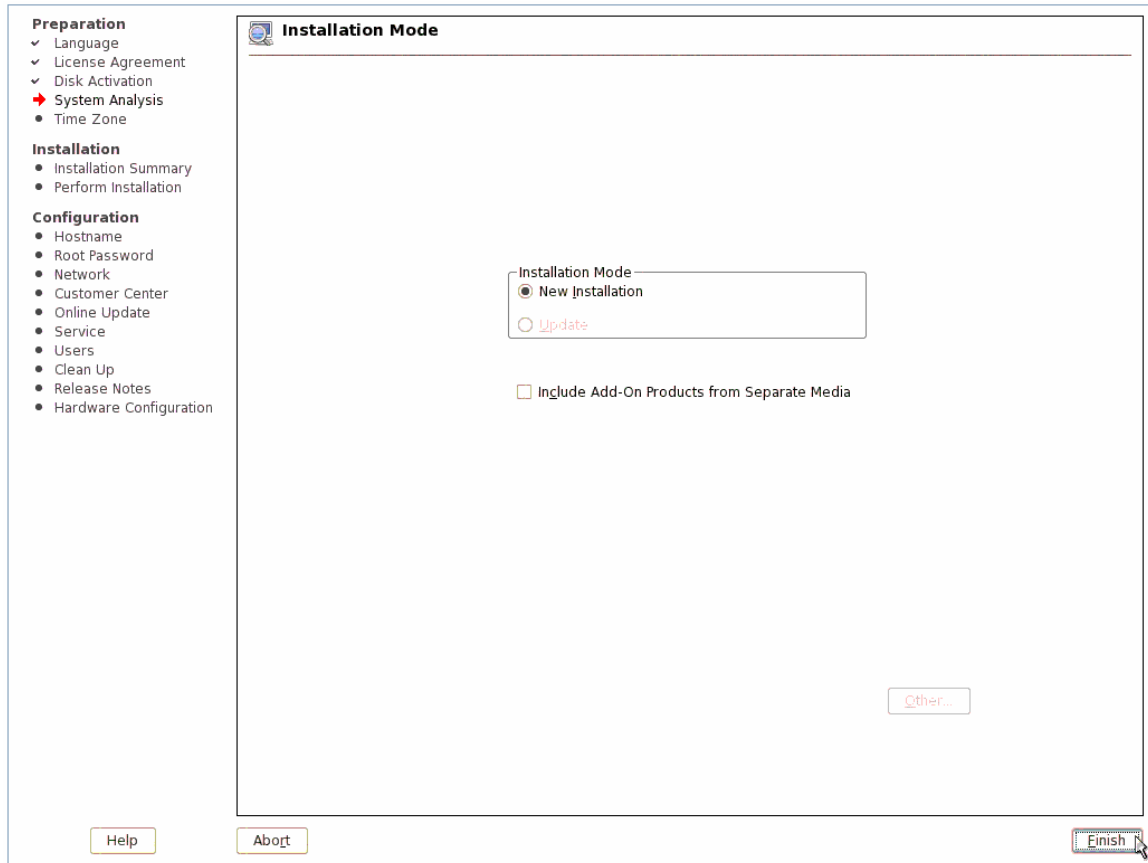
26. At the “iSCSI Initiator Overview” screen, click “Toggle Start-Up” to change the start-up setting to automatic
27. Click Finish



1.3.6 Installation Mode

28. Select New Installation

29. Click Finish.



1.3.7 Clock and Time Zone

30. In the "Clock and Time Zone" screen, select the applicable Region, Time Zone, and Hardware Clock settings.

31. Change the time and date if necessary

32. Select Finish

Preparation

- ✓ Language
- ✓ License Agreement
- ✓ Disk Activation
- ✓ System Analysis
- ➔ Time Zone

Installation

- Installation Summary
- Perform Installation

Configuration

- Hostname
- Root Password
- Network
- Customer Center
- Online Update
- Service
- Users
- Clean Up
- Release Notes
- Hardware Configuration

Clock and Time Zone

Region

- Europe
- USA
- Canada
- Central and South America
- Russia
- Asia
- Australia
- Africa
- Pacific
- Global
- Etc

Time Zone

- Alaska
- Aleutian
- Arizona
- Central
- Eastern
- East Indian
- Hawaii
- Indiana Starke
- Michigan
- Mountain
- Pacific
- Samoa

Hardware Clock Set To: Local Time

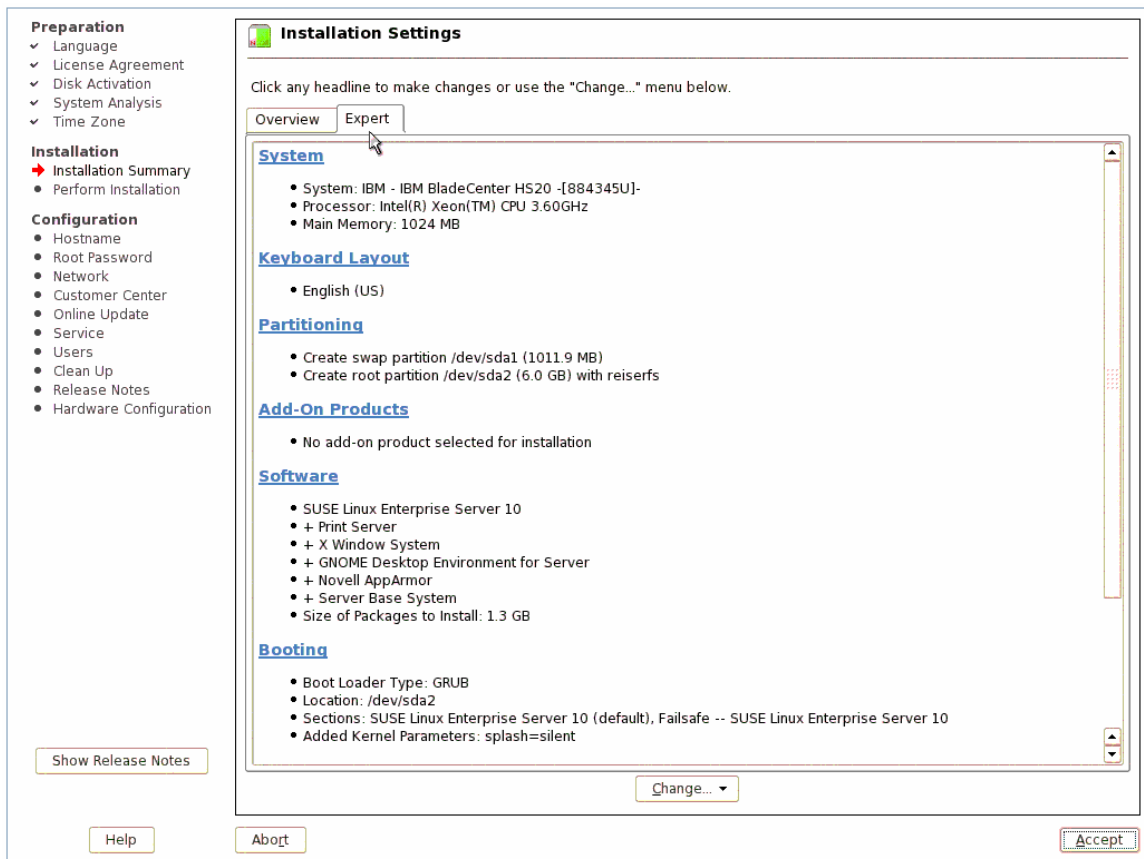
Time and Date: 09:12:02 - 06-10-2006

Buttons: Help, Abort, Finish

1.3.8 Installation Settings

1.3.8.1 Expert

33. In the Installation Settings screen, settings are pre-selected for the blade server. Select Expert to be able to view all the installation settings.



1.3.8.2 Partitioning

Note the following steps are valid as shown only if you are using a fresh un-initialized LUN. If the LUN is not “fresh” then the recommendation is to select “Create Custom Partition Setup” and implement a partitioning scheme where:

- Swap size at least double the RAM size
- A root partition with at least 750MB

For a fresh LUN, proceed as shown.

34. Click on Partitioning

35. Select Base Partition Setup on This Proposal

36. Click Next

The screenshot shows a window titled "Suggested Partitioning". On the left, there is a text box with instructions: "Your hard disks have been checked. The partition setup displayed is proposed for your hard drive. To accept these suggestions and continue, select **Accept Proposal**. If the suggestion does not fit your needs, create your own partition setup starting with the partitions as currently present on the disks. For this, select **Custom Partition Setup**. This is also the option to choose for advanced options like RAID and LVM." The main area of the window lists two suggestions: "Create swap partition /dev/sda1 (1011.9 MB)" and "Create root partition /dev/sda2 (6.0 GB) with reiserfs". At the bottom, there is a "Partitioning" section with three radio buttons: "Accept Proposal", "Base Partition Setup on This Proposal" (which is selected), and "Create Custom Partition Setup". At the very bottom of the window are three buttons: "Back", "Abort", and "Next".

