Sun™ Control Station 2.2 AllStart Module

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Contents

Introduction

This manual describes the features and graphical user interface of the AllStart control module and provides instructions for using AllStart with Red Hat Linux, SuSE Linux, Solaris™ Operating System on x86, and the Sun Java™ Desktop System (JDS) on x86.

This chapter introduces you to the features of AllStart, describes the conditions that must be in place for the module to function correctly, and provides an overview of what you need to do to use the AllStart control module.

About the AllStart Module

The AllStart control module is a software provisioning system that enables you to use the Sun™ Control Station to automate the initial installation of a supported operating system along with its associated software packages. Using the features of the AllStart module, you can install a given configuration on a large number of clients and perform unattended software installations.

AllStart is installed with the Sun Control Station 2.2 base software on a dedicated server, called the *Control Station*. See the *Sun Control Station 2.2 Software Installation Guide* for information about software installation.

The AllStart control module provides a common user interface for creating software payloads, defining client profiles, and monitoring and validating system installations.

Using the AllStart graphical user interface, you can perform the following functions:

- Select files or RPMs to load onto a client.
- Select the distributions of different OSs to load onto a client.
- Create customized payloads made up of files and OS distributions.
- Create profiles containing configuration information.

- Load custom scripts to run during installation.
- Add clients on to which the payloads and profiles are loaded (using the Media Access Layer [MAC] address of the client).

The AllStart Module integrates Red Hat Kickstart, SuSE AutoYaST, and Solaris JumpStart™ technologies to provide a quick and unified method of unattended software installation and customization of Linux-based and Solaris x86 systems.

Red Hat Kickstart

Kickstart is a Red Hat feature that allows you to automate most of the tasks in a Red Hat Linux installation, such as:

- Language selection
- Network configuration and selection of distribution source
- Keyboard selection
- Boot Loader installation
- Disk partitioning and creation of file systems
- Mouse selection
- X Window system server configuration
- Time Zone Selection
- Selection of an (initial) root password
- Time server
- Configuration of security options (for example, md5 and yp)
- Customization of the distribution payload

Kickstart allows you to run an unattended installation process by putting the information you would normally type at the keyboard into a configuration file. It also provides a method to install additional software that is not distributed as part of the Red Hat Linux distribution.

For more information about Kickstart, see the appropriate Red Hat documentation at: `http://www.redhat.com/docs/`.

Sun Java Desktop Systems AutoYaSt

AutoYaST is the system for installing one or more Sun Java Desktop Systems automatically and without user intervention; it is fully integrated in the installer YaST2.

The AutoYaST tool is designed to allow the creation of a configuration for a single system or a set of systems. The configuration is stored in a control file that is read during the automated installation and can be made available to the installer in different ways.

AutoYaST configurations are XML-based and the configuration is fully compatible with configuration modules in YaST2.

Using AutoYaST, multiple systems sharing the same environment and hardware performing similar tasks can easily be installed in parallel. A configuration file (referred to as a control file) is created using existing configuration resources. The control file can be easily tailored for any specific environment.

For more information about AutoYaST, see the appropriate SuSE documentation at: `http://www.suse.com/`.

Solaris JumpStart

JumpStart software allows you to automate system installations so that Solaris software is automatically installed on a system without any user intervention. The installation is based on profiles you create that define specific software installation requirements. You can also incorporate shell scripts that include installation tasks. JumpStart is for Solaris S9 x86.

To automate an installation, JumpStart uses the following information in a profile:
- System locale
- Time zone
- Netmask
- IPv6
- Terminal type
- Security policy
- Name service
- Timeserver
- MAC address of client
- IP address of client

For more information about JumpStart, see the appropriate Solaris installation documentation at: `http://www.sun.com/documentation`.

AllStart Requirements

You must have the following conditions in place for the AllStart control module to function correctly.

- Your clients must be configured to "netboot" in order to retrieve the payloads from the Sun Control Station.
- There can be no other Dynamic Host Configuration Protocol (DHCP) servers on the same subnet as your Control Station running the AllStart control module.
- The following software components must be installed on your clients:
    - DHCP daemon (dhcpd version 3.0 or later)
    - Trivial File Transfer Protocol (TFTP)
    - Hypertext Transfer Protocol (HTTP)
    - Network Files Sharing daemon (nfsd)
- If you intend to store the ISO images of the OS distributions on the server running the Sun Control Station software, ensure that there is sufficient space on your hard disk drives (HDDs).

    For example, a typical Linux OS distribution is roughly 2 GB. Furthermore, these ISO files are copied to another directory when you create a payload, thus doubling the amount of disk space used.

    During the upload, ISO images are mounted and the RPM files are copied into the directory `/scs/share/allstart/distro_id/`. After the distribution has been loaded successfully, the ISO images can be deleted.

Using the AllStart Module: Task Overview

This section provides an overview of what you need to do to use the AllStart control module to install and provision a client. For detailed information about each step and a description of the AllStart menu, see Chapter 2.

Using the AllStart control module consists of these separate steps:

1. Add files, distributions, and scripts.

2. Create a payload(s) from the files and distributions.

3. Create a profile(s) containing configuration information, authentication information, and scripts.

4. Select a client(s) on which to install a payload and a profile, and enable the client entry (or entries).

5. Configure a client(s) to boot from the network ("netboot") and then reboot the client so that it pulls the payload and profile from the Sun Control Station.

6. Add the managed host to the Sun Control Station.

Adding Files and Distributions.

You can add files or upload a distribution from either a remote location or from a local directory on the Control Station. These files and distributions will be used to define the payload that will be installed on the client as part of the OS. For a list of supported distributions, see the *Sun Control Station 2.2 Software Installation Guide*.

Creating a Payload

A *payload* consists of an OS distribution and other individual files bundled together.

You can select the components of the OS distribution that you want to include in the payload. The individual files are installed on the client after the distribution has been installed.

The files and distributions can be located locally or on a CD-ROM depending on the OS. If you are creating a payload for a Solaris OS distribution, you must use a DVD ISO image instead of a CD-ROM.

If the distribution is located locally, it must be in `/scs/data/allstart/iso/`.

Each payload is identified by a unique, descriptive name.

Creating a Profile

A *profile* contains configuration information that will be applied to a client along with a payload. You also configure security settings in a profile.

The profile parameters vary by OS but can include:

- Default language
- Type of keyboard
- Type of mouse
- Time zone in which the clients that you will configure are located
- Time server
- Root password for the clients
- Choice to reboot the client after payload installation
- Boot loader options
- Partition options for the HDDs
- RAID partitions
- Authentication information
- X configurations

Adding Custom Scripts

You can upload custom scripts from a local file system and add, delete, or modify scripts. The Custom scripts feature is accessible from the AllStart menu.

Adding a Client

A *client* is the system to be installed with an OS and provisioned. You install a payload and a profile on a client.

Client information parameters include:

- MAC address
- Install IP address
- Type of install
- Output port for the serial console
- Serial console baud
- Install network interface (`ethx`) over which to load the payload and profile
- Payload to load
- Profile to load
- Information for the network interfaces on the client

Enable or Disable a Client

Once the client entry has been created, you must *enable* the client in the AllStart Clients table so that it is visible to that client machine on the network.

Note – Managed hosts are enabled automatically since the client boot loader is modified to allow it to initiate building upon reboot. To use DHCP for a PXE/netboot of a client, you must reenable the client. See .

If you do not enable a client entry, the client cannot receive the payload and profile when you netboot the client because it will not "see" its client entry.

Installing a Payload and Profile to a Client

You need to configure your client(s) to boot from the network.

Once this setting is configured, reboot the client so that it pulls the payload and profile from the Control Station. The client entry must be enabled in the AllStart Clients table for this operation to succeed.

Note – The installation is not an active "push" operation from the Sun Control Station to the client. The client must "pull" the payload and profile from the Control Station; the client receives a payload and profile according to the client entry in the AllStart Clients table.

Importing a New Client Into the Sun Control Station

Once you have installed a payload and profile on the client, AllStart initializes the system so that it is ready to be added into the framework.

You can import the client into the Sun Control Station framework, using the Add Host function (through the Administration → Hosts → Add screen).
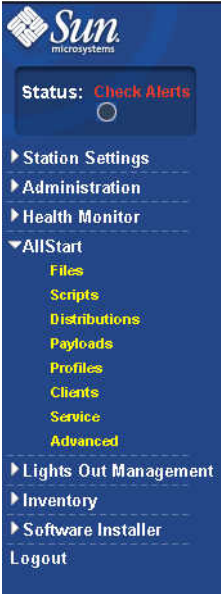
For more information on importing a new client, refer to the *Sun Control Station 2.2 Administrator Manual.*

AllStart Features

This chapter explains how to use the functions and services available through the AllStart control module on the Sun Control Station.

