



SGI® Altix® UV Software Install Guide

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About This Manual

Your SGI Altix UV system comes with pre-installed software. This manual describes how to reinstall it if necessary.

Obtaining Publications

You can obtain SGI documentation in the following ways:

- See the SGI Technical Publications Library at: <http://docs.sgi.com>. Various formats are available. This library contains the most recent and most comprehensive set of online books, release notes, man pages, and other information.
- You can also view man pages by typing `man title` on a command line.

Related Publications and Other Sources

This section describes documentation you may find useful, as follows:

- *SGI ProPack 7 for Linux Service Pack 1 Start Here*

Provides information about the SGI ProPack 7 for Linux SP1 releases including information about major new features, software installation and product support.

- *SGI Foundation Software 2 Service Pack 1 Start Here*

Provides information about the SGI Foundation Software 2 SP1 release that supports SGI differentiated server solutions.

- *SGI Management Center Installation and Configuration*

This guide is intended for system administrators. It describes how to install and configure the SGI Management Center. A companion manual, *SGI Management Center System Administrator's Guide*, describes general cluster administration.

- *SGI Altix UV CMC Controller Software User's Guide*

Describes how to use the controller commands on your chassis manager controller (CMC) to monitor and manage SGI Altix UV 100 and SGI Altix UV 1000 systems.

- *SGI Altix UV 1000 System User's Guide*

This guide provides an overview of the architecture and descriptions of the major components that compose the SGI Altix UV 1000 system. It also provides the standard procedures for powering on and powering off the system, basic troubleshooting information, and important safety and regulatory specifications.

- *SGI Altix UV 100 System User's Guide*

This guide provides an overview of the architecture and descriptions of the major components that compose the SGI Altix UV 100 system. It also provides the standard procedures for powering on and powering off the system, basic troubleshooting information, and important safety and regulatory specifications.

Conventions

The following conventions are used throughout this document:

Convention	Meaning
<code>command</code>	This fixed-space font denotes literal items such as commands, files, routines, path names, signals, messages, and programming language structures.
<code>manpage(x)</code>	Man page section identifiers appear in parentheses after man page names.
<i>variable</i>	Italic typeface denotes variable entries and words or concepts being defined.
user input	This bold, fixed-space font denotes literal items that the user enters in interactive sessions. (Output is shown in nonbold, fixed-space font.)
[]	Brackets enclose optional portions of a command or directive line.

...

Ellipses indicate that a preceding element can be repeated.

Reader Comments

If you have comments about the technical accuracy, content, or organization of this publication, contact SGI. Be sure to include the title and document number of the publication with your comments. (Online, the document number is located in the front matter of the publication. In printed publications, the document number is located at the bottom of each page.)

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Altix UV Software Installation

This chapter describes how to install software on the SGI management node (SMN) and the Altix UV system itself in case of root disk failure on either platform. It covers these topics:

- "System Management Node Software Installation" on page 1
- "SGI Management Center Software Installation" on page 12
- "Installing SLES 11 SP1, SGI Foundation 2 SP1, and SGI ProPack 7 SP1 Software" on page 14

System Management Node Software Installation

Figure 1-1 on page 2 shows one rack of an SGI Altix UV system.

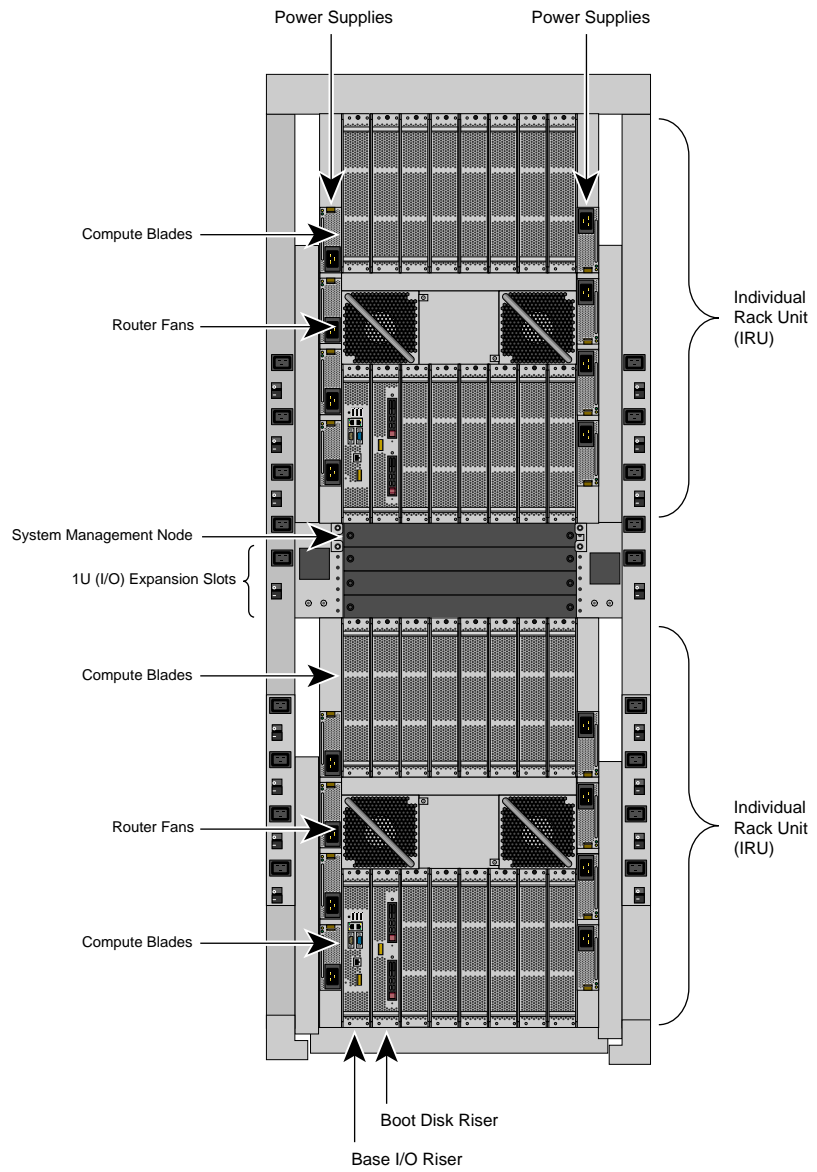


Figure 1-1 SGI Altix UV 1000 System Rack

The system management node (SMN) is either located in the top 1U slot between the individual rack units (IRUs) or at the top of the rack.

Procedure 1-1 Installing Software on the System Management Node (SMN)

To install SLES 11 software images on the system admin controller, perform the following steps:

1. Turn on, reset, or reboot the SMN. The power on button is on the right of the SMN, as shown in Figure 1-2 on page 3.

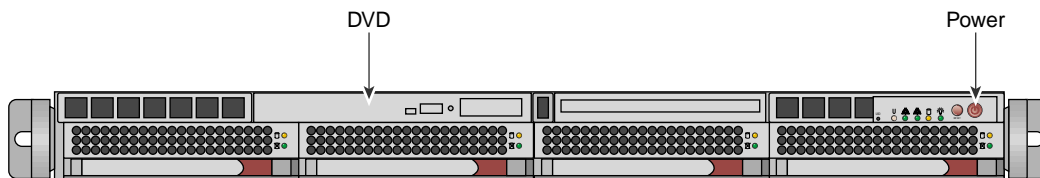


Figure 1-2 System Management Node Power On Button and DVD Drive

2. Insert the SLES 11 Service Pack 1 DVD in the DVD drive on the left of the SMN as shown in Figure 1-2 on page 3.
3. Once installation of software on the system management node is complete, remove the DVD from the DVD drive.
4. After the reboot completes, you will eventually see the **YaST2 - firstboot@Linux Welcome** screen, as shown in Figure 1-3 on page 4. Select the **Next** button to continue.