Your hard disks have been checked. The partition setup displayed is proposed for your hard drive.

To accept these suggestions and continue, select **Accept Proposal**.

If the suggestion does not fit your needs, create your own partition setup starting with the partitions as currently present on the disks. For this, select **Custom Partition Setup**. This is also the option to choose for advanced options like RAID and LVM.

Suggested Partitioning

- Create swap partition /dev/sda1 (1011.9 MB)
- Create root partition /dev/sda2 (6.0 GB) with reiserfs

Partitioning

☐ Accept Proposal

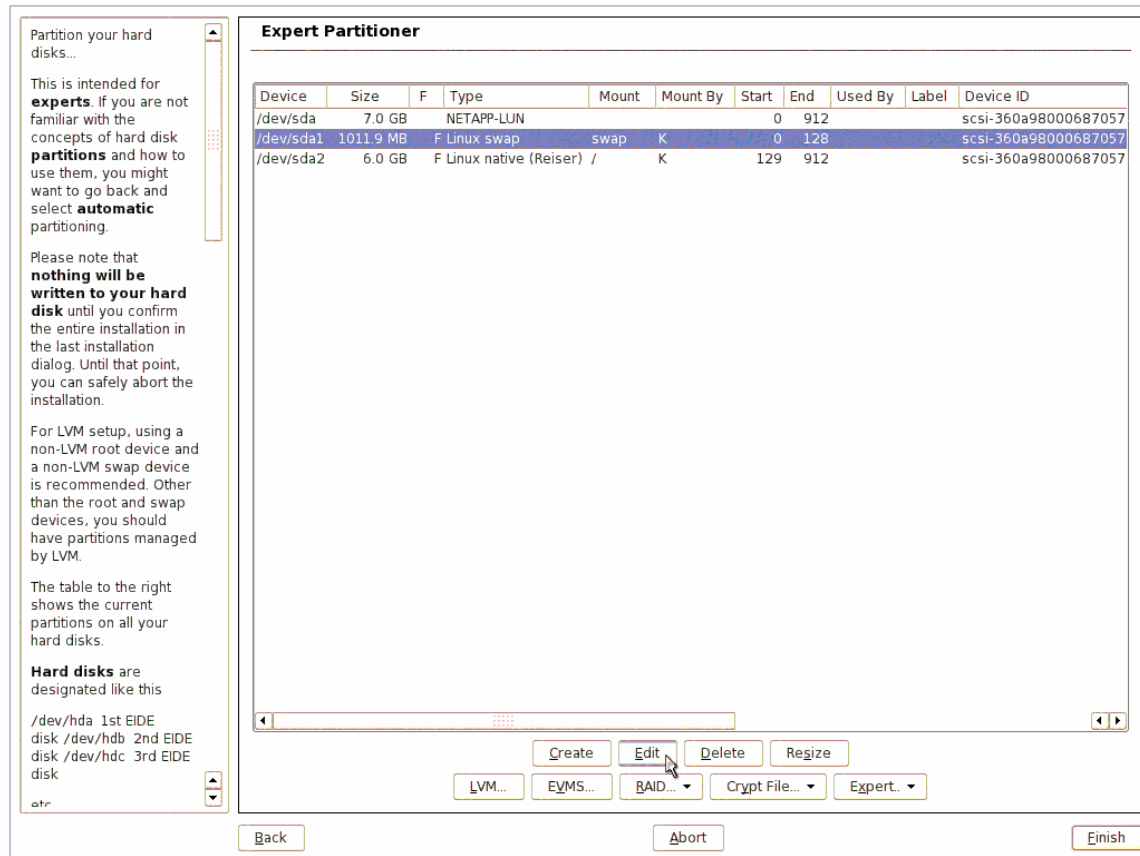
☒ Base Partition Setup on This Proposal

☐ Create Custom Partition Setup

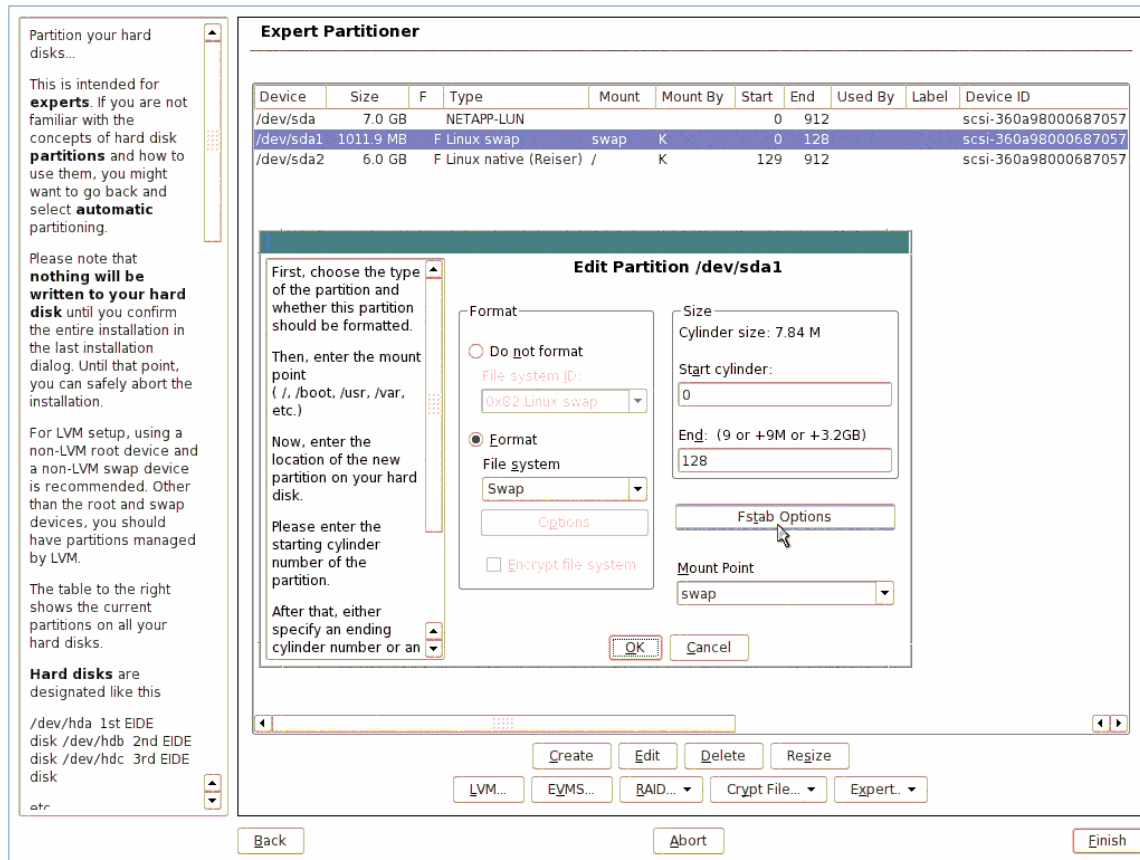
Back Abort Next

37. For iSCSI installations you must edit each partition created from the menu, and select Fstab Options. Under the Fstab options menu, “Mount in /etc/fstab by” must be set to ‘Device ID’.

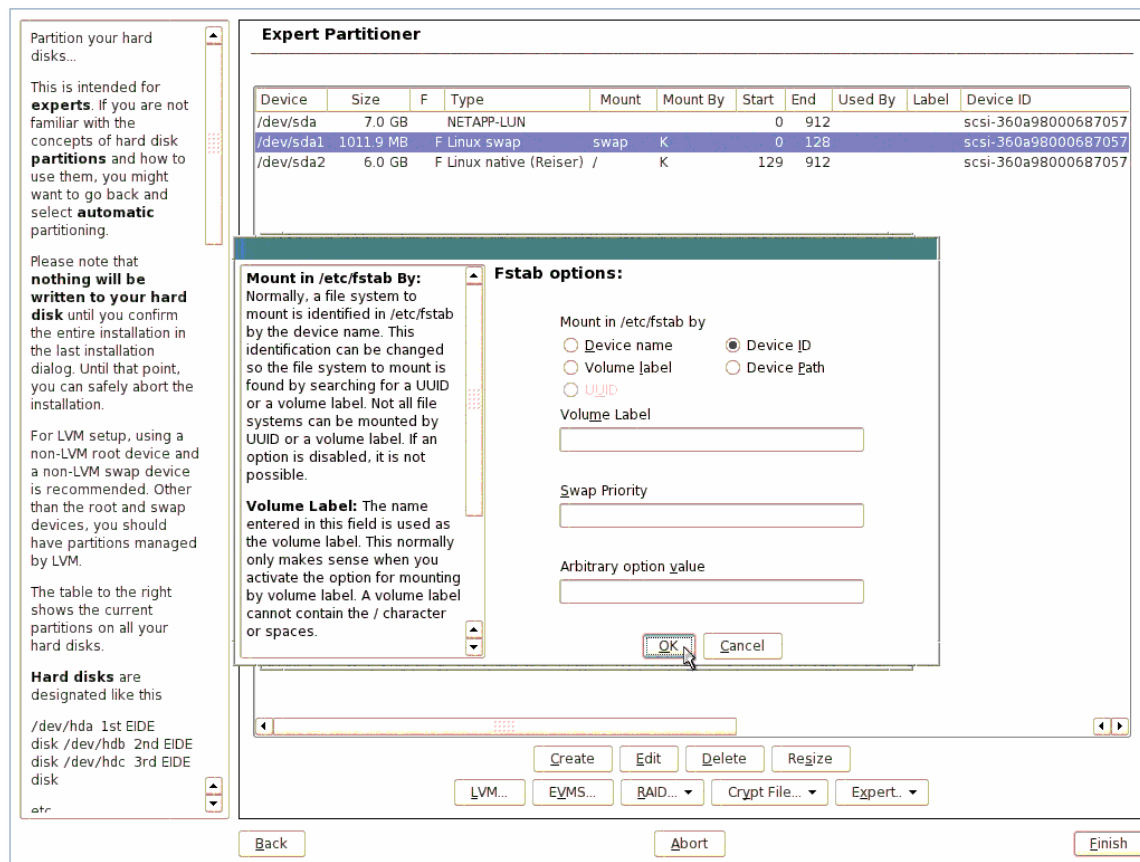
Select the swap partition and click Edit