Tasks covered in this chapter include the following.

TABLE 2-1   AllStart Tasks

AllStart Menu	Task	Information
	Adding files or RPMs	"Files" on page 11
	Adding OS distributions	"Distributions" on page 16
	Creating payloads	"Payloads" on page 21
	Adding custom scripts	"Scripts" on page 15
	Creating profiles containing configuration information, disk partitions, RAID partitions, authentication, and X Window information	"Profiles" on page 33
	Adding and enabling the client	"Clients" on page 71
	Configuring the client to reboot from the network	"Building a Client" on page 87
	Viewing and modifying DHCP settings	"Viewing DCHP Information" on page 88
	Configuring a client for auto discovery	"AutoDiscovery Function" on page 94
	Registering Sun JDS software	"Registering Sun JDS Software" on page 96
	Configuring preferences	"Selecting AllStart Preferences" on page 96

Using AllStart

AllStart features and services are accessible through the AllStart menu, which is located on the left-hand column of the graphical user interface.

Using the Graphical User Interface

This manual assumes that you understand the basic operation of Sun Control Station software. For an introduction to basic Sun Control Station features like status icons, the selector window, the Scheduler, and the Task Progress dialog window, see the *Sun Control Station 2.2 Administrator Manual*.

Selecting a System Type

You can set AllStart preferences to customize the AllStart screens so that only those OS distributions that interest you are displayed. See "Advanced" on page 96 for more information

You can also select a system type from the Select System Type selector that appears whenever a choice of OS type needs to be made; see Figure 2-1.
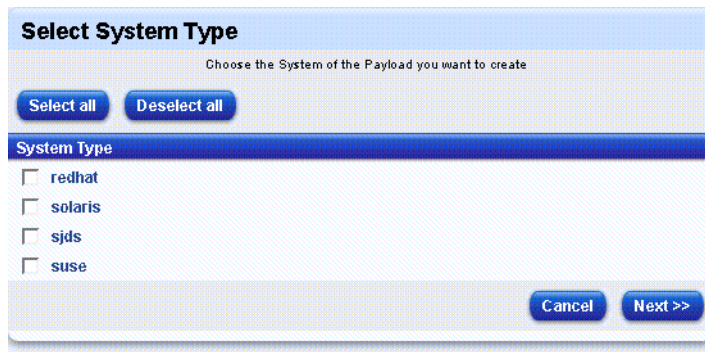
FIGURE 2-1 Select System Type Selector Window

Note – If you select only one OS distribution to display in your AllStart preferences, then the Select System Type selector will not appear in the AllStart procedures.

Files

The Files menu allows you to add or remove individual files to be installed on a client.

Viewing the Files

To view the files that have already been added:

● **Select AllStart → Files**

The AllStart Files table appears.

Adding a File

You can add a file from a remote location or from the Sun Control Station filesystem.

Adding a File from a Remote Location

To add a file from a remote location:

1. **Select AllStart → Files.**

   The AllStart Files table appears.

2. **Click Add at the bottom right.**

   The Add File from Remote Location table appears; see Figure 2-2.

Note – You may need to configure proxy server settings if your system is behind a firewall. See the *Sun Control Station 2.2 Administrator Manual* for information about Station Settings.
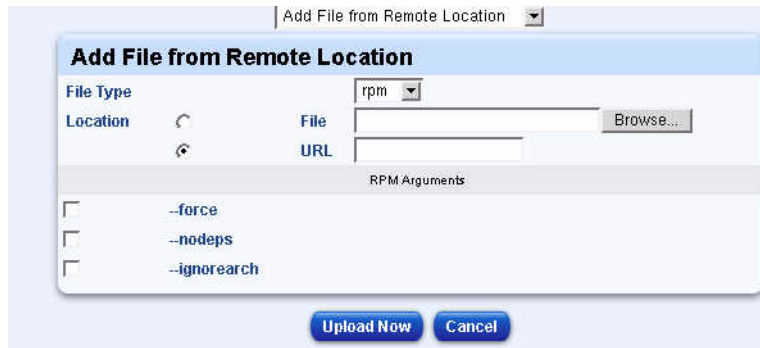
FIGURE 2-2 Add File from Remote LocationTable

3. Choose the type of file from the pull-down menu: RPM, svr4, or file.

4. Locate the file with one of the following methods:

- Click the radio button next to File. Enter the path and file name or click the button to locate the file.
- Click the radio button next to URL. Enter the URL for the file.

5. If you chose an RPM file type, you may also choose one of the following flags:

Note – These flags have no effect on files or sv4 packages.

- force
- nodeps
- ignorearch

These flags are passed directly to RPM during the post-installation phase.

6. Click Upload Now.

The Task Progress dialog appears.

Adding a File from the Sun Control Station Filesystem

To add a file from a local filesystem on the Control Station:

Note – To appear on this screen, the file(s) must be loaded into the directory `/scs/data/allstart/iso/` on the Control Station.

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1. **Select AllStart → Files.**

   The AllStart Files table appears.

2. **Click Add at the bottom right.**

   The Add File from Remote Location table appears.

3. **From the pull-down menu above the table, select Add File(s) from Local Filesystem.**

   The Add File(s) from SCS Filesystem table appears; see Figure 2-3.
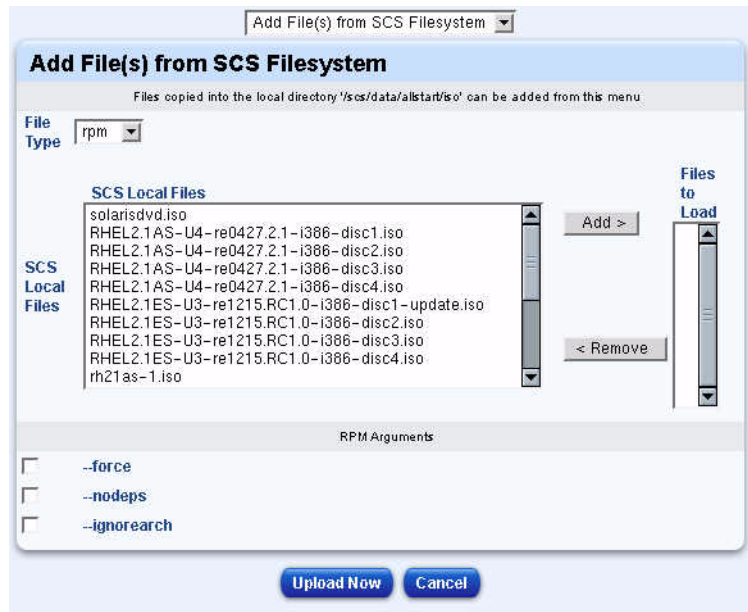
FIGURE 2-3   Add Files from SCS Filesystem Table

4. **Choose the type of file from the pull-down menu: RPM, svr4, or file.**

5. **In the SCS Local Files scrolling window, highlight the file(s) you want to load.**

6. Click Add to move the file(s) to the Files to Load scrolling window.
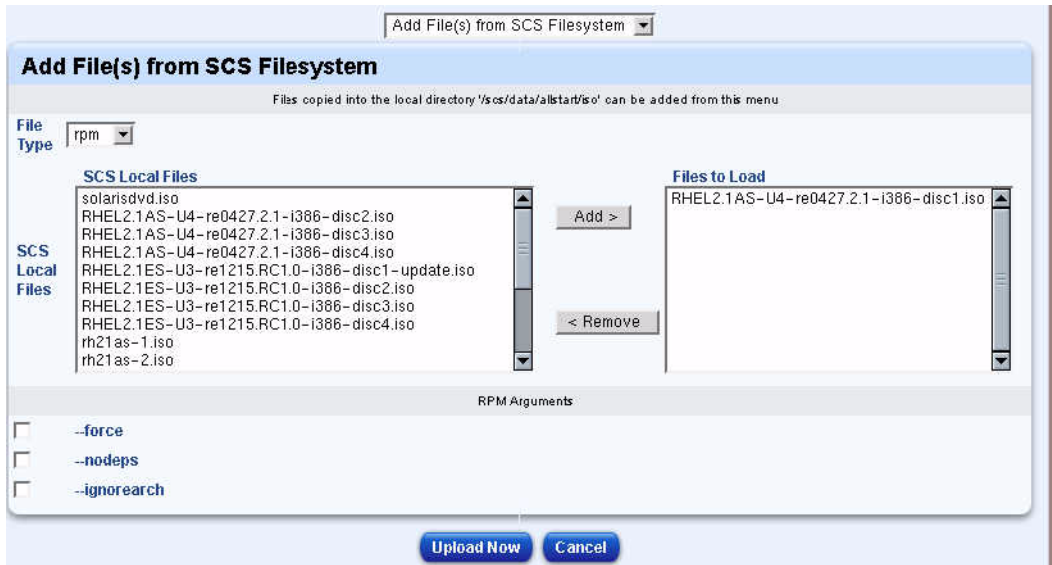
FIGURE 2-4   Add Files to Load Table

7. Click Upload Now.

The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

Deleting a File

To delete a file from the AllStart Files table:

1. Select AllStart → Files.

The AllStart Files table appears.