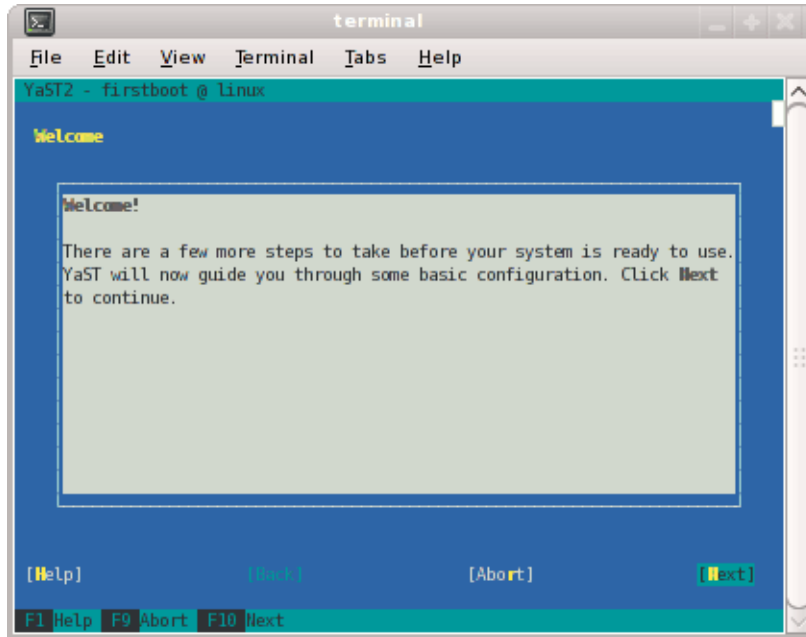


Figure 1-3 YaST2 - firstboot@Linux Welcome Screen

Note: The YaST2 Installation Tool has a main menu with sub-menus. You will be redirected back to the main menu, at various times, as you follow the steps in this procedure.

You will be prompted by YaST2 firstboot installer to enter your system details including the root password, network configuration, time zone, and so on.

5. From the **Hostname and Domain Name** screen, as shown in Figure 1-4 on page 5, enter the hostname and domain name of your system in the appropriate fields. Make sure that **Change Hostname via DHCP** is **not** selected (no **x** should appear in the box). Note that the hostname is saved to `/etc/hosts` in step 10, below. Click the **Next** button to continue.

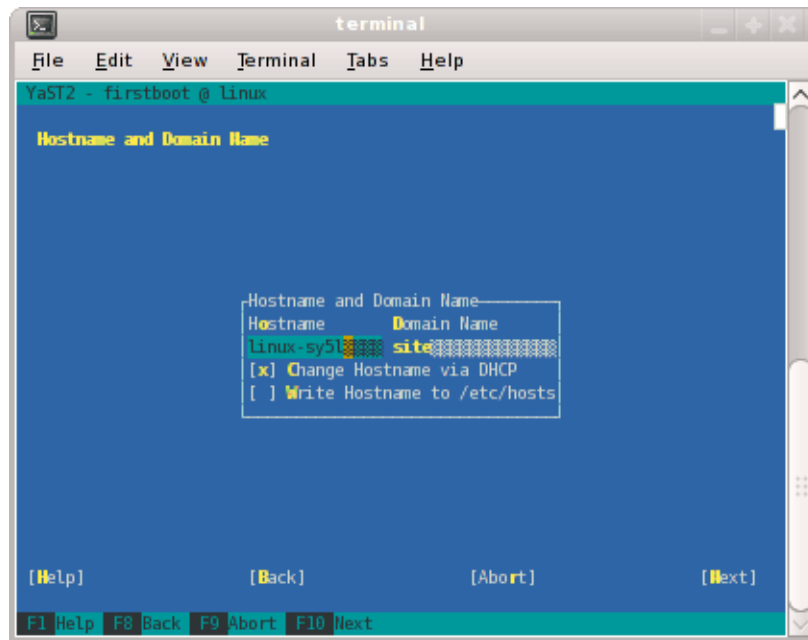


Figure 1-4 Hostname and Domain Name Screen

Note: The mostly used keys are Tab and Shift + Tab to move forward and backward in modules, the arrow keys to move up and down or left and right in lists, the shortcuts (press Alt + highlighted letter) and Enter to execute the selected action or activate a menu item.

You can use Ctrl L to refresh the YaST screen as necessary.

6. The **Network Configuration II** screen appears, as shown in Figure 1-5 on page 6. Select **Change** and a small window pops up that lets you choose **Network Interfaces...** or **Reset to Defaults**. Choose **Network Interfaces**.

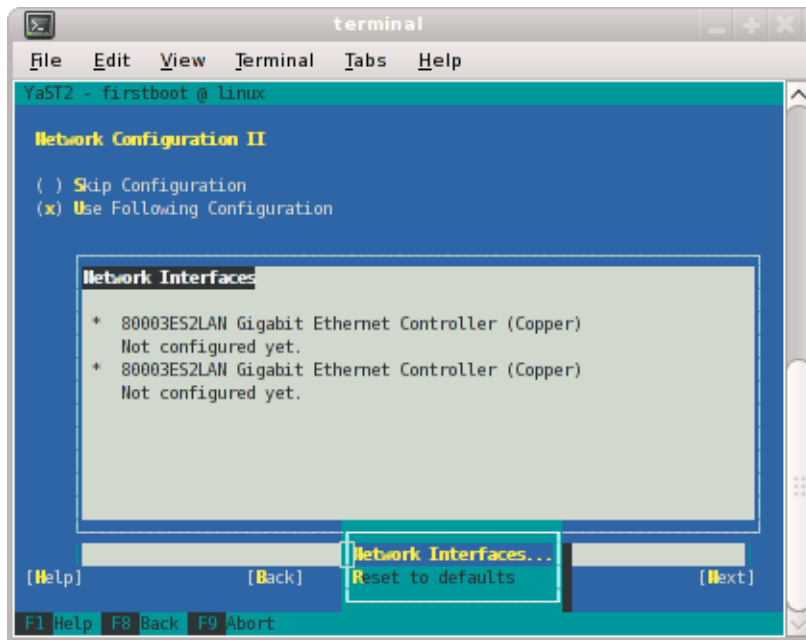


Figure 1-5 Network Configuration II Screen

7. From the **Network Settings** screen, as shown in Figure 1-6 on page 7, configure the first card under **Name** to establish the public network (sometimes called the house network) connection to your SGI Altix UV system. To do this, highlight the first card and select **Edit**.