38. Click on Fstab Options

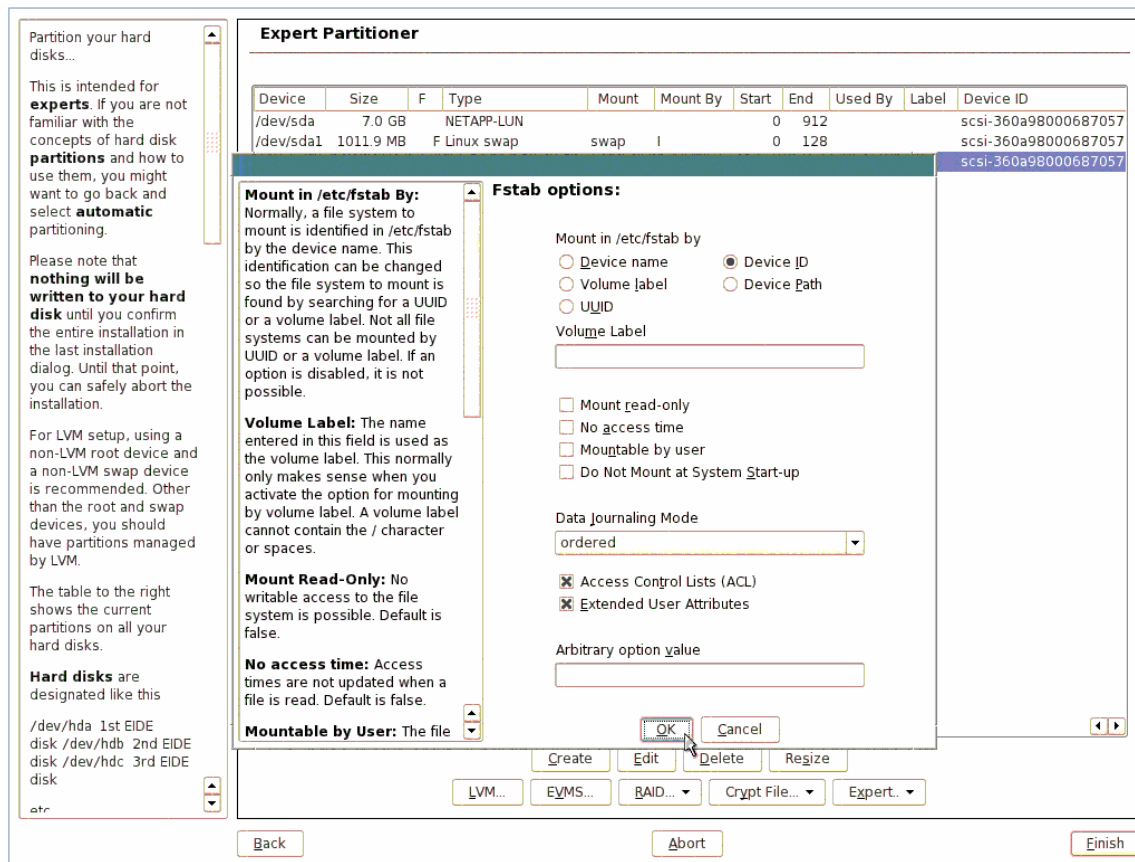


39. Select Device ID and click OK



40. Click OK when the Edit Partition screen returns.

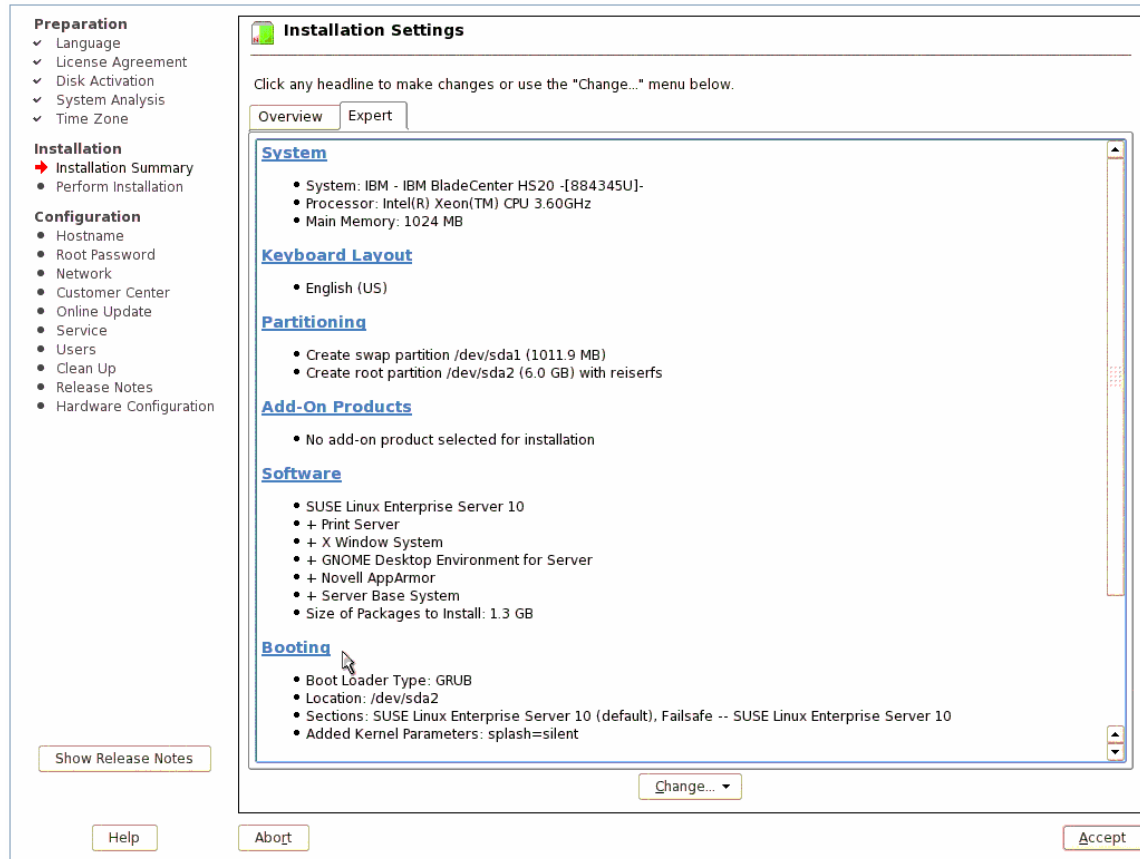
41. Make the same “Device ID” change on the Linux native (Reiser) partition.