2. Click to highlight a file(s). You can also click Select All at the top to choose all files in the list.

3. Click Delete at the bottom right.

A dialog appears, asking you to confirm the deletion.

4. Click Delete.

The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

Scripts

The Scripts function allows you to upload scripts to the Edit Custom Script Options table from which you will be able to select scripts to add to a profile.

Uploading a Script

To upload a custom script to the Edit Custom Script Options table:

1. **Select Allstart → Scripts**

   The Upload User-defined Custom Scripts table appears; see Figure 2-6

2. **Click Add.**

   The Add a New Script From Local Filesystem table appears; see Figure 2-5.

FIGURE 2-5   Add a New Script From Local Filesystem Table

3. **Enter the following information:**

   - Enter the path and file name for the script file, or click the Browse button to locate the file.

   - Enter a description of the script.

   - Select the type of script:
      - Pre: script runs before the installation (for example, drivers).

- Post: script runs after the installation.
- Postnochroot: runs after the installation but does not require to be run as `root`. (valid for Red Hat systems only)
- chroot: runs after installation. (valid for SuSE systems only)
- Select the type of system on which the script can run. Use the Add or Remove buttons to move a script between the scrolling windows.

4. **Click Upload Now.**

The Task Progress dialog appears. When the task is complete, click Done.

The custom script appears in the Upload User-defined Custom Scripts table; see Figure 2-6.

You can add another script, edit, or delete a script from this table.

.
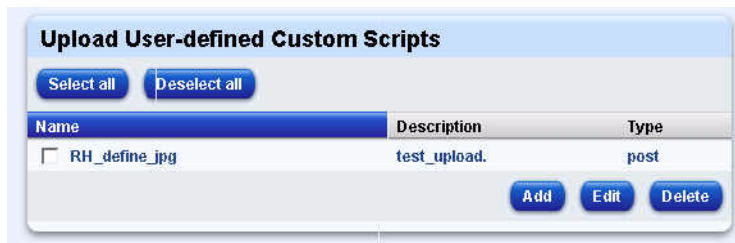
w.

FIGURE 2-6   Upload User-defined Custom Scripts Table

- **To add another script, repeat Steps 2 through 4.**

- **To edit a script, click the check box next to the script, then click Edit.**

  The Modify an Upload Script Info table appears. Modify the parameters using the information in Step 3 for adding a script.

- **To delete a script, click the check box next to the script, then click Delete.**

Distributions

You can add, modify, and delete a distribution from the AllStart Distributions table.

Viewing the Distributions

To view the distributions that have already been added:

● **Select AllStart → Distributions**

The AllStart Distributions table appears.
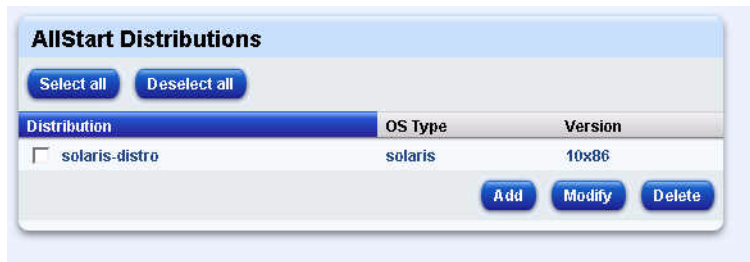
FIGURE 2-7   AllStart Distributions Table

Adding a Distribution

You can add a distribution in two ways

■ Add a distribution from CD-ROM (SuSE, Red Hat and Sun JDS distributions)

■ Add a distribution from a local directory

Note – Solaris x86 distributions are available from DVD ISO image only. You upload the distribution onto AllStart to load in the OS image to be installed on the client. If located locally, the distribution must be in: `/scs/data/allstart/iso/`.

Note – When uploading an OS distribution from a CD-ROM, **do not click** the option "Put Task in Background" when the Task Progress dialog appears. If you do so, the system does not allow you to continue with the next CD-ROM and the complete distribution will not be uploaded. If, by accident, you do put the task in the background, you will need to delete this distribution from the AllStart Distributions table and start this procedure again.

Adding a Distribution From a CD-ROM

To add a distribution from a CD-ROM:

1. **Select AllStart → Distributions.**

   The AllStart Distributions table appears.

2. **Click Add at the bottom right.**

   The Upload Distribution from CD-ROM table appears.

Upload Distribution from cdrom ▼

Upload Distribution from cdrom

Description	
Cdrom Device	/dev/cdrom

Upload Now   **Cancel**

FIGURE 2-8   Upload Distribution from CD-ROM Table

3. **Enter a description of the distribution.**

Note – It is important to use a unique, descriptive name for each distribution. The system differentiates the distributions according to this description.

---

4. **The default path to the CD-ROM is** `/dev/cdrom`**.**

   You can modify this path if necessary.

5. **Click Upload Now.**

   The Task Progress dialog appears.

Note – Do not click the option "Put Task in Background." If you do so, the system does not allow you to continue with the next CD-ROM and the complete distribution will not be uploaded. If, by accident, you do put the task in the background, you will need to delete this distribution from the AllStart Distributions table and start this procedure again.

---

6. **Wait for the message indicating that you have successfully added a distribution, and click Done.**

Adding a Distribution From a Local Directory on the Control Station

For this method, the physical `.iso` files must be loaded into the local file system in the directory `/scs/data/allstart/iso/` so that they appear in the scrolling window in the Distribution Upload table.

Note – When viewing the distributions available from a local directory, the `*.iso` files for a given distribution are sorted by name. The file name usually contains a disc number (for example, `SLES-8-SLEC-1-i386-Int-beta5d-Quicksilver-CD1.iso`). Make sure that you select and transfer at the same time all of the `*.iso` files for a given distribution.

To add a distribution from a local directory on the Control Station:

1. **Select AllStart → Distributions.**

   The AllStart Distributions table appears.

2. **Click Add at the bottom right.**

   The Upload Distribution from CD-ROM table appears.

3. **From the pull-down menu above the table, select Add Distribution from SCS ISOs.**

   The Distribution Upload table appears; see Figure 2-9.

4. **Enter a description of the distribution.**

Note – It is important to use a unique, descriptive name for each distribution. The system differentiates the distributions according to this description.

---

5. **In the SCS Local Files scrolling window, highlight the file(s) you want to load.**

6. **Click Add to move the file(s) to the Distro Files scrolling window.**

7. **When you have selected the file(s), click Upload Now.**

   The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.
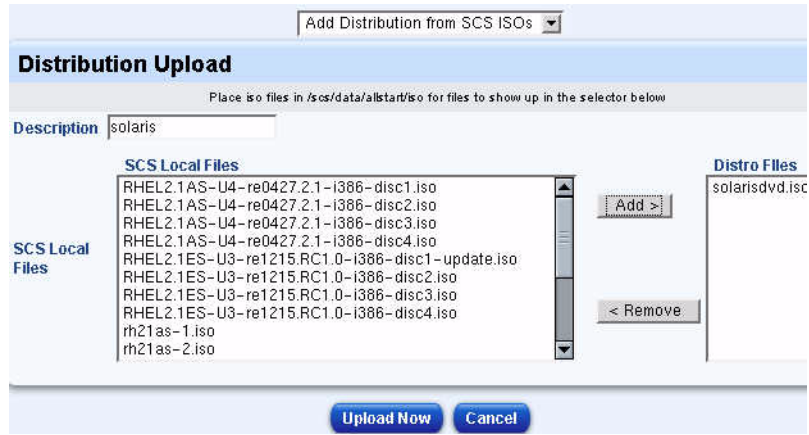
FIGURE 2-9 Distribution Upload Table

Modifying a Distribution

Note – You cannot change the files associated to a distribution using the Modify option. To change the files, you have to create a new distribution.

To modify a distribution:

1. Select AllStart → Distributions.

The AllStart Distributions table appears.

2. Click to highlight a distribution.

3. Click Modify at the bottom right.

The Modify Distribution Information table appears.

You can modify the description of the distribution.

Note – It is important to use a unique, descriptive name for each distribution. The system differentiates the distributions according to this description.

4. Click Save.

The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

Deleting a Distribution

To delete a distribution from the AllStart Distributions table:

Note – If a distribution is referenced to a payload, you cannot delete the distribution. You first need to modify or delete the payload in question.