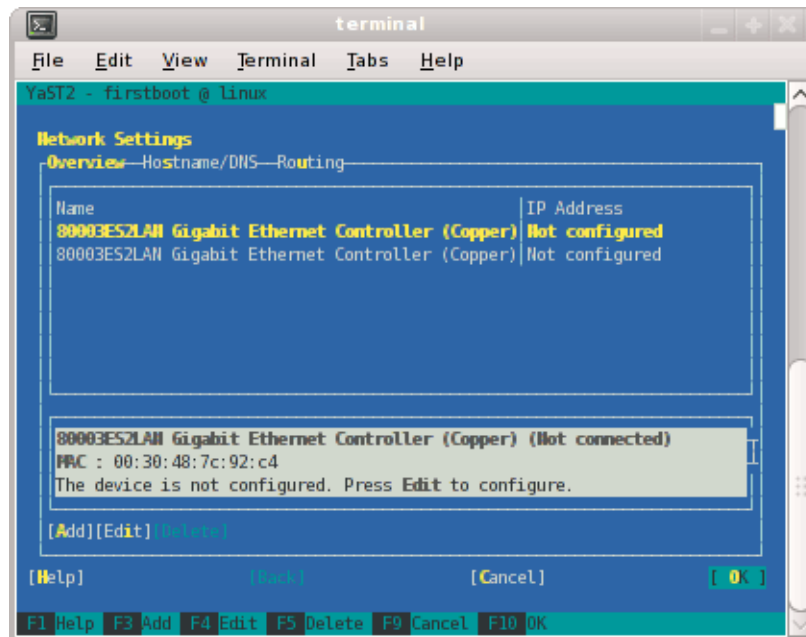


Figure 1-6 Network Settings Screen

Note: In SLES11, this screen is also where we will come back to in order to set up things like the default route and DNS. You can see all of those menu choices just to the right of **Overview** in Figure 1-6 on page 7.

8. The **Network Card Setup** screen appears, as shown in Figure 1-7 on page 8. SGI suggests using static IP addresses and not DHCP for admin nodes. Select **Statically assigned IP Address**. Once selected, you can enter the IP Address, Subnet Mask, and Hostname.

Note: You must use a fully qualified hostname (host + domain), such as, *mssystem-admin.domainname.mycompany.com*.

These are the settings for your admin node's house/public network interface. You will enter the default route, if needed, in a different step. Select **Next** to continue.

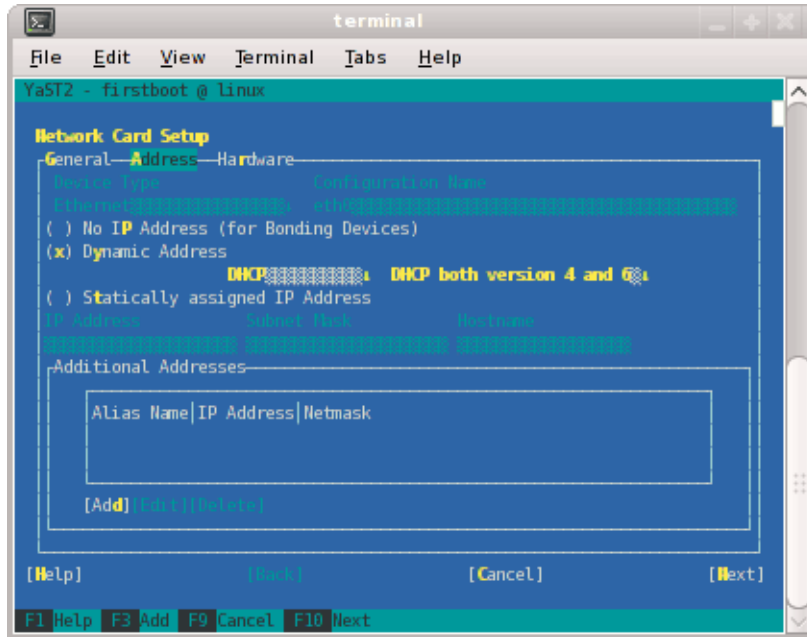


Figure 1-7 Network Card Setup Screen

9. At this point, you are back at the **Network Settings** screen as shown in Figure 1-8 on page 9. At this time, select **Hostname/DNS**. In this screen, you should enter your house/public network hostname and fully qualified domain names. In addition, any name servers for your house/public network should be supplied. Please select (ensure an x is in the box) for **Write hostname to /etc/hosts**. Do not select **OK** yet.

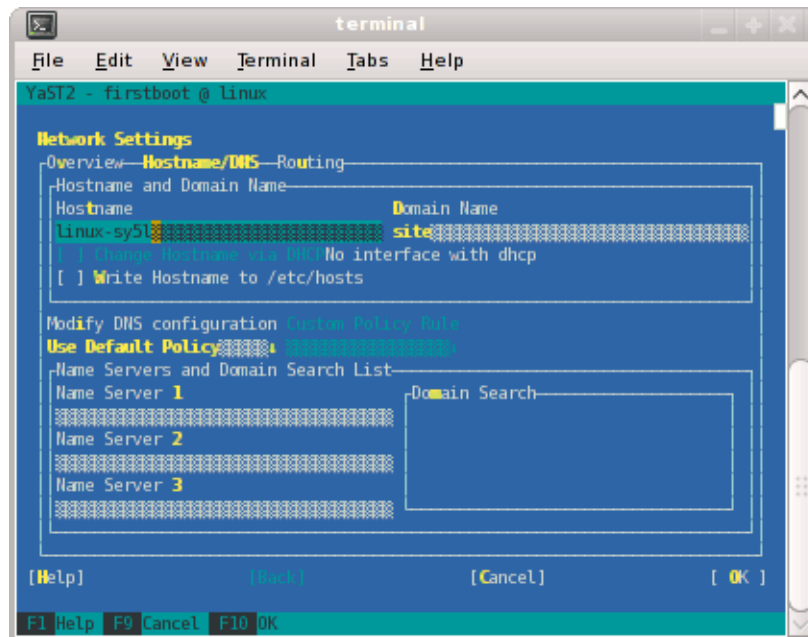


Figure 1-8 Network Settings Screen

10. Select **Routing** shown in Figure 1-9 on page 10 and enter your house/public network default router information there. Now you can select **OK**.

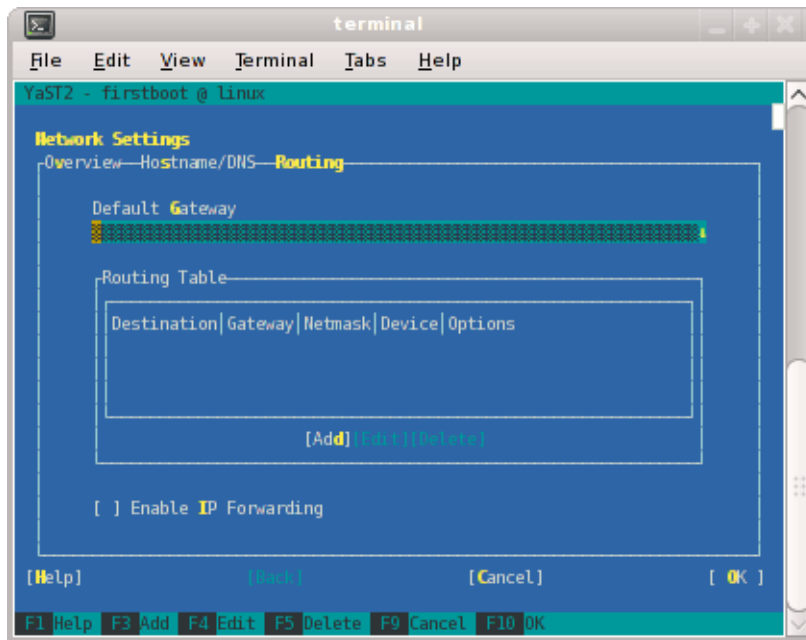


Figure 1-9 Network Settings Routing Screen

11. You are now back at the **Network Configuration II** screen, Click **Next**.
12. In the **Clock and Time Zone** screen, you can enter the appropriate details. Select **Next** to continue.
13. In the **Password for the System Administrator "root"** screen, enter the password you wish to use. This password will be used **throughout** the cluster, not just the admin node. Select **Next** to continue.
14. In the **User Authentication Method** screen, most customers will want to stick with the default (**Local**). Select **Next** to continue.
15. In the **New Local User** screen, you can just select **Next** (and say **Yes** to the **Empty User Login** warning). Select **Next** to continue.
16. In **Installation Completed**, select **Finish**.