42. Click Finish

1.3.8.3 Booting

43. Click on Booting

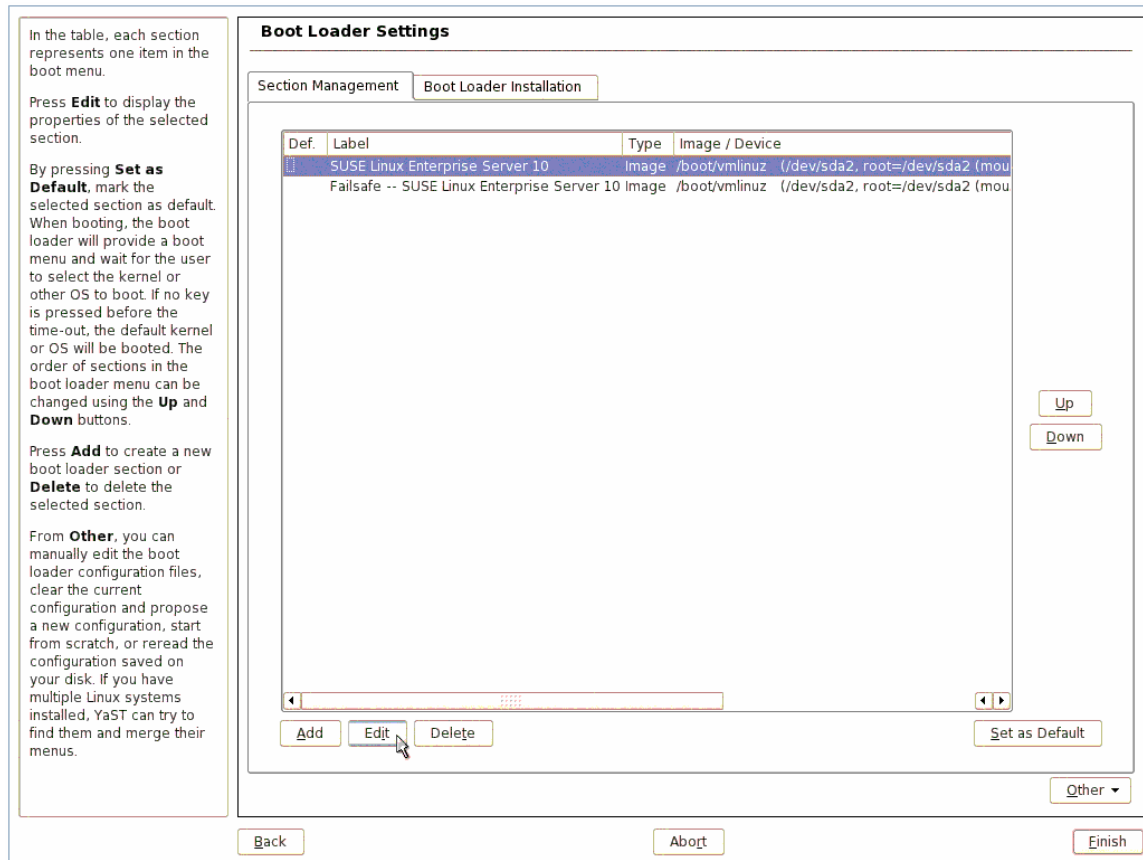


1.3.8.3.1 Section Management

44. Select the “Section Management” tab

45. Select the SUSE Linux Enterprise Server 10 item

46. Click Edit



47. Remove all parameters from the “Other Kernel Parameters” section
48. Select OK

Section Name
Use **Section Name** to specify the boot loader section name. The section name must be unique.

Kernel
Use **Kernel** to specify the kernel image to load.

Initial RAM Disk
Use **Initial RAM Disk** to specify the initial RAM disk (initrd) to load. If it is left empty, no initial RAM disk is loaded during boot.

Root Device
Use **Root Device** to specify the root file system to mount after the kernel is loaded.

VGA Mode
Use **VGA Mode** to specify the resolution and color depth to set after the kernel has booted.

Other Kernel Parameters
Use **Other Kernel Parameters** to set other parameters to append to the kernel command line.

Boot Loader Settings: Section Management

Kernel Section

Section Name
SUSE Linux Enterprise Server 10

Section Settings

Kernel
/boot/vmlinuz

Initial RAM Disk
/boot/initrd

Root Device
scsi-360a9800068705742525a384169334b58-part2

VGA Mode
0x317

Other Kernel Parameters

Back

About

OK

1.3.8.3.2 Boot Loader Installation

49. Select the “Boot Loader Installation” tab

50. Set Boot Loader Location to “Master Boot Record of /dev/sdx”

51. Select Finish

The screenshot shows the 'Boot Loader Settings' window. On the left is a sidebar with three sections: 'Boot Loader Type' (with a description and 'Boot Loader' button), 'Boot Loader Options' (with a description and 'Boot Loader Options' button), and 'Boot Loader Location' (with a description and 'Activate Boot Loader Partition and Replace MBR with Generic Code in Boot Loader Installation Details' button). The main area has two tabs: 'Section Management' and 'Boot Loader Installation'. The 'Boot Loader Installation' tab is active. It contains two sections: 'Type' with a 'Boot Loader' dropdown set to 'GRUB' and a 'Boot Loader Options' button; and 'Boot Loader Location' with three radio buttons: 'Master Boot Record of /dev/sda' (selected), 'Boot Sector of Boot Partition /dev/sda2', and 'Other' (with a text input field containing '/dev/sda2'). Below these is a 'Boot Loader Installation Details' button. At the bottom right is an 'Other' dropdown. At the very bottom are 'Back', 'Abort', and 'Finish' buttons.

52. When the Installation Settings screen returns select Accept.

53. For Confirm Installation select Install

54. Installation proceeds...

55. When installation completes you might want to pop the install media out of the drive.

1.3.9 Reboot

56. When the system reboots reconnecting to the iSCSI LUN may fail. If so, look at the log on your iSCSI Target which should display the iqn being attempted. Add the iqn displayed to your iSCSI Target access list. Note the iqn used by the iSCSI Firmware must also remain in the access list.

```
Loading tg3
tg3.c:v3.49 (Feb 2, 2006)
ACPI: PCI Interrupt 0000:05:01.0[A] -> GSI 77 (level, low) -> IRQ 185
tg3: eth%d: Cannot get nvram lock, tg3_nvram_init failed.
eth0: Tigon3 [partno(none) rev 2100 PHY(serdes)] (PCIX:133MHz:64-bit) 10/100/1000BaseT Ethernet 00:14:5e:3d:96:28
eth0: RXcsums[1] LinkChgREG[0] MIirq[0] ASF[1] Split[0] WireSpeed[0] TSOcap[0]
eth0: dma_rwctrl[769f4000] dma_mask[64-bit]
ACPI: PCI Interrupt 0000:05:01.1[B] -> GSI 78 (level, low) -> IRQ 193
eth1: Tigon3 [partno(BCM95704s) rev 2100 PHY(serdes)] (PCIX:133MHz:64-bit) 10/100/1000BaseT Ethernet 00:14:5e:3d:96:29
eth1: RXcsums[1] LinkChgREG[0] MIirq[0] ASF[0] Split[0] WireSpeed[0] TSOcap[1]
eth1: dma_rwctrl[769f4000] dma_mask[64-bit]
Loading af_packet
NET: Registered protocol family 17
running dhcpcd on interface eth0
tg3: eth0: Link is up at 1000 Mbps, full duplex.
tg3: eth0: Flow control is off for TX and off for RX.
Starting iSCSI daemon
Logging into iqn.1986-03.com.ibm:sn.84251942: scsi1 : iSCSI Initiator over TCP/IP, v1.0-595
scsi: unknown device type 31
Vendor: NETAPP      Model: LUN          Rev: 0.2
Type:   Unknown    ANSI SCSI revision: 04
ok.
1:0:0:0: Attached scsi generic sg0 type 31
Loading reiserfs
Waiting for device /dev/disk/by-id/scsi-360a9800068705742525a376d4e6b536f-part2
to appear: .....not found -- exiting to /bin/sh
$
```

57. If you dropped to the prompt as shown in the screen capture restart the system.

1.3.10 Domain and Host Name

58. In the "Hostname and Domain Name" screen, type a unique hostname and the applicable domain name.

59. Ensure DHP is selected

60. Click Next

The screenshot shows the 'Hostname and Domain Name' configuration window. On the left is a sidebar with a list of steps: Preparation (Language, License Agreement, Disk Activation, System Analysis, Time Zone), Installation (Installation Summary, Perform Installation), and Configuration (Hostname, Root Password, Network, Customer Center, Online Update, Service, Users, Clean Up, Release Notes, Hardware Configuration). The 'Hostname' step is currently selected and highlighted with a red arrow. The main area of the window is titled 'Hostname and Domain Name' and contains two input fields: 'Hostname' with the text 'sles10iscsiboot' and 'Domain Name' with the text 'kirkland.ibm.com'. Below these fields is a checkbox labeled 'Change Hostname via DHCP' which is checked. At the bottom of the window are four buttons: 'Help', a back arrow, 'Abort', and 'Next'.