---

1. **Select AllStart → Distributions.**

   The AllStart Distributions table appears.

2. **Click to highlight a distribution(s). You can also click Select All at the top to choose all distributions in the list.**

3. **Click Delete at the bottom right.**

   If the distribution(s) is referenced to a payload, you cannot delete it.

   If the distribution(s) is not referenced to a payload, a dialog box appears, asking you to confirm the deletion.

4. **Click Delete.**

   The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

Payloads

A payload consists of the OS distributions, packages, and files that you select to install on a client.

You can add, view, modify, delete, or clone a payload from the AllStart Payloads table.

Payloads Table

This table displays the payloads that are currently defined and the type and description of the payload. Click on a payload to view details, modify, delete or clone the payload.

To view the payloads that are currently defined:

● **Select Allstart → Payloads**

The AllStart Payloads table appears.
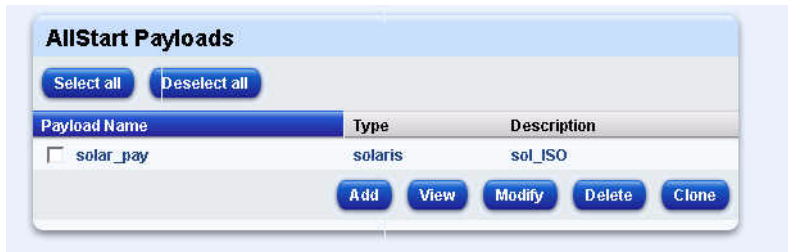
FIGURE 2-10 AllStart Payloads Table

Adding a Payload

The procedures in this section are organized by OS:

- "Adding a Sun Java Desktop System (JDS) Payload" on page 22
- "Adding a SuSE Payload" on page 25
- "Adding a Red Hat Payload" on page 27
- "Adding a Solaris x86 Payload" on page 29

Note – If you select only one OS distribution to display in your AllStart preferences, then the Select System Type selector will not appear in the AllStart procedures. You will go directly into the procedure. For more information, see "Advanced" on page 96.

Adding a Sun Java Desktop System (JDS) Payload

To create a Sun JDS payload:

1. **Select AllStart → Payloads.**

   The AllStart Payloads table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** `sjds`

4. **Click Continue at the bottom.**

   The Create AllStart Payload table appears.

5. **Fill in the following fields:**

   - Payload Name: Enter a unique, descriptive name for this payload.

   Note – It is important to use a unique, descriptive name for each payload. The system differentiates the payloads according to this name.

   - Payload Description: Enter a description of this payload.
   - Distribution: From the pull-down menu, select a distribution to associate to this payload.

6. **Click Next.**

   The AllStart Payload DistributionSpecific Options table for a Sun JDS payload appears; see FIGURE 2-11.
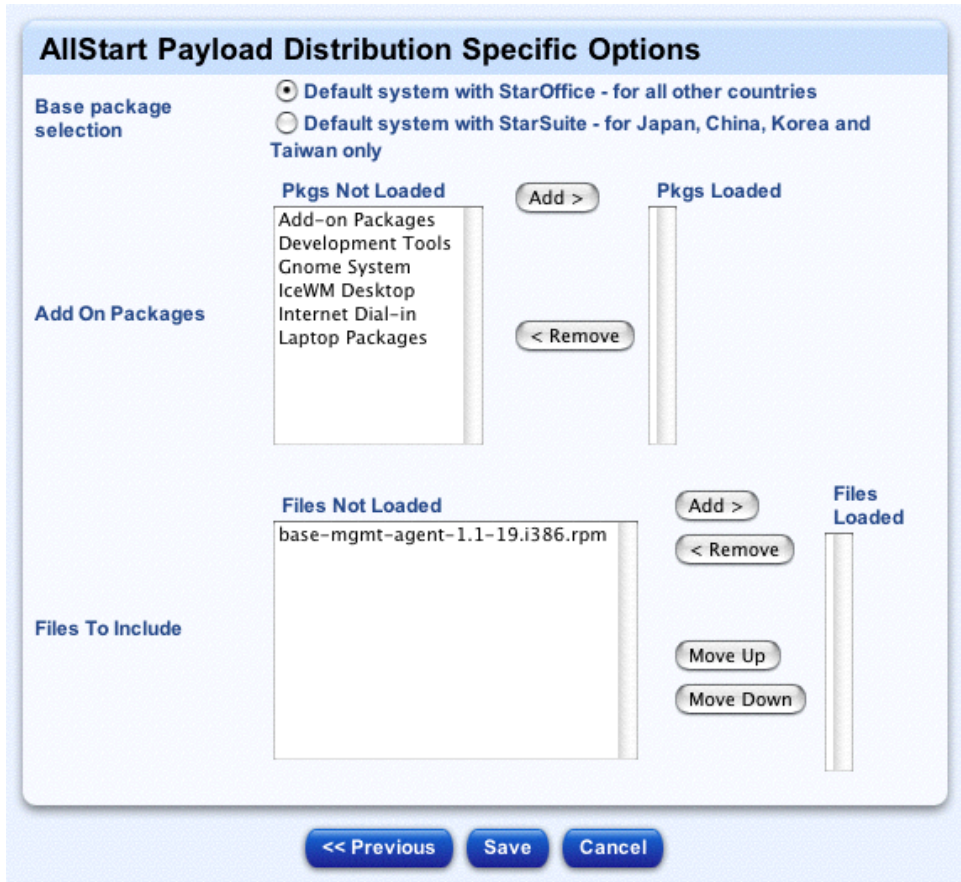
FIGURE 2-11 Sun JDS—AllStart Payload DistributionSpecific Options Table

7. **For Base Package Selection, click the radio button next to the option appropriate to your location:**

   - Default system with StarOffice — For all other countries.
   - Default system with StarSuite — For Japan, China, Korea, and Taiwan only.

8. **In the Pkgs Not Loaded scrolling window, highlight the packages(s) that you want to load.**

   The Add-on Packages are the groups of RPMs that you want to load based on functionality (for example, Development Tools or Laptop Packages).

9. **Click Add to move the package(s) to the Pkgs Loaded scrolling window.**

10. **In the Files Not Loaded scrolling window, highlight the file(s) that you want to load.**

    These are the individual files that will be loaded after the base distribution is loaded.

11. **Click Add to move the file(s) to the Files Loaded scrolling window.**

12. **Click Save.**

    The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

13. **Click Done.**

    The AllStart Payloads table appears. Verify that your payload appears in the summary table.

Adding a SuSE Payload

To add a SuSE payload:

1. **Select AllStart → Payloads.**

    The AllStart Payloads table appears.

2. **Click Add at the bottom.**

    The Select System Type table appears.

3. **Select the type:** SuSE

4. **Click Continue at the bottom.**

    The Create AllStart Payload table appears.

Create AllStart Payload

Payload Name	suse_pay
Payload Description	payload for suse
Distribution	suse-distro ▾

Next >>   Cancel

FIGURE 2-12 Create AllStart PayloadTable

5. **Fill in the following fields:**
    - Payload Name: Enter a unique, descriptive name for this payload.

- Payload Description: Enter a description of this payload.
- Distribution: From the pull-down menu, select a distribution to associate to this payload.

6. **Click Next.**

   The AllStart Payload Distribution Specific Options table for a SuSE payload appears.
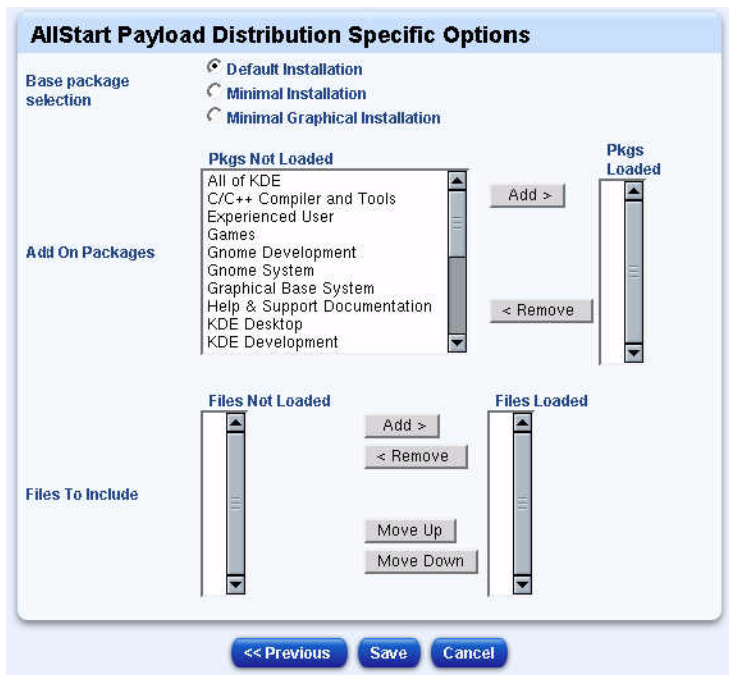
FIGURE 2-13 SuSE AllStart Payload Distribution Specific Options Table

7. **For Base Package Selection, click the radio button next to the option appropriate to your location:**

   - Default Installation

   - Minimal Installation

   - Minimal Graphical Installation

8. **Click Add to move the package(s) to the Pkgs Loaded scrolling window.**

9. **In the Files Not Loaded scrolling window, highlight the file(s) that you want to load.**

   These are the individual files that will be loaded after the base distribution is loaded.