17. After you have completed the YaST first boot installation instructions, login into the system admin controller. You can use YaST2 to confirm or correct any configuration settings.
- 18.

Note: The SGI System Management Node Software 1.0 Release Notes are available on SGI SupportFolio <https://support.sgi.com/login>.

Using YaST2, from the SGI-System-Management-Node-Software-1.0 ISO, install the following:

```
rpm -i noarch/sgi-smn-release-1.0-sgi701r3.sles11.noarch.rpm
rpm -i x86_64/monit-5.0.3-1sgi701r1.sles11.x86_64.rpm
rpm -i x86_64/monit-sgi-rules-5.0.3-1sgi701r1.sles11.x86_64.rpm
rpm -i x86_64/sysco-uv-libs-1.0-20100520.1219sgi701r1.sles11.x86_64.rpm
rpm -i x86_64/sgi-gather-smn-uv-1.0-sgi701r1.sles11.x86_64.rpm
rpm -i x86_64/sysco-uv-1.0-20100520.1219sgi701r1.sles11.x86_64.rpm
```

SGI Altix UV Server Installation Instructions

This section describes how to do a clean install on a SGI Altix UV server.

DVD Access

Currently, to reinstall your software you need a USB-DVD and connect that to the BASEIO (see Figure 1-1 on page 2) and boot the Novell rescue CD.

Software Installation

Use a USB-DVD driven to connect to the BASEIO and boot using the Novell rescue CD. You need to get BIOS booted to efi shell and boot from the DVD. Use a command similar to the following:

```
fs1:efi\boot\bootx64 -i initrd linux console=ttyS0,115200n8 ssh=1
```

Note: The fs number may be different. Booting an Altix UV systems takes some time. It may take awhile for the screen to change.

When partitioning the system disk, you need to create a `/boot/efi` partition instead of a `/boot` partition.

For information on installing software on your Altix UV sever, see "Installing SLES 11 SP1, SGI Foundation 2 SP1, and SGI ProPack 7 SP1 Software" on page 14.

SGI Management Center Software Installation

For information on how to install SGI Management Center (SMC) software, see the *SGI Management Center Installation and Configuration* guide available at <http://docs.sgi.com>. In particular, see Chapter 1, "Installing SGI Management Center" and "Install Management Center Payload" section in Chapter 4, "Creating Payloads and Images".

SMC Installation Overview

A quick overview of installation and initial configuration is, as follows:

1. Add an entry to the `/etc/hosts` file. The entry for "host" must be there, as follows:

```
172.21.0.1 admin.default.domain admin host loghost
```

2. Install the following packages:

- `pyxml` (SLES 11 SP1 Media)
- `apache-log4cxx` (from the SGI MC - AP ISO)
- **Prerequisites: (SGI MC Media)**

```
db46-4.6.21-0.1sgl701r1.sles11.x86_64.rpm  
ice-3.3.0-sgl701r1.sles11.x86_64.rpm  
ice-java-3.3.0-sgl701r1.sles11.x86_64.rpm  
ice-libs-3.3.0-sgl701r1.sles11.x86_64.rpm  
java-1.6.0-sun-1.6.0.17-sgl701r1.sles11.x86_64.rpm  
java-1.6.0-sun-fonts-1.6.0.17-sgl701r1.sles11.x86_64.rpm  
libdb_java-4_6-4.6.21-0.1sgl701r1.sles11.x86_64.rpm  
mkelfImage-2.7-0.1sgl701r1.sles11.x86_64.rpm
```

- **Main packages (SGI MC Media)**

```
sgimc-1.1.0-sgi701r1.sles11.x86_64.rpm  
sgimc-server-1.1.0-sgi701r1.sles11.x86_64.rpm  
shout-0.1-sgi701r1.sles11.x86_64.rpm
```

- **TFTP packages:**

```
tftp (SLES 11 SP1 Media)  
sgimc-tftp  
sgimc-tftpboot
```

or

```
atftp (SLES 11 SP1 Media)  
sgimc-atftp  
sgimc-tftpboot
```

Note: If in doubt, just use tftp

- **Start shout, as follows:**

```
# /etc/init.d/shout start  
# chkconfig shout on
```

3. Request a SGI Altix UV enabled LK license for SGI MC from SGI. Put the contents in `/etc/lk/keys.dat`.

4. Restart the `sgimc` daemon, as follows:

```
# /etc/init.d/mgr restart
```

5. Make sure the following daemons are enabled to run at boot time:

```
dhcpcd  
ntp  
tftp or atftp
```

Start the following services:

```
ntp  
tftp or atftp
```

6. Open the SGI MC GUI and make the following configuration changes:

- Go to **Edit -> preferences**. In **General network preferences** change the subnet to 172.21.0.0 netmask 255.255.0.0
- Still in **General network preferences**, make sure the log server and ntp server are that of the Management Network for the SMN (usually 172.21.0.1).
- Set the NTP server to 127.0.0.1
- Put a check mark in Direct PXE Boot and keep EFI Boot checked as well.

Creating a New Payload from a Tarball

This section describes how to create a new payload called "SSI-payload", as follows:

1. Create a payload directory, as follows:

```
# mkdir -p /opt/sgi/sgimc/imaging/root/payloads/new-payload
```

2. Create a payload.profile, as follows:

```
# cd /opt/sgi/sgimc/imaging/root/payloads/new-payload
```

and then edit the payload.profile to look similar to the following:

```
#SGI Management Center Payload
#Tue May 25 17:34:17 CDT 2010

architecture=x86_64 name=new-payload description=New payload
for an SSI
```

In the Management Center GUI, refresh the **Imaging** pane. Open the payload and check it in.

Installing SLES 11 SP1, SGI Foundation 2 SP1, and SGI ProPack 7 SP1 Software

The following set of instructions is based on an install using the physical product media. For other installation methods, see the product release notes.

Installing on SUSE Linux Enterprise Server 11 SP1

For an overview of SLES11 SP1 installation, see the *SUSE Linux Enterprise Server 11 Installation Quick Start* (`installquick.pdf`). This document provides a quick overview of how to run through the default installation of SLES walking you through a number of installation screens. For detailed installation instructions, see the *SUSE Linux Enterprise Server 11 Deployment Guide* (`deployment.pdf`)

Note: Documentation for SUSE Linux Enterprise Server 11 SP1 is located on your system in the `/docu/en` directory.

Install SLES11 SP1, SGI Foundation Software 2 SP1, and SGI I ProPack 7 SP1 Together

Note: If you are only installing SLES11 SP1 and SGI Foundation 2 SP1 software, just skip the steps about installing SGI ProPack 7 SP1.

To install SUSE Linux Enterprise Server 11 (SLES11) SP 1 from the DVD media and SGI Foundation Software 2 SP1 and SGI ProPack 7 SP1 as an add-on products, perform the following steps:

1. Insert the SLES 11 SP1 Installation DVD in the DVD drive and reboot your system.
2. Follow the steps in the *SUSE Linux Enterprise Server 11 Installation Quick Start*. When you get to the **Installation Mode** screen, as shown in Figure 1-10 on page 16, click the button next to **Include Add-On Products from Separate Media** and then click **Next** to continue.