1.3.11 Password

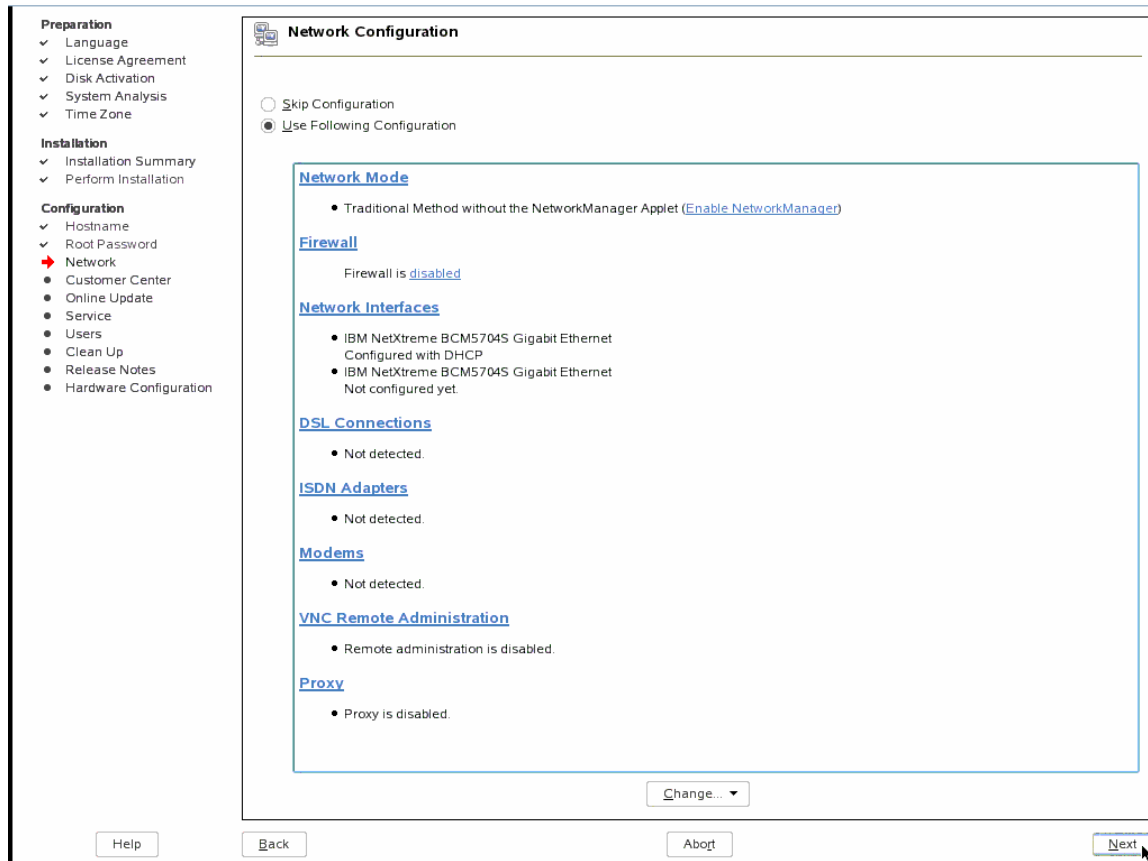
61. Password for root user

62. Click Next

The screenshot shows the 'Password for the System Administrator "root"' window during the SLES 10 installation. On the left is a navigation pane with sections: Preparation (Language, License Agreement, Disk Activation, System Analysis, Time Zone), Installation (Installation Summary, Perform Installation), and Configuration (Hostname, Root Password, Network, Customer Center, Online Update, Service, Users, Clean Up, Release Notes, Hardware Configuration). The 'Root Password' option is selected with a red arrow. The main area has a warning 'Do not forget what you enter here.' and two password input fields: 'Password for root User' and 'Confirm Password', both masked with asterisks. An 'Expert Options...' button is below the fields. At the bottom are 'Help', 'Back', 'Abort', and 'Next' buttons. A mouse cursor is clicking the 'Next' button.

1.3.12 Network Configuration

63. At the Network Configuration screen, ensure your network adapter is configured for DHCP.
64. You might want to disable the firewall if you are testing in a secure lab environment.
65. Click Next