10. **Click Add to move the file(s) to the Files Loaded scrolling window.**

11. **Click Save.**

    The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

12. **Click Done.**

    The AllStart Payloads table appears.Verify that your payload appears in the summary table.

Adding a Red Hat Payload

To create a Red Hat payload:

1. **Select AllStart → Payloads.**

   The AllStart Payloads table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** `redhat`

4. **Click Next.**

   The Create AllStart Payload table appears.

5. **Fill in the following fields:**

   ▪ Payload Name: Enter a unique, descriptive name for this payload.

   Note – It is important to use a unique, descriptive name for each payload. The system differentiates the payloads according to this name.

   ▪ Payload Description: Enter a description of this payload.

   ▪ Distribution: From the pull-down menu, select a distribution for this payload.

6. **Click Next.**

   The AllStart Payload Distribution-Specific Options table for a Red Hat payload appears.
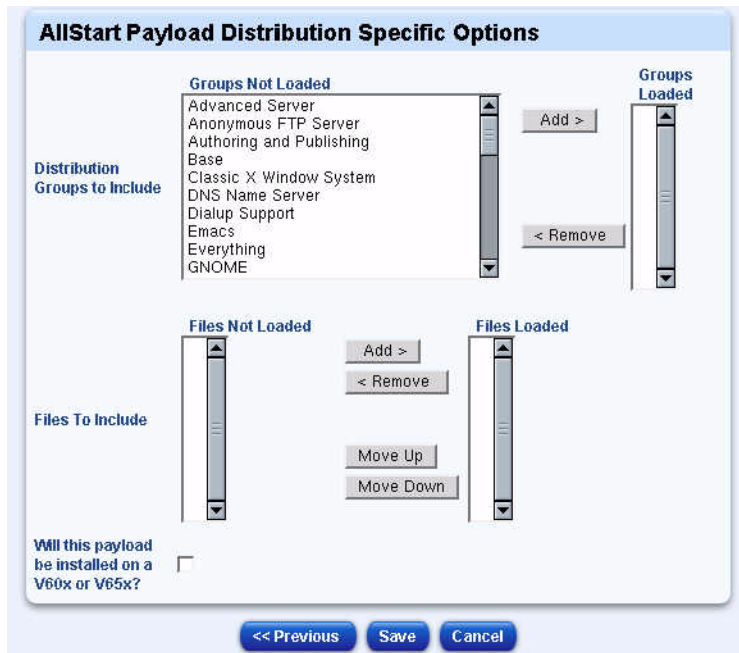
FIGURE 2-14 Red Hat AllStart Payload Distribution Specific Options Table

7. **In the Groups Not Loaded scrolling window, highlight the group(s) that you want to load.**

   The Distribution Groups are the groups of RPMs that you want to load based on functionality (for example, DNS server, Games and Entertainment support, Printing support, Emacs support).

   If you select the entry "Everything," all RPMs in the distribution are added.

8. **Click Add to move the group(s) to the Groups Loaded scrolling window.**

9. **In the Files Not Loaded scrolling window, highlight the file(s) that you want to load.**

   These are the individual files that will be loaded after the base distribution is loaded.

   Click Add to move the file(s) to the Files Loaded scrolling window.

Note – If you move more than one file to the Files Loaded scrolling window, you must place the files in the correct order for installation. The files are installed from the top of the list first. Click to highlight a file and use the Move Up or Move Down buttons to change its placement in the list.

---

10. **If this payload will be installed on a Sun Fire™ V60x or Sun Fire V65x server, click to enable the check box.**

    This option enables the client to load the Sun Control Station drivers that are required before the Linux installation can take place. This option is available only for OS distributions that require special Sun Fire V60x or Sun Fire V65x drivers. It will not appear for newer OS distributions that do not require different drivers.

    Note – If you enable this option, the distribution will then contain these special drivers and will be valid to load only on V60/V65 systems.

    ---

11. **Click Save.**

    The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

    When complete, the AllStart Payloads table appears. Verify that your payload appears in the summary table.

Adding a Solaris x86 Payload

To add a Solaris x86 payload:

1. **Select AllStart → Payloads.**

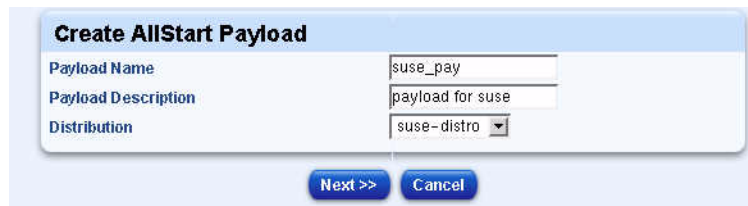   The AllStart Payloads table appears.

2. **Click Add at the bottom.**

    The Select System Type table appears.

3. **Select the type: `solaris`.**

4. **Click Continue at the bottom.**

    The Create AllStart Payload table appears.

FIGURE 2-15 Create AllStart Payload Table

5. **Fill in the following fields:**

   ■ Payload Name: Enter a unique, descriptive name for this payload.

   Note – It is important to use a unique, descriptive name for each payload. The system differentiates the payloads according to this name.

   ■ Payload Description: Enter a description of this payload.
   ■ Distribution: From the pull-down menu, select a distribution for this payload.

6. **Click Next.**

   The AllStart Payload Distribution-Specific Options table for a Solaris payload appears; see Figure 2-16.
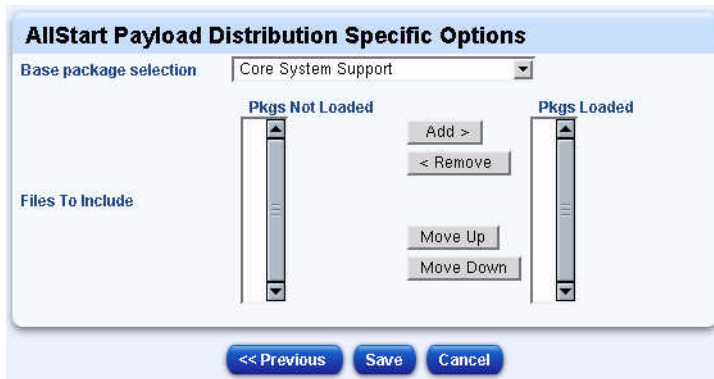
FIGURE 2-16 Solaris AllStart Payload Distribution Specific Options Table

7. **In the Base Package Selection scrolling window, highlight the packages(s) that you want to load:**
   ■ Core System Support
   ■ Developer System support
   ■ End User System Support
   ■ Entire Distribution
   ■ Entire Distribution plus OEM support.

8. **Click Add to move the packages(s) to the Pkgs Loaded scrolling window.**

9. **Click Save.**

   The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

10. **Click Done.**

   The AllStart Payloads table appears. Verify that your payload appears in the summary table.

Viewing a Payload

To view the information on a payload:

1. **Select AllStart → Payloads.**

   The AllStart Payloads table appears; see Figure 2-10.

2. **Click to highlight a payload.**

3. **Click View.**

   The View AllStart Payload table appears, displaying the following information:

   - Payload name
   - Payload description
   - Distribution associated to the payload
   - Payload groups or packages
   - Individual payload files (if any)

4. **Click Done to return to the AllStart Payloads table.**

Modifying a Payload

To modify a payload:

1. **Select AllStart → Payloads.**

   The AllStart Payloads table appears.

2. **Click to highlight a payload.**

3. **Click Modify.**

   The Modify AllStart Payload table appears.

4. **Modify the following fields as appropriate:**

   - Payload Name:Enter a unique, descriptive name for this payload.

   Note – It is important to use a unique, descriptive name for each payload. The system differentiates the payloads according to this name.

   - Payload Description: Enter a description of this payload.

- Distribution: From the pull-down menu, select a distribution or this payload.

5. **Click Next.**

   The AllStart Payload DistributionSpecific Options table appears.

6. **Click Save.**

   The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

7. **Click Done.**

   The AllStart Payloads table appears. Verify that your payload appears in the summary table.