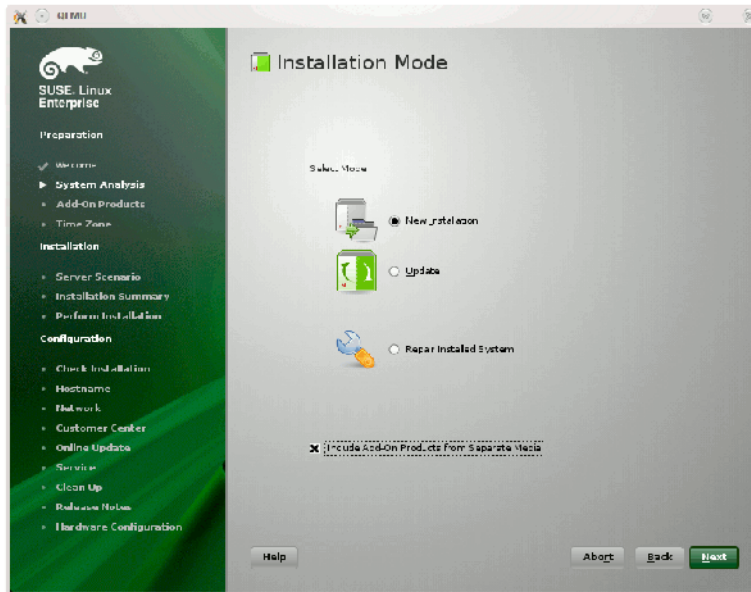


Figure 1-10 SLES11 Installation Mode Screen

3. From the **Media Type** screen, shown in Figure 1-11 on page 17, click the button to the left of **CD**.

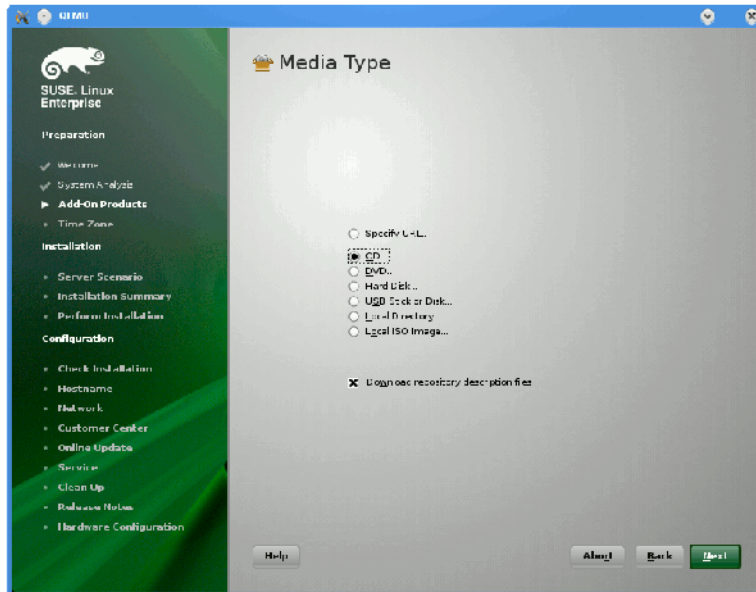


Figure 1-11 SLES11 Media Type Screen

4. The **Insert the add-on product CD** dialog box appears. Insert the SGI -Foundation-x86_64 CD into the drive and click the **Continue** button and then **Next** to proceed.
5. From the **Add-On Product Installation** screen, as shown in Figure 1-12 on page 18, click on **SGI-Foundation-x86_64 1-6 cd:///Directory** and click the **Add** button and then **Next** to proceed
6. Repeat steps 3 through 6 to add SGI ProPack 7 SP1 for Linux as an add-on product. Eject the SGI Foundation 2 SP1 CD and replace it with the SGI ProPack 7 for Linux Service Pack 1 CD. From the Add-On Product Installation screen as shown in Figure 1-12 on page 18, click on **SGI-ProPack-x86_64 6-4 cd:///Directory** click the **Add** button and then **Next** to proceed.
7. Follow the SLES11 SP1 instructions to complete the installation.

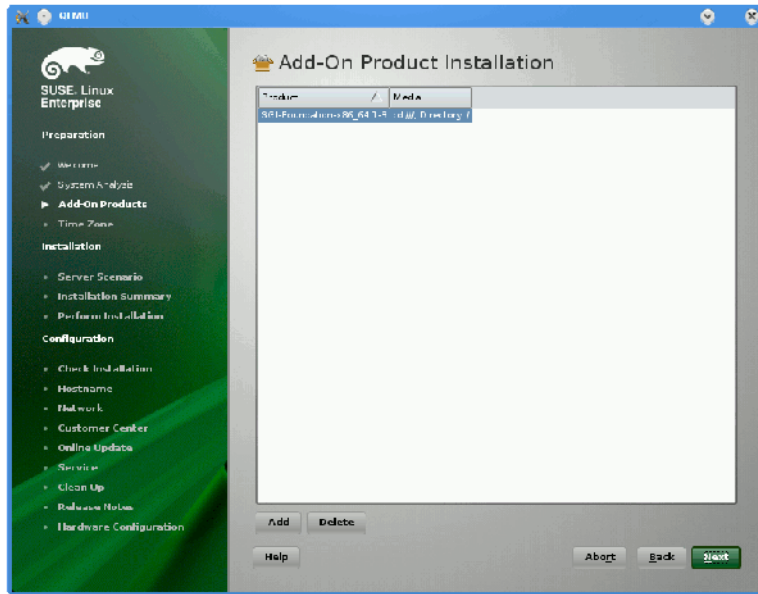


Figure 1-12 SLES11 SP1 Add-On Product Installation Screen Showing SGI Foundation

Enabling Base I/O VGA

This chapter walks you through steps to enable base I/O video graphics array (VGA) on an SGI Altix UV 100 or an SGI Altix UV 1000 system.

Procedure 2-1 Enabling Base I/O VGA

To enable base I/O VGA, perform the following steps:

1. From the SGI XVM Console, as shown in Figure 2-1 on page 19, hit [Space] for the Boot Menu.



Figure 2-1 SGI KVM Console

2. From the boot manager screen, select **Device Manager**, as shown in Figure 2-2 on page 20.

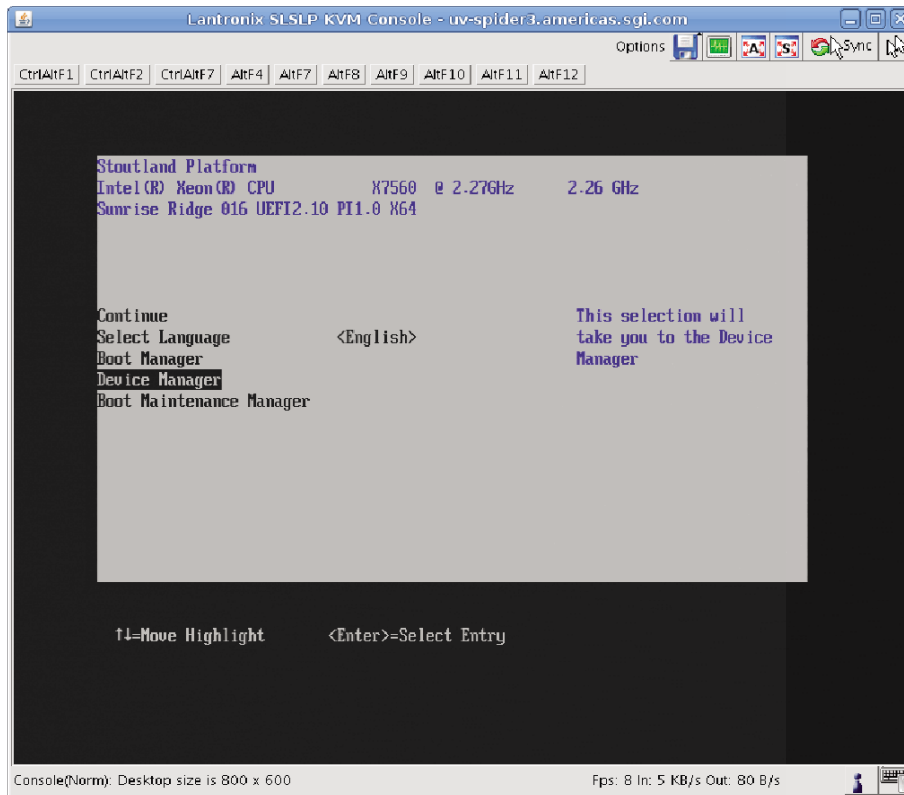


Figure 2-2 Device Manager Boot Manager Selection

3. From the **Device Manager** screen, as shown in Figure 2-3 on page 21, select **Advanced**.

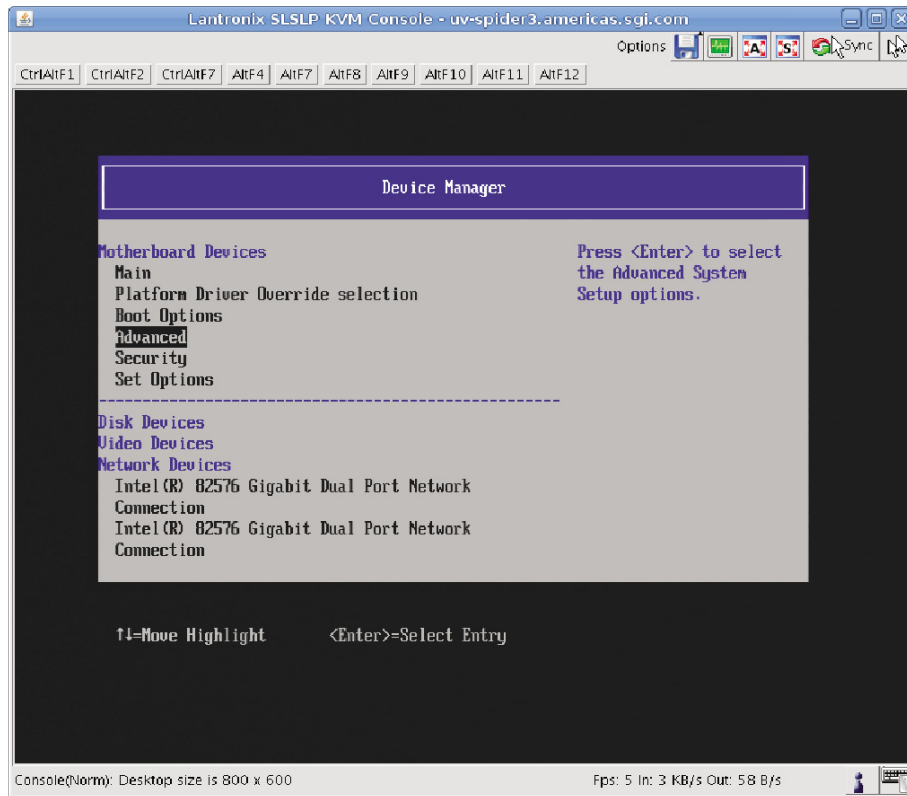


Figure 2-3 Device Manager Screen

4. From the **Advanced** screen, select **Miscellaneous Configuration**, as shown in Figure 2-4 on page 22.

2: Enabling Base I/O VGA

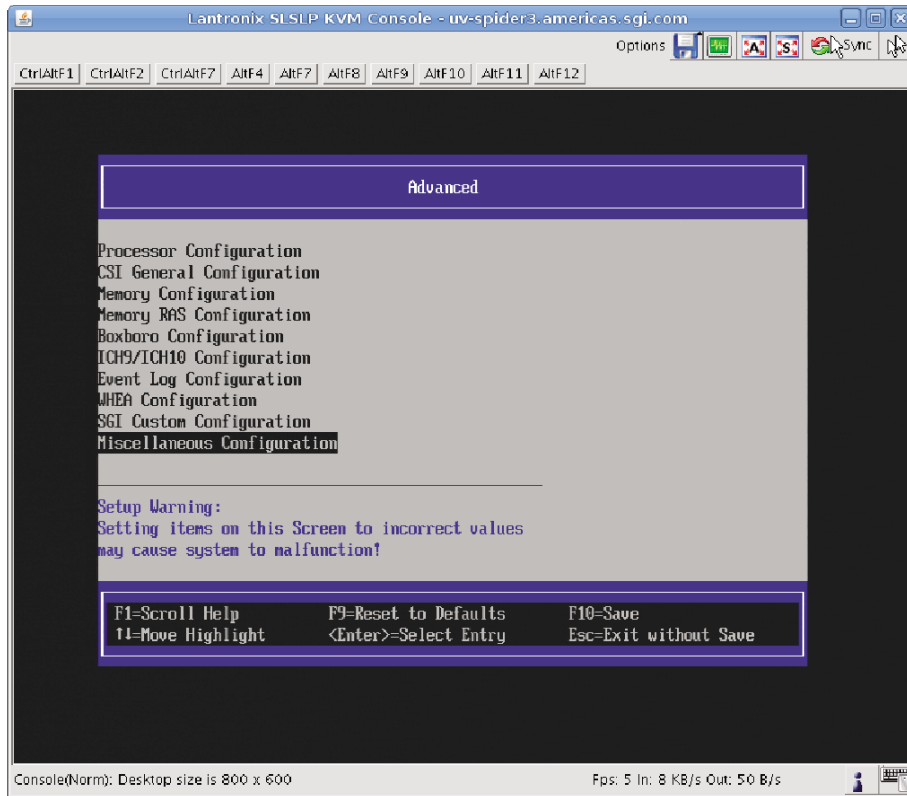


Figure 2-4 Advanced Boot Setup Screen

5. From the **Miscellaneous Configuration** screen, as shown in Figure 2-5 on page 23, for **Active Video** select **<Onboard Device>**.