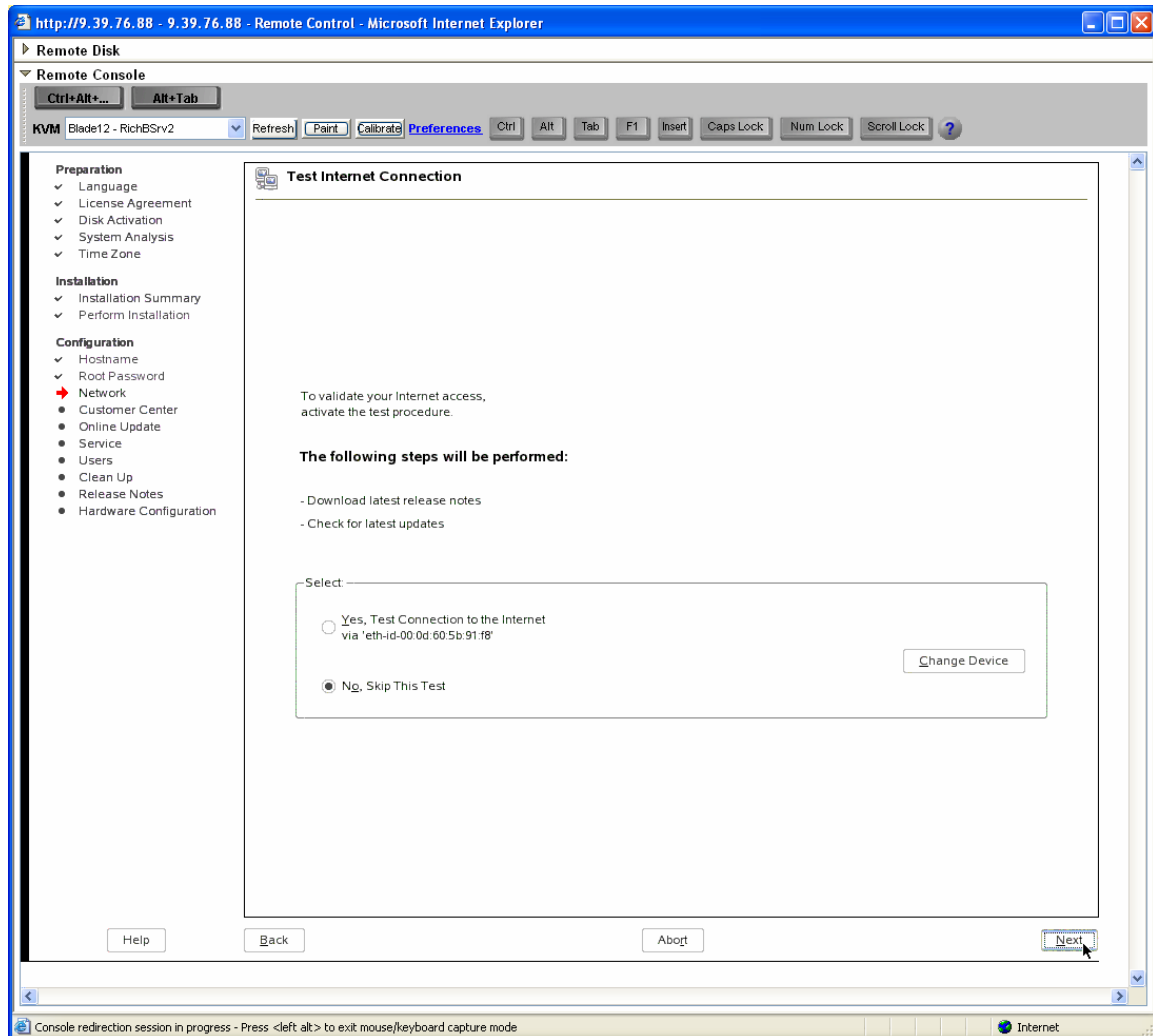


66. The network configuration is saved...

1.3.13 Test Internet Connection

67. Test Internet Connection. Since this is probably an isolated lab SAN for testing purposes, skip the test.

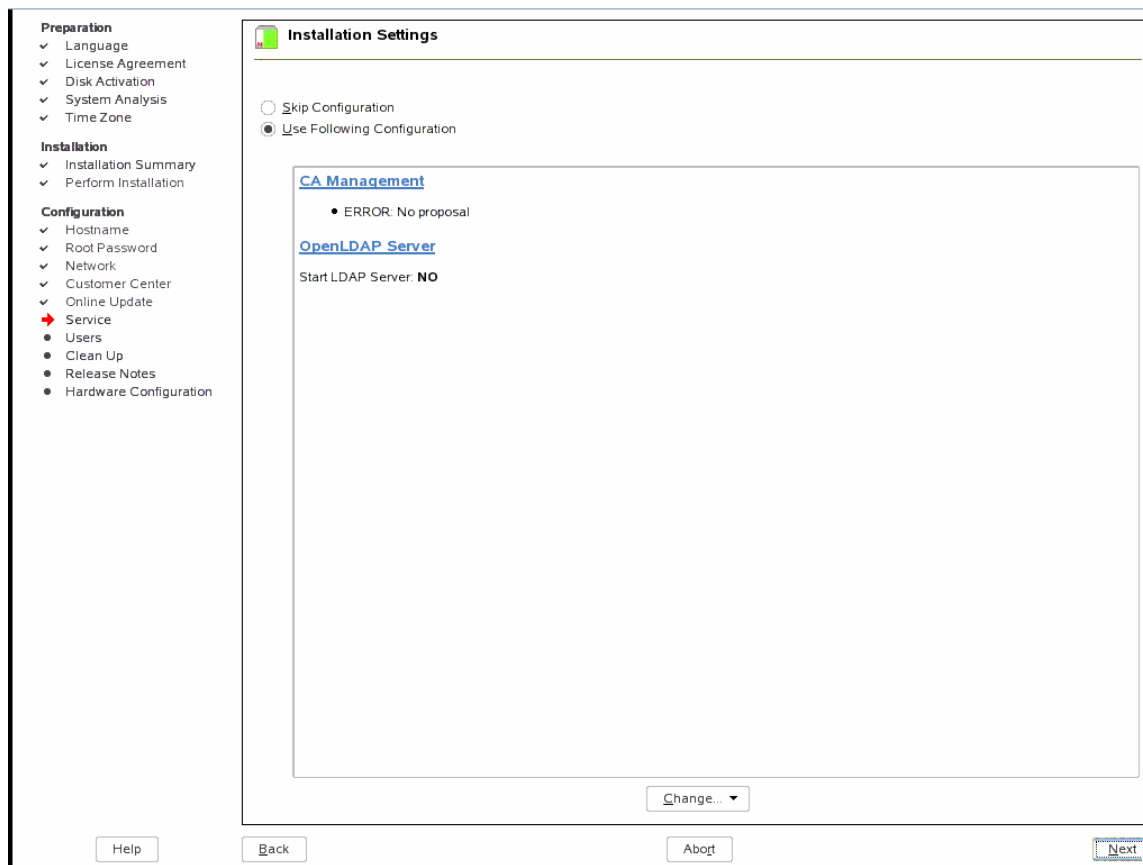
68. Click Next



1.3.14 Installation Settings

69. Installation Settings

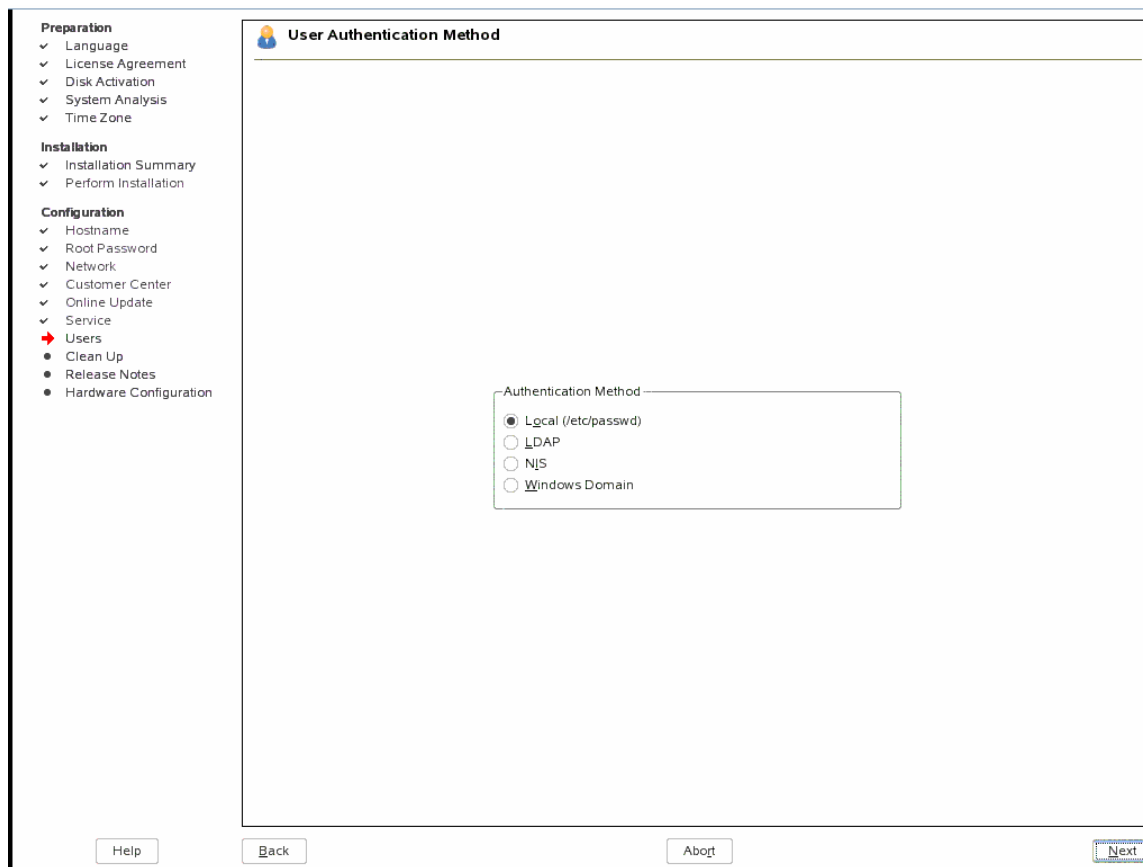
70. Click Next



1.3.15 User Authentication

71. Authentication method, Local

72. Click Next



The image shows a 'User Authentication Method' dialog box from the SLES 10 installation process. On the left is a sidebar with a list of steps: Preparation (Language, License Agreement, Disk Activation, System Analysis, Time Zone), Installation (Installation Summary, Perform Installation), and Configuration (Hostname, Root Password, Network, Customer Center, Online Update, Service, Users, Clean Up, Release Notes, Hardware Configuration). The 'Users' step is highlighted with a red arrow. The main area of the dialog is titled 'User Authentication Method' and contains a section labeled 'Authentication Method' with four radio button options: 'Local (/etc/passwd)' (selected), 'LDAP', 'NIS', and 'Windows Domain'. At the bottom of the dialog are four buttons: 'Help', 'Back', 'Abort', and 'Next'. A mouse cursor is pointing at the 'Next' button.

Preparation

- ✓ Language
- ✓ License Agreement
- ✓ Disk Activation
- ✓ System Analysis
- ✓ Time Zone

Installation

- ✓ Installation Summary
- ✓ Perform Installation

Configuration

- ✓ Hostname
- ✓ Root Password
- ✓ Network
- ✓ Customer Center
- ✓ Online Update
- ✓ Service
- ➔ Users
- Clean Up
- Release Notes
- Hardware Configuration

User Authentication Method

Authentication Method

- ☒ Local (/etc/passwd)
- ☐ LDAP
- ☐ NIS
- ☐ Windows Domain

Help Back Abort Next

1.3.16 New Local User

73. Enter user information

74. Click Next

Preparation

- ✓ Language
- ✓ License Agreement
- ✓ Disk Activation
- ✓ System Analysis
- ✓ Time Zone

Installation

- ✓ Installation Summary
- ✓ Perform Installation

Configuration

- ✓ Hostname
- ✓ Root Password
- ✓ Network
- ✓ Customer Center
- ✓ Online Update
- ✓ Service
- ➔ **Users**
- Clean Up
- Release Notes
- Hardware Configuration

New Local User

User's Full Name
Rich B

Username
richb Suggestion

Password

Confirm Password

☐ Receive System Mail
☐ Automatic Login

User Management

Help Back Abort **Next**

75. Writing the configuration...

1.3.17 Release Notes

76. Release Notes

77. Click Next

The screenshot shows the SUSE Linux Enterprise Server 10 installation wizard. On the left is a sidebar with a list of steps: Preparation (Language, License Agreement, Disk Activation, System Analysis, Time Zone), Installation (Installation Summary, Perform Installation), and Configuration (Hostname, Root Password, Network, Customer Center, Online Update, Service, Users, Clean Up, Release Notes, Hardware Configuration). The 'Release Notes' step is highlighted with a red arrow. The main window is titled 'Release Notes' and shows the 'SUSE Linux Enterprise Server 10' release notes. The title is 'Release Notes for SUSE Linux Enterprise Server 10 for x86'. The subtitle is 'GA Release Notes'. The text states: 'These release notes cover the following areas:' followed by a bulleted list: General (Information that everybody should read), Update (Changes related to updating that are not mentioned in the Administration Guide), Installation (Additional pertinent information for the installation), Technical (These sections contains a number of technical changes and enhancements for the experienced user), and Feedback. Below this is the 'General' section, followed by the 'Novell AppArmor' section. The AppArmor section explains that SUSE Linux Enterprise Server ships with Novell AppArmor, which builds a firewall around applications by limiting access to files, directories, and POSIX capabilities. It mentions that AppArmor protection can be enabled via the AppArmor control panel in YaST. It also notes that the AppArmor profiles included with SUSE Linux have been developed with our best efforts to reproduce how most users use their software, but some users find our profiles too restrictive. It suggests using the AppArmor Update Profile Wizard in YaST (or the `aa-logprof(8)` command line utility) to update AppArmor profiles. It also mentions that when a program generates many complaints, the system's performance is degraded, and recommends running the Update Profile Wizard (or `aa-logprof(8)`) to update profiles even if you choose to leave them in learning mode. Below this is the 'Fine-Tuning Firewall Settings' section, which states that SuSEfirewall2 is enabled by default, meaning that by default you cannot log in from remote systems. It also mentions that it interferes with network browsing and multicast applications, such as SLP, Samba ("Network Neighborhood"), and some games. You can fine-tune the firewall settings using YaST. At the bottom of the window are buttons for 'Help', 'Back', and 'Next'.