Deleting a Payload

To delete a payload:

Note – If a payload is referenced to a client, you cannot delete the payload. You first need to modify or delete the client in question.

---

1. **Select AllStart → Payloads.**

   The AllStart Payloads table appears.

2. **Click to highlight a payload(s). You can also click Select All at the top to choose all payloads in the list.**

3. **Click Delete.**
   - If the payload(s) is referenced to a client, you cannot delete it.
   - If the payload(s) is not referenced to a client, a dialog appears, asking you to confirm the deletion.

4. **Click Delete.**

   The Task Progress dialog appears. When the progress bar displays 100%, the task has completed.

5. **Click Done.**

   The AllStart Payloads table appears.

Cloning a Payload

Cloning a payload allows you to create an exact duplicate of an existing payload with a different name. This is useful when creating similar payloads.

To clone a payload:

1. **Select AllStart → Payloads.**

   The AllStart Payloads table appears.

2. **Click to highlight a payload.**

3. **Click Clone.**

   The Clone AllStart Payload table appears.

4. **Modify the following fields as appropriate:**

   - Payload Name: Enter a unique, descriptive name for this payload.

   Note – It is important to use a unique, descriptive name for each payload. The system differentiates the payloads according to this name.

   - Payload Description: Enter a description of this payload.

5. **Click Save.**

   The Task Progress dialog appears.

6. **Click Done.**

   The AllStart Payloads table appears. Verify that the payload clone is shown on the AllStart Payloads table.

Profiles

A profile contains configuration information that will be applied to a client along with a payload. You can add, view, modify, delete, or clone a profile.

When you add a profile, you configure the following information for a client:

- General configuration information
- Disk partitions
- RAID partitions (optional)
- Authentication and X Window settings
- Custom scripts

General Configuration Information

These parameters are similar for all OS types and include a profile description, default language, types of mouse and keyboard Time zone and time server, and root password. You can also elect to have the hosts reboot once the payload and profile have been installed.

Disk Partition Information

You need to configure a root ("/") partition and at least one swap partition for each profile. For Red Hat and SuSE operating systems, you can also configure RAID partitions.

Note – The AllStart module does very limited RAID configuration validation. A RAID configuration that you successfully create within an AllStart profile may not necessarily be supported by an operating system vendor, such as SuSE.

Disk partition and RAID partition functions are available from the Disk Partition Information Selector window; see Figure 2-17 for a sample window with RAID. See Figure 2-18 for a Disk Partition Information selector window without RAID.
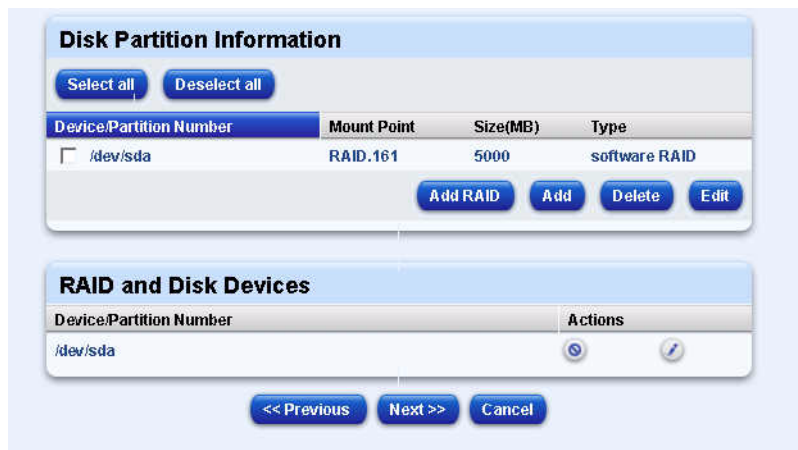
FIGURE 2-17 Disk Partition Information Selector Window With RAID

The top section of the Disk Partition Information selector window displays:

- Device/Partition Number
- Mount Point

- Size (in MB)
- Type (File System)

The bottom section of the Disk Partition Information selector window displays the disk drives and devices.
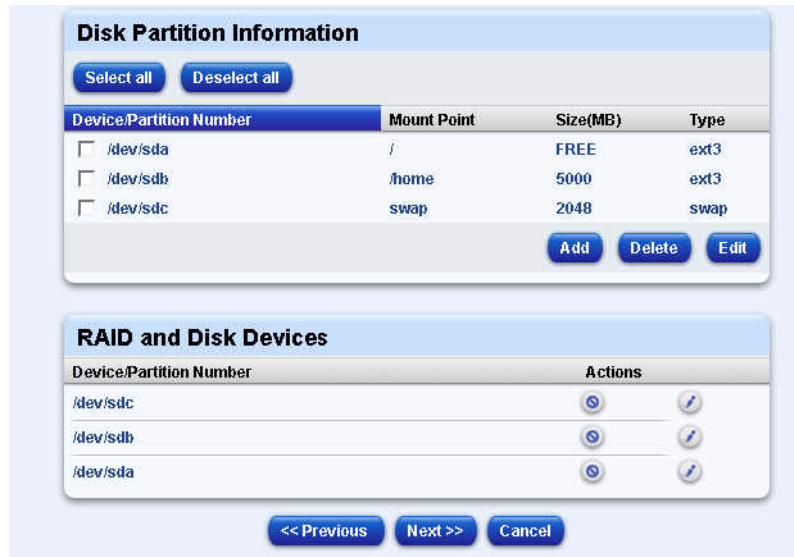
FIGURE 2-18 Disk Partition Information Selector Window

TABLE 2-2 Buttons on the Disk Partition Information Window

Button	Description
Add RAID	Click Add RAID to add a RAID partition. Invokes the Partitions Options window. This button is omitted when you create an Sun JDS or Solaris x86 profile because RAID partitions are not supported for those operating systems.
Add	Click Add to add a disk partition. Invokes the Partitions Options window.
Delete	Click the check box next to a partition and click Delete.

TABLE 2-2   Buttons on the Disk Partition Information Window *(Continued)*

Button	Description
Edit	Click the check box next to partition and click Edit to modify your selection. Invokes the Partitions Options window.
Delete icon	Use to delete a device. Highlight the disk drive/device and click the icon.
Pencil icon	Use to modify a device. Highlight the device and click the pencil icon. Invokes the Disk drive Options table.

Authentication and X Window Information

You may configure authentication information and X Window configuration information for the client. Authentication information is OS specific, and can include NIS and LDAP authentication, and proxy service configuration agents. X Window configuration includes parameters for X11 settings and 3D support monitor information.

Custom Scripts

If you intend to add a custom script to a profile, you need first to upload the script to make it available. See "Scripts" on page 15. You can then add the script when you add the profile.

Profiles Table

The AllStart Profiles table shows the profiles that are currently defined.

To view the AllStart Profiles table:

● **Select Allstart → Profiles**

The AllStart Profiles table appears. Each function on the table is explained in this section.
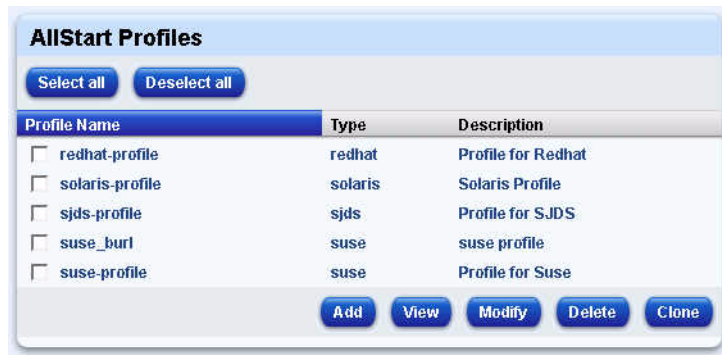
FIGURE 2-19 AllStart Profiles Table

Adding a Profile

The procedures in this section are organized by OS:

- "Adding a Sun Java Desktop System Profile" on page 37
- "Adding a SuSE Profile" on page 44.
- "Adding a Red Hat Profile" on page 50
- "Adding a Solaris x86 Profile" on page 57

Note – If you select only one OS distribution to display in your AllStart preferences, then the Select System Type selector will not appear in the AllStart procedures. You will go directly into the procedure. For more information, see "Advanced" on page 96.

Adding a Sun Java Desktop System Profile

Note – There are a large number of UI screens in this procedure with several parameters to configure on each screen.

To add an Sun JDS profile:

1. **Select AllStart → Profiles.**

   The AllStart Profiles table appears.

2. **Click Add.**

   The Select System Type table appears.

3. **Select the type:** `sjds`

4. **Click Next.**

   The Add AllStart Profile table appears; see Figure 2-20.

5. **Configure the following parameters:**

   - Profile Name: Enter a unique, descriptive name for this profile.