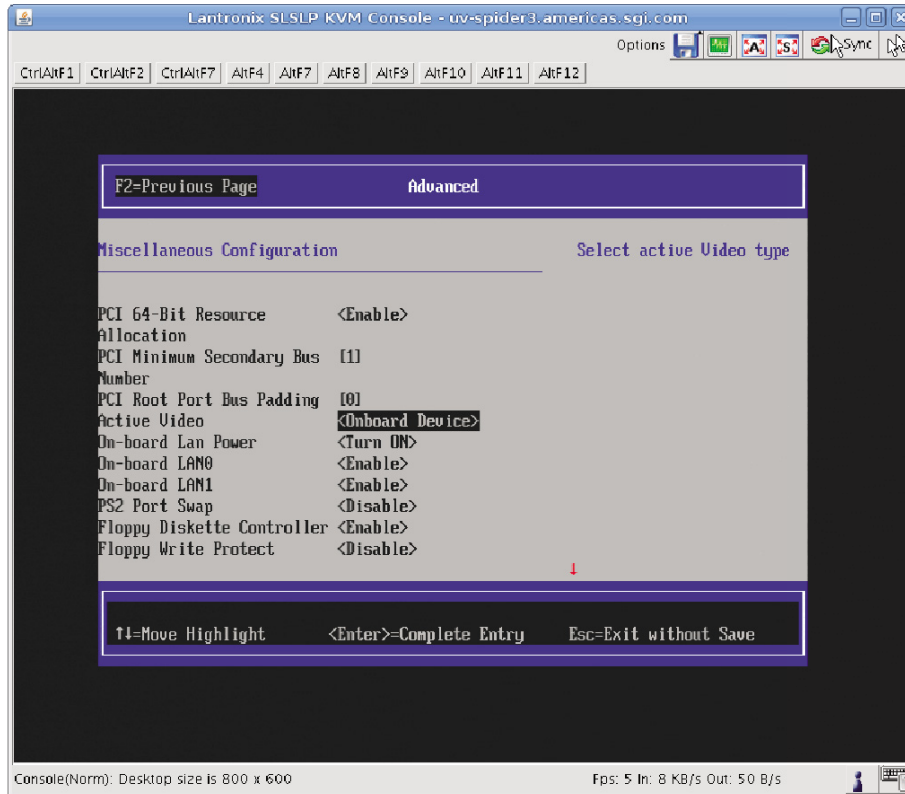


Figure 2-5 Miscellaneous Configuration Screen

- From the **Active Video** pop-up menu, select **Onboard Device**, as show in Figure 2-6 on page 24.

2: Enabling Base I/O VGA

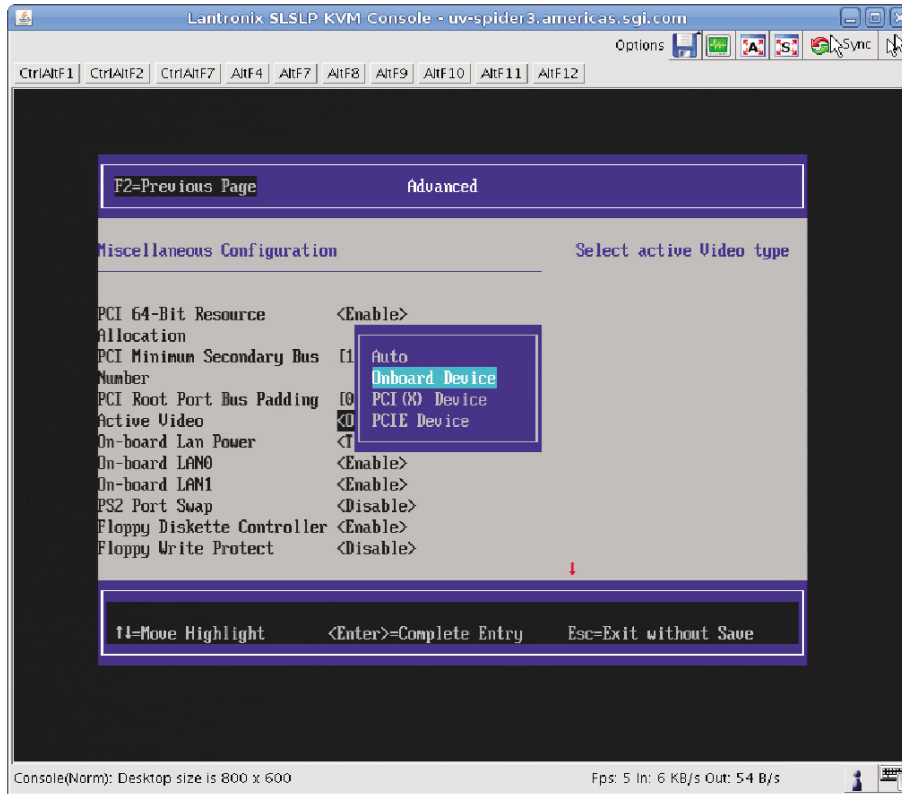


Figure 2-6 Active Video Pop-up Menu

7. Save your configuration changes, exit KVM, and reboot your system.
8. Launch the YaST2 System Configuration Editor shown in Figure 2-7 on page 25.