Preparation

- ✓ Language
- ✓ License Agreement
- ✓ Disk Activation
- ✓ System Analysis
- ✓ Time Zone

Installation

- ✓ Installation Summary
- ✓ Perform Installation

Configuration

- ✓ Hostname
- ✓ Root Password
- ✓ Network
- ✓ Customer Center
- ✓ Online Update
- ✓ Service
- ✓ Users
- ✓ Clean Up
- ➔ Release Notes
- Hardware Configuration

Release Notes

SUSE Linux Enterprise Server 10

Release Notes for SUSE Linux Enterprise Server 10 for x86

GA Release Notes

These release notes cover the following areas:

- General: Information that everybody should read.
- Update: Changes related to updating that are not mentioned in the Administration Guide.
- Installation: Additional pertinent information for the installation.
- Technical: These sections contains a number of technical changes and enhancements for the experienced user.
- Feedback

General

Novell AppArmor

This release of SUSE Linux Enterprise Server ships with Novell AppArmor. The AppArmor intrusion prevention framework builds a firewall around your applications by limiting the access to files, directories, and POSIX capabilities to the minimum required for normal operation. AppArmor protection can be enabled via the AppArmor control panel, located in YaST under Novell AppArmor. For detailed information about using Novell AppArmor, see the documentation in `/usr/share/doc/packages/apparmor-docs`.

The AppArmor profiles included with SUSE Linux have been developed with our best efforts to reproduce how most users use their software. The profiles provided work unmodified for many users, but some users find our profiles too restrictive for their environments.

If you discover that some of your applications do not function as you expected, you may need to use the AppArmor Update Profile Wizard in YaST (or use the `aa-logprof(8)` command line utility) to update your AppArmor profiles. Place all your profiles into learning mode with the following: `aa-complain /etc/apparmor.d/*`

When a program generates many complaints, the system's performance is degraded. To mitigate this, we recommend periodically running the Update Profile Wizard (or `aa-logprof(8)`) to update your profiles even if you choose to leave them in learning mode. This reduces the number of learning events logged to disk, which improves the performance of the system.

Fine-Tuning Firewall Settings

SuSEfirewall2 is enabled by default. That means that by default you cannot log in from remote systems. It also interferes with network browsing and multicast applications, such as SLP, Samba ("Network Neighborhood"), and some games. You can fine-tune the firewall settings using YaST.

Help Back Next

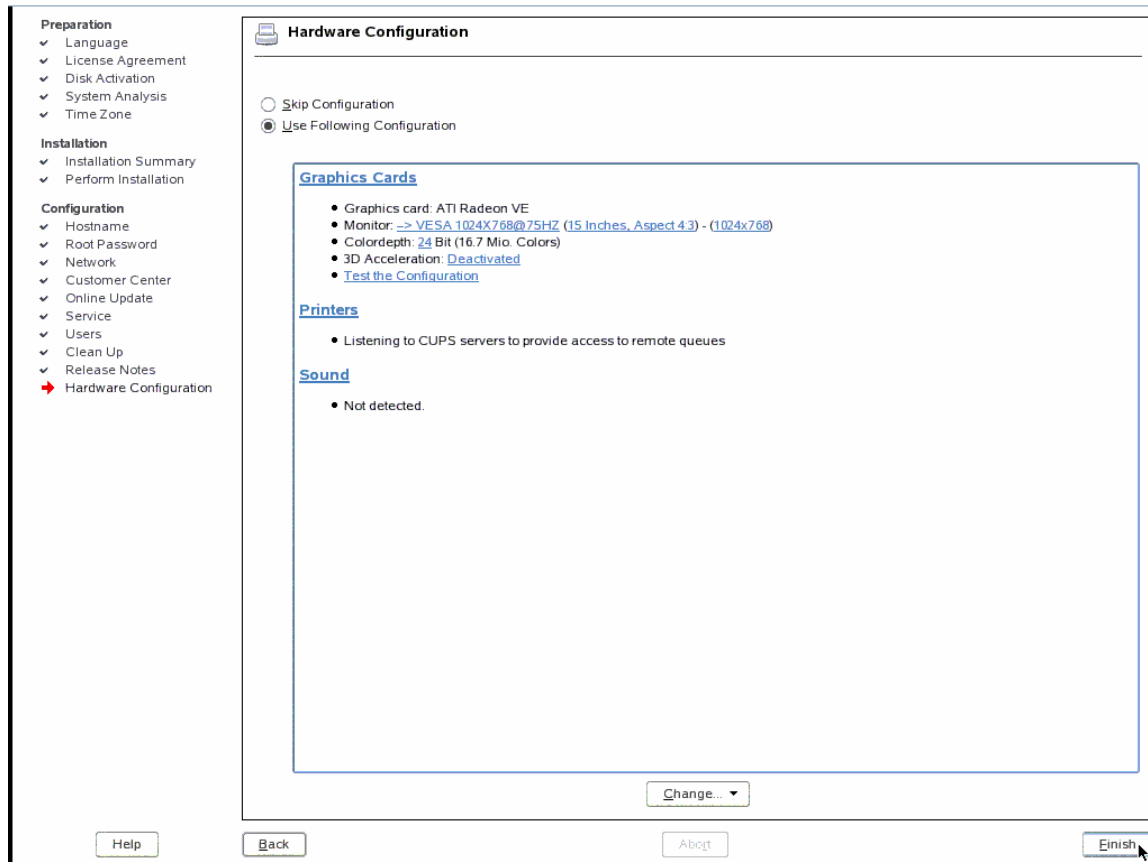
1.3.18 Hardware Configuration

78. Change the monitor setting to VESA 1024x768@75HZ

79. Other settings as shown

80. Test the Configuration

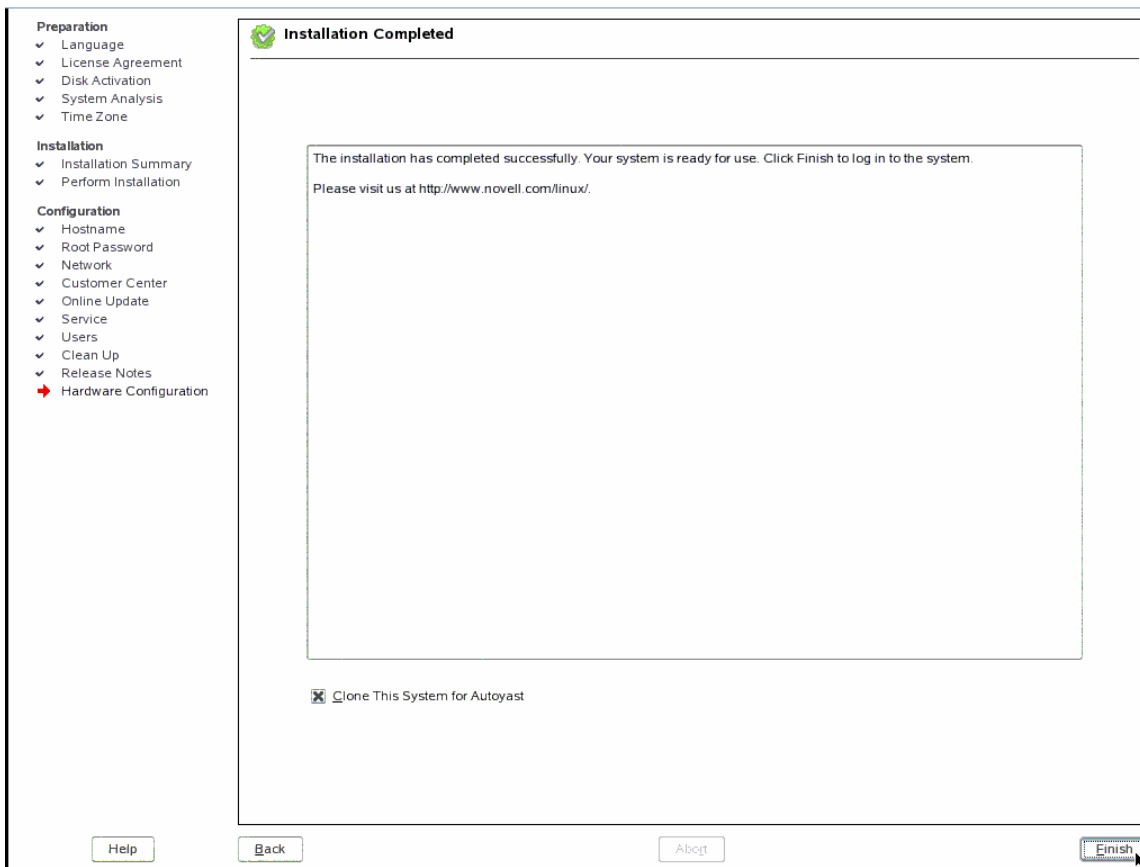
81. Select Next (if you were able to see video)