   Note – It is important to use a unique, descriptive name for each profile. The system differentiates the profiles according to this name.

   - Profile Description: Enter a description of this profile.
   - Default Language
   - Type of Keyboard
   - Type of Mouse
   - Sound Card Vendor: Select from the scrolling window.
   - Type of Sound Card: Select from the scrolling window.

- Time Zone: From the pull-down menu, select time zone in which the hosts that you will configure are located.
- Time Server (optional).
- Root Password: Enter a root password for the hosts that will use this profile and confirm the password.
- Reboot System After Installation: Click this check box to have the hosts reboot once the payload and profile have been installed.

6. **Click Next below the table.**

The Edit Boot Loader Options table appears; see Figure 2-21.
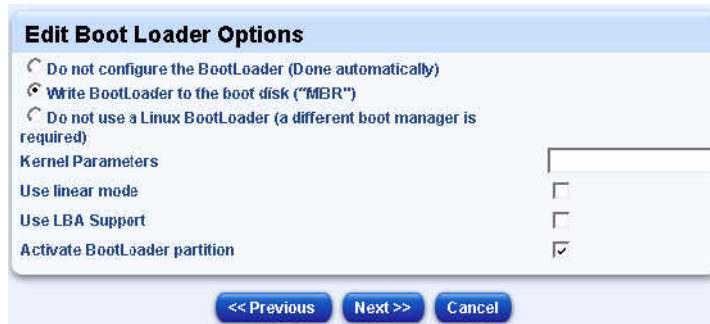
FIGURE 2-21 Sun JDS Edit Boot Loader Options Table

7. **Configure the following parameters for the boot loader:**

Note – If you are building a machine through a serial console and you select a boot loader, you should also add the corresponding GRUB customized scripts at the end of this procedure.

- Click the radio button to choose one of the following options:
  - Do not configure the Boot Loader (Done automatically).
  - Write Boot Loader to the boot disk ("MBR").
  - Do not use a Linux Boot Loader (A different boot manager is required).
- Kernel Parameters.
- Use linear mode.
- Use LBA support.
- Activate Boot Loader Partition. This option is enabled by default.

8. **Click Next below the table to continue.**

The Disk Partition Information selector window appears; see a sample in Figure 2-22.

9. **Add disk partitions.**

   In the Disk Partition Information selector window you can add, edit, or delete a partition and you can edit or delete a disk drive.

   At a minimum, you must define the `root` ("/") partition and at least one swap partition.

   For instructions on adding disk partitions, see "Adding Disk Partitions" on page 64.

   Continue this procedure at Step 10 after you have added the partitions.

10. **Click Save.**

    The Disk Partitions Information selector window appears with your disk partitions.
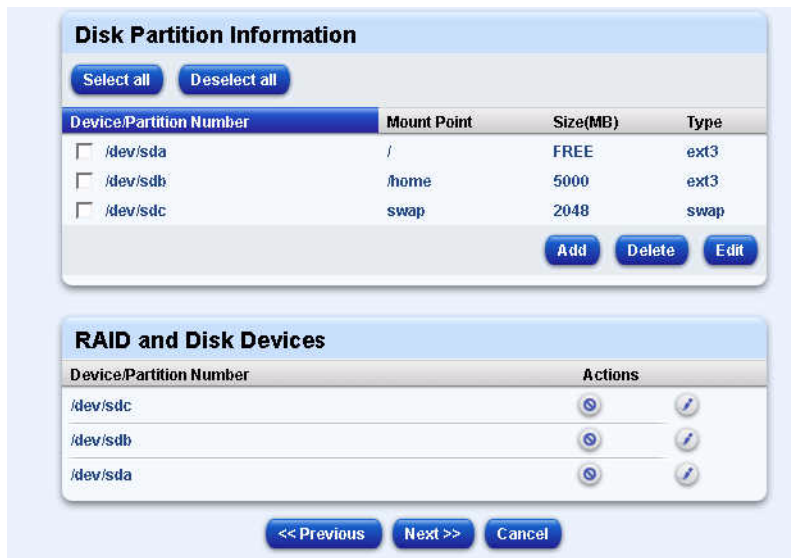
FIGURE 2-22 Sun JDS - Disk Partition Information Selector Window

11. **Click Next to continue.**

    The Client Configuration table appears; see Figure 2-23.

FIGURE 2-23 Sun JDS - Client Configuration Table

12. Configure the appropriate parameters for the client.

Note – The Authentication options are discussed in the appropriate Sun JDS user documentation.

---

a. **NIS Authentication**

   - Enable NIS.
   - Enter an NIS domain.
   - Use broadcast to find an NIS server.
   - Enter an NIS server.

b. **LDAP Authentication**

   - Enable LDAP.
   - Enter an LDAP server.
   - Enter an LDAP base name.

c. **Proxy Service Configuration**

   - Enable Proxy Services.
   - HTTP Proxy.
   - FTP Proxy.
   - User name (if necessary).
   - Password (if necessary).

13. **Click Next below the table.**

The Client Configuration Continued table appears.

You can configure the folowing parameters

d. Configuration Agent Settings

- Enable Configuration Agent Settings
- Enter a Host Name.
- Enter a port.
- Enter the root location.

14. **Click Next below the table.**

The X Config Options table appears, see Figure 2-24.
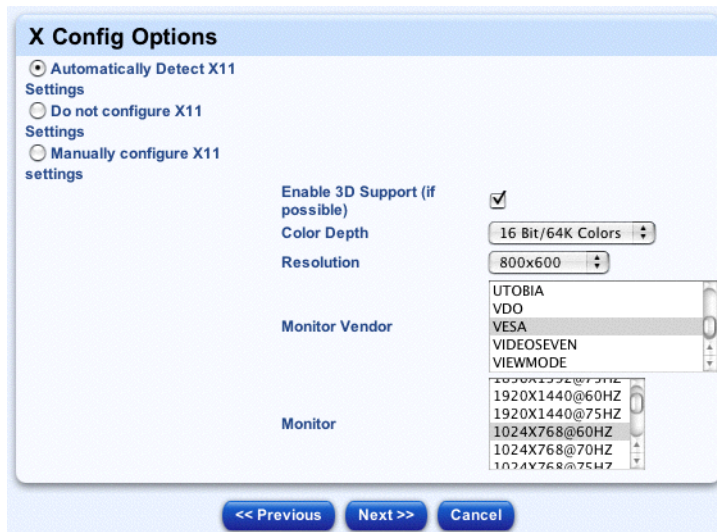
FIGURE 2-24 Sun JDS - X Configure Options Window

15. **Configure appropriate X Window parameters:**

- Click the radio button to select one of the three options:
  - Automatically Detect X11 Settings
  - Do Not Configure X11 Settings
  - Manually Configure X11 Settings

Note – You configure the following settings only if you choose to configure the X11 settings manually.

- Click the check box to enable 3D support (if possible).
- Set the color depth and resolution of the monitor.
- Select a monitor vendor from the scrolling window.
- Select a monitor from the scrolling window.

16. **Click Next below the table.**

   The Edit Custom Script Options table appears; see Figure 2-25.
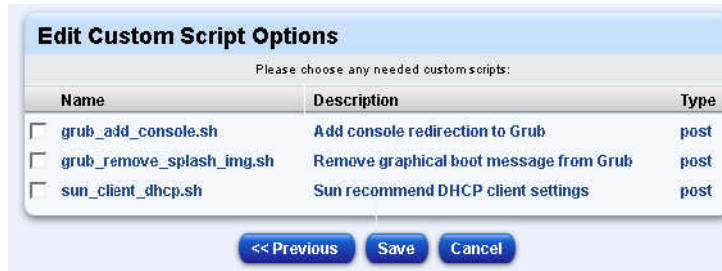
FIGURE 2-25 Sun JDS - Edit Custom Script Options Table

17. **Add a custom script to the profile.**

   The Edit Custom Script Options table contains a number of custom scripts that you can add to the profile. If you want to upload other scripts to this table, see "Scripts" on page 15.

   Note – The custom script `sun_client_dhcp.sh` sets the client's DHCP settings to a certain set of defaults.

   ---

   a. **Click the check box(es) to select the custom script(s) you want to add to the profile.**

   Note – If you are building a machine through a serial console and you selected a boot loader in Step 7, you should now also add the corresponding GRUB customized scripts. If you do not, you will not see the boot messages and install messages on the console.

   ---

   b. **Click Save.**

   The Task Progress dialog appears.

18. **Click Done.**

   The AllStart Profiles table appears; see Figure 2-19. Verify that it shows the profile you created.

Adding a SuSE Profile

Note – There are a large number of UI screens in this procedure with several parameters to configure on each screen.

To add a SuSE profile:

1. **Select AllStart → Profiles.**

   The AllStart Profiles table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** SuSE

4. **Click Next.**

   The Add AllStart Profile table appears.

FIGURE 2-26 SuSE Add AllStart Profile Table

5. **Configure the following parameters:**

   ■ Profile Name: Enter a unique, descriptive name for this profile.

   Note – It is important to use a unique, descriptive name for each profile. The system differentiates the profiles according to this name.

   ■ Profile Description. Enter a description of this profile.
   ■ Default Language
   ■ Type of Keyboard
   ■ Type of Mouse
   ■ Sound Card Vendor
   ■ Sound Card
   ■ Time Zone: From the pull-down menu, select time zone in which the hosts that you will configure are located.
   ■ Time Server (optional)
   ■ Root Password: Enter a root password for the hosts that will use this profile and confirm the password.
   ■ Reboot System After Installation: Click this check box to have the hosts reboot once the payload and profile have been installed.

6. **Click Next.**

   The Edit Boot Loader Options table appears.
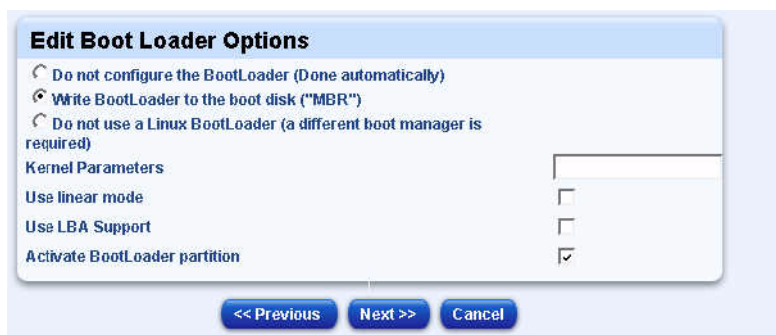
FIGURE 2-27 SuSE Edit Boot Loader Options Table

7. **Configure the following parameters for the boot loader:**

   Note – If you are building a machine through a serial console and you select a boot loader, you should also add the corresponding GRUB customized scripts at the end of this procedure.

   ---

   a. **Click the radio button to choose one of the following options:**

- Do not configure the Boot Loader (Done automatically)
- Write Boot Loader to the boot disk ("MBR")
- Do not use a Linux Boot Loader (A different boot manager is required)
- Kernel Parameters
- Use linear mode
- Use LBA Support
- Activate Boot Loader Partition. This option is enabled by default.

b. Click Next.

The Disk Partition Information selector window appears.

8. **Add Partitions to this profile.**

You need to define a root ("/") partition and at least one swap partition for this profile. You also have the option of defining RAID partitions.

- To add RAID partitions, go to Step 9.
- To add disk partitions without adding RAID partitions, go to Step 10.

9. **Add RAID partitions.**

For instructions, see "Adding RAID Partitions" on page 61.

Define at least two RAID partitions, then add disk partitions.

10. **Add disk partitions.**

For instructions see, "Adding Disk Partitions" on page 64.

Return to this procedure and continue at Step 11 when you have finished adding partitions.

11. **Click Save.**

The Disk Partition Information selector window appears showing your partitions.

FIGURE 2-28 SuSE - Disk Partition Information Selector Window

12. Click Next to continue.

The Client Configuration table appears; see Figure 2-29.
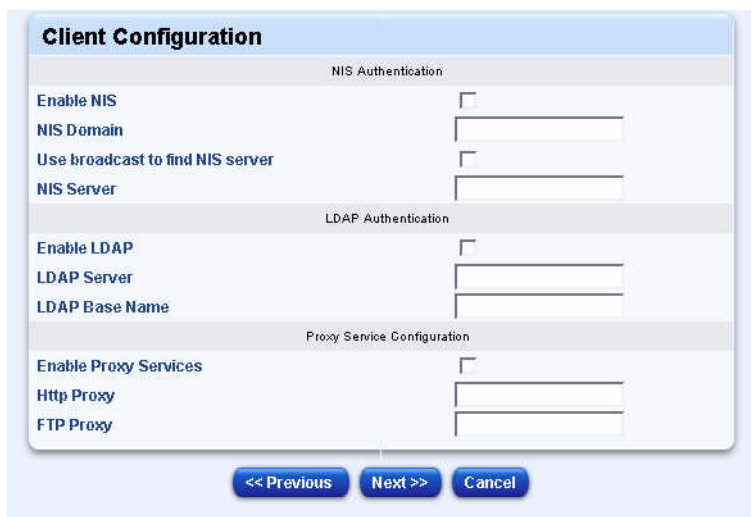
FIGURE 2-29 SuSE - Client Configuration Table

13. Configure the appropriate parameters for the client.

a. **NIS Authentication**

- Enable NIS.
- Enter an NIS domain.
- Use broadcast to find an NIS server.
- Enter an NIS server.

b. **LDAP Authentication**

- Enable LDAP.
- Enter an LDAP server.
- Enter an LDAP base name.

c. **Proxy Service Configuration**

- Enable Proxy Services.
- HTTP Proxy.
- FTP Proxy.

14. **Click Next below the table.**

    The X Config Options table appears: see Figure 2-30.

FIGURE 2-30 SuSE - X Config Options Table

15. **Configure appropriate X Window parameters:**

- Click the radio button to select one of the three options:
    - Automatically Detect X11 Settings
    - Do Not Configure X11 Settings

■ Manually Configure X11 Settings

■ Click the check box to enable 3D support (if possible).
■ Set the color depth and resolution of the monitor.
■ Select a monitor vendor from the scrolling window.
■ Select a monitor from the scrolling window.

16. **Click Next below the table.**

The Edit Custom Script Options table appears; see Figure 2-31.

FIGURE 2-31 SuSE Edit Custom Scripts Options Table.

17. **Add a custom script to this profile.**

The Edit Custom Script Options table contains a number of custom scripts that you can add to the profile. If you want to upload other custom scripts to this table, See "Scripts" on page 15.

To add a custom script to the profile:

a. **Click the check box(es) to select the custom script(s) you want to add to the profile.**

b. **Click Save.**

The Task Progress dialog appears.

18. **Click Done.**

    The AllStart Profile table appears. Verify that it shows the profile you created.

Adding a Red Hat Profile

Note – There are a large number of UI screens in this procedure with several parameters to configure on each screen.

To add a Red Hat profile:

1. **Select AllStart → Profiles.**

    The AllStart Profiles table appears.

2. **Click Add at the bottom.**

    The Select System Type table appears.

3. **Select the type:** redhat

4. **Click Next.**

    The Add AllStart Profile table appears; see FIGURE 2-32.

5. **Configure the following parameters:**

    ■ Profile Name: Enter a unique, descriptive name for this profile.

Note – It is important to use a unique, descriptive name for each profile. The system differentiates the profiles according to this name.

    ■ Profile Description: Enter a description of this profile.
    ■ Default Language
    ■ Type of Keyboard
    ■ Type of Mouse
    ■ Emulate a 3-button mouse: Click this check box to enable the emulation of a three-button mouse with a two-button mouse.
    ■ Time Zone. From the pull-down menu, select the time zone in which the hosts that you will configure are located.
    ■ Time Server (optional)
    ■ Root Password: Enter a root password for the hosts that will use this profile and confirm the password.
    ■ Reboot System After Installation: Click this check box to have the hosts reboot once the payload and profile have been installed.
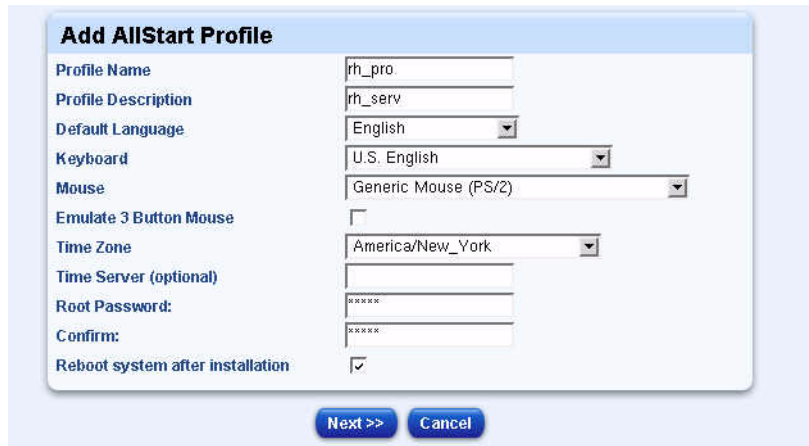
FIGURE 2-32 Red Hat Add AllStart Profile Table

6. **Click Next.**

   The Edit Boot Loader Options table appears; see Figure 2-33.

7. **Configure the following parameters for the boot loader:**

   Note – If you are building a machine through a serial console and you select GRUB or