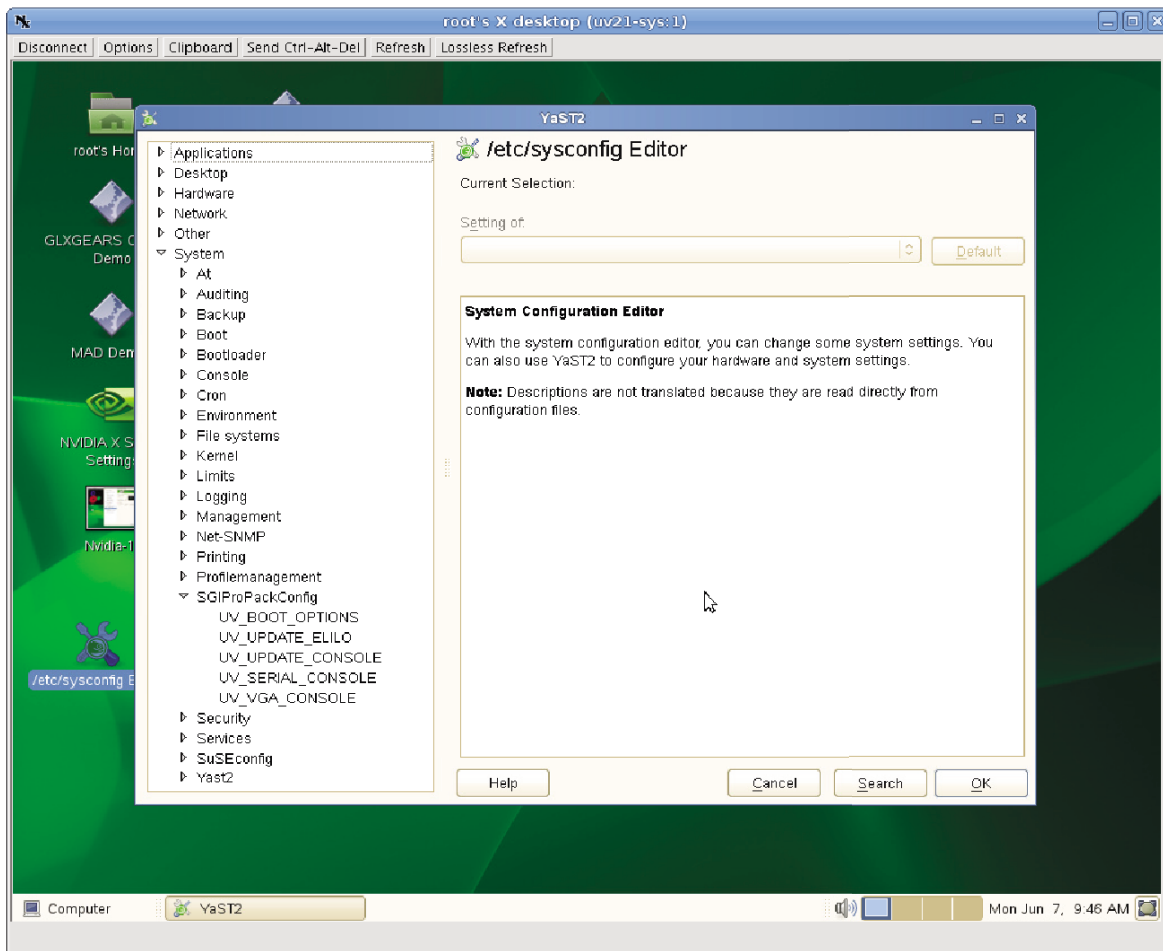


Figure 2-7 YaST2 System Configuration Editor Screen

9. Specify that the Altix UV base I/O VGA device be added to the kernel boot cmdline, as shown in Figure 2-8 on page 26.

2: Enabling Base I/O VGA

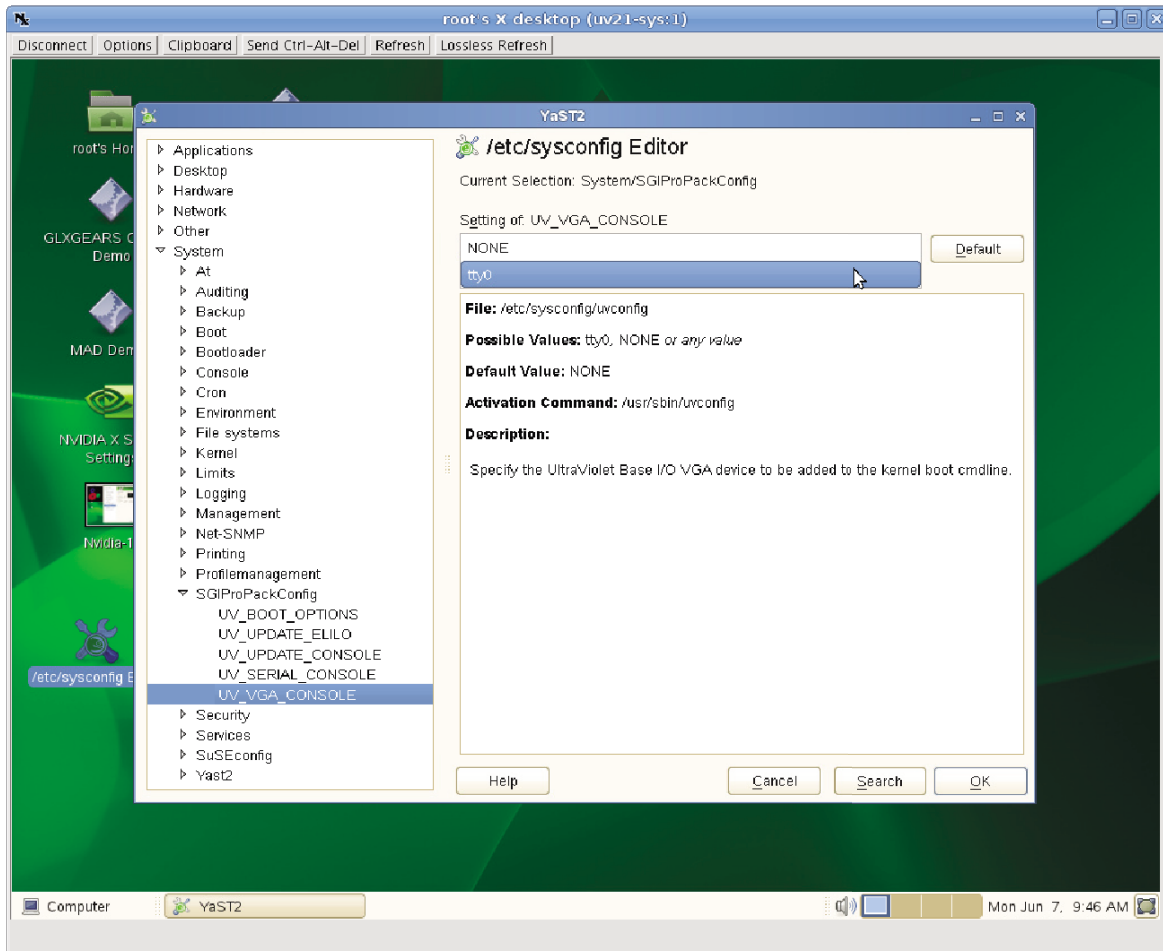


Figure 2-8 UV_VGA_Console Selection

10. When the **Modified Variables** screen appears, as shown in Figure 2-9 on page 27, click **OK** to save your changes.

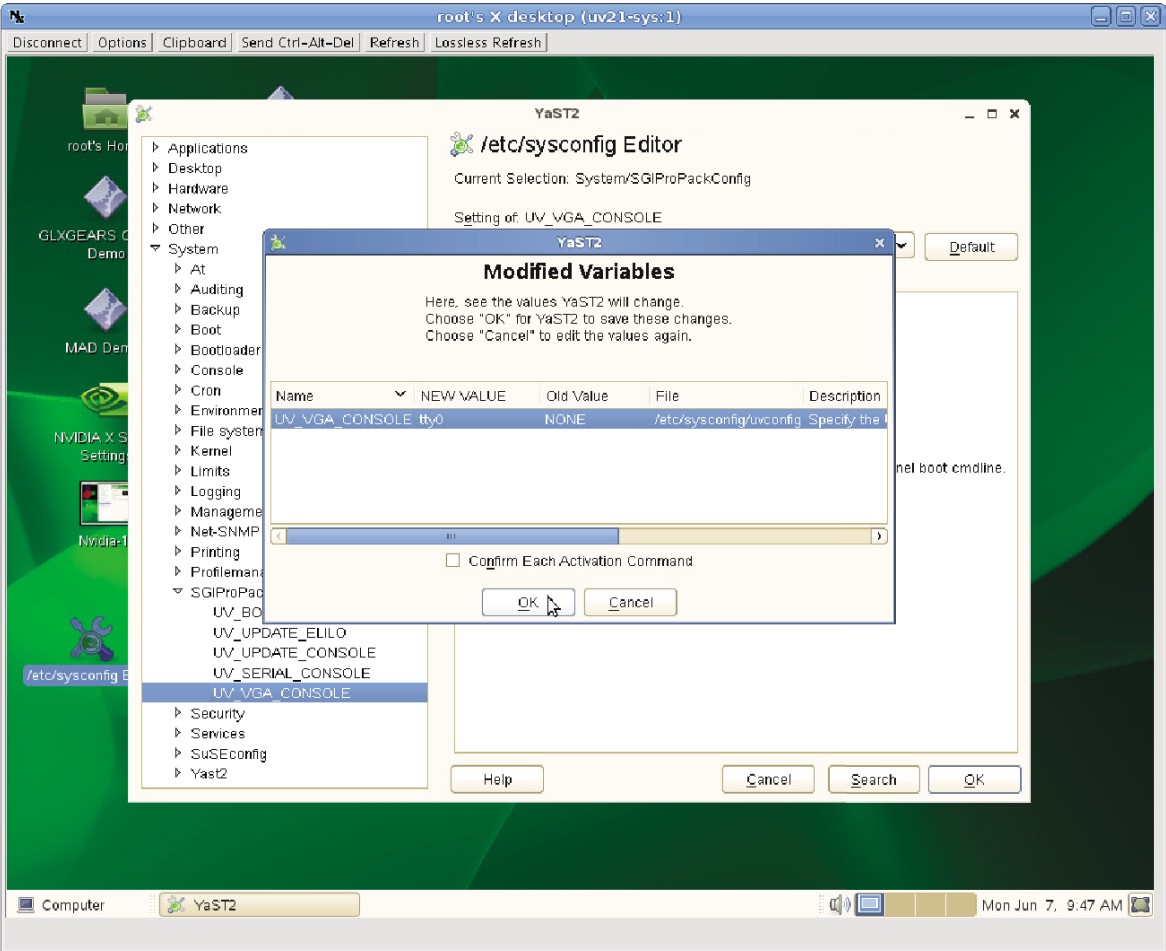


Figure 2-9 YAST 2 /etc/sysconfig Editor Modified Variables Screen

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