1.3.19 Post Install Fix Ups

1.3.19.1 Do not press Finish

82. Do not press Finish



1.3.19.2 Edit Network Configuration

83. Press Ctrl-Alt-F2 (or simply Alt-F2 if you are in text mode). This will get you to a console prompt.
84. Edit the /etc/sysconfig/network/ifcfg-eth-<MAC_ADDRESS> file for your network interface.
85. Ensure the STARTMODE option is set to 'nfsroot' - This will tell the rcnetwork restart command to ignore the network interface and you will not lose connection to the iSCSI target.

```
linux:/etc/sysconfig/network # ls
config      if-up.d          ifcfg.template  providers
dhcp        ifcfg-eth-id-00:14:5e:3d:96:28  ifroute-lo      scripts
if-down.d   ifcfg-lo         ifservices.template
linux:/etc/sysconfig/network # cat ifcfg-eth-id-00\:\:14\:\:5e\:\:3d\:\:96\:\:28
BOOTPROTO='dhcp'
BROADCAST=''
ETHTOOL_OPTIONS=''
IPADDR=''
MTU=''
NAME='IBM NetXtreme BCM5704S Gigabit Ethernet'
NETMASK='255.255.255.0'
NETWORK=''
REMOTE_IPADDR=''
STARTMODE='nfsroot'
UNIQUE='r8UE.wS4ii8a0YdD'
USERCONTROL='no'
_nm_name='bus-pci-0000:05:01.0'
linux:/etc/sysconfig/network # _
```

86. Press Ctrl-Alt-F7 to get back to the Installation Completed screen.

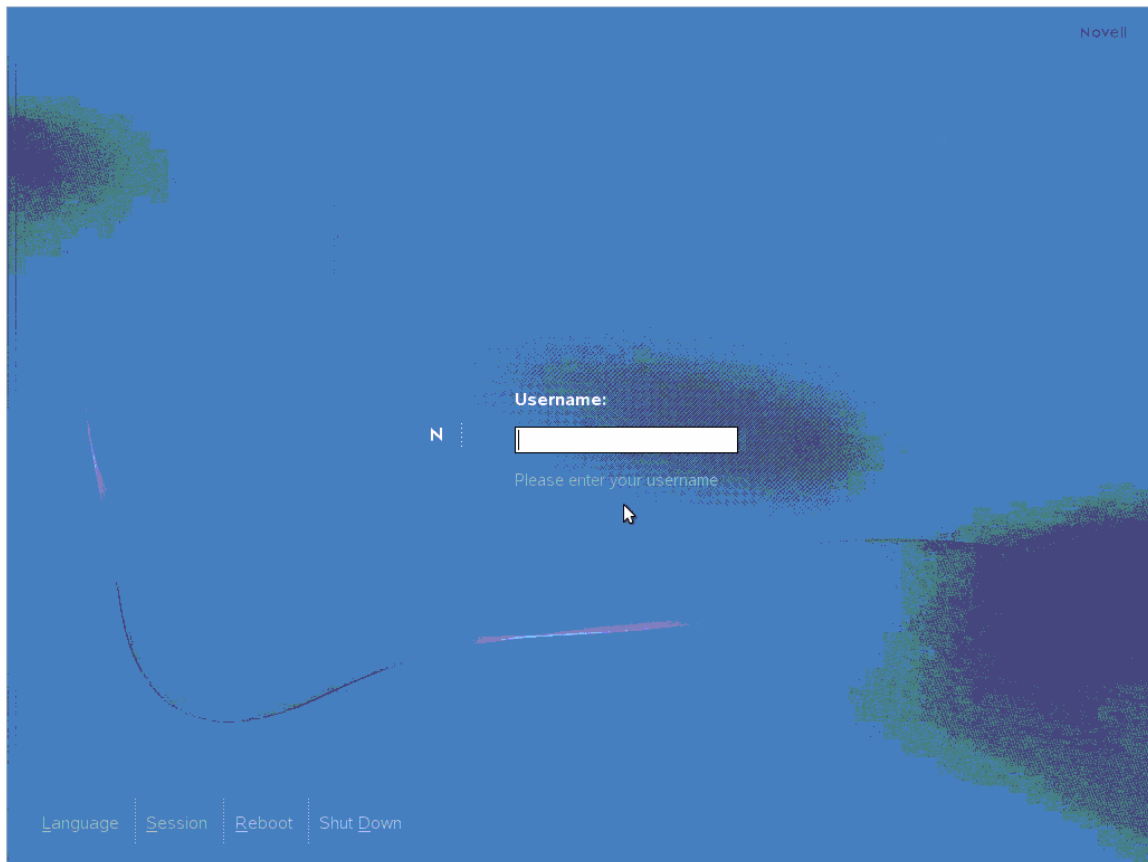
1.3.19.3 Finish

87. Select Finish

1.3.20 Login

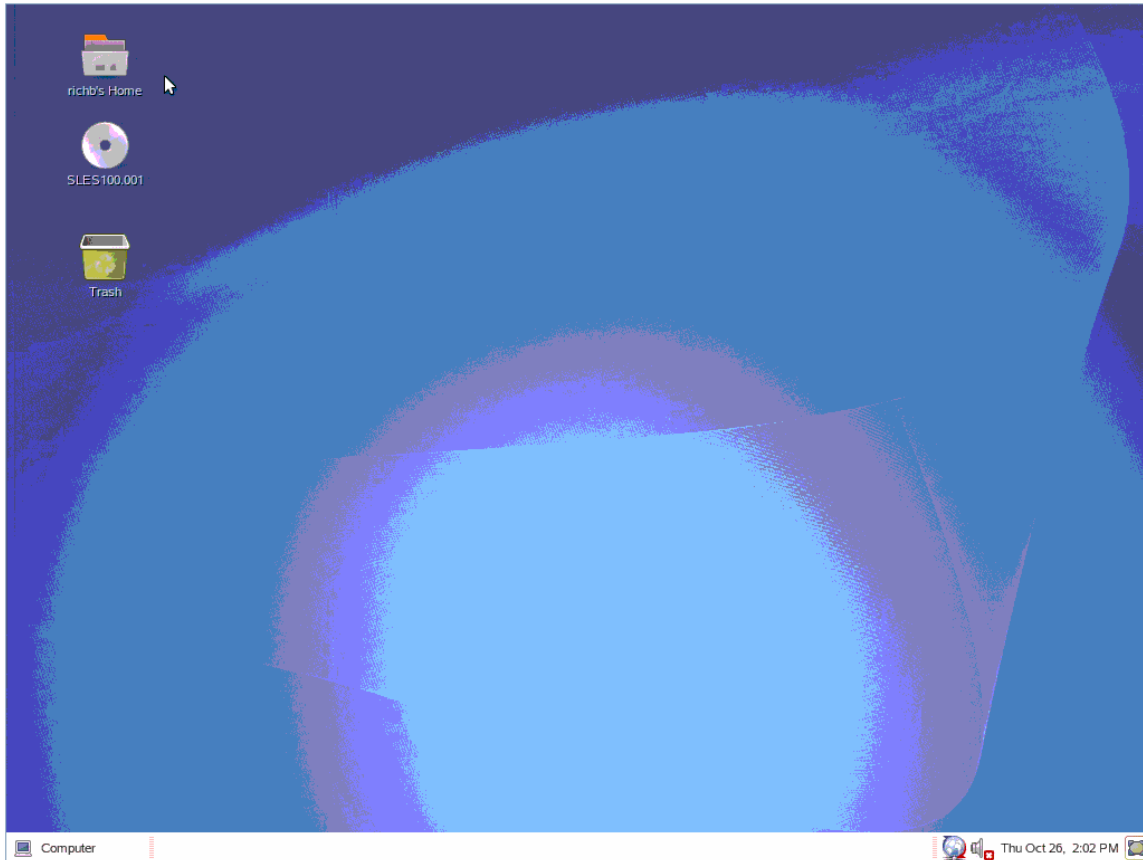
88. If you are using the Remote Console feature via the BladeCenter MM and if the screen goes blank try pressing Ctrl-Alt-F1 to enter text mode.

89. Enter your login credentials



1.3.21 Desktop

90. Done!



End of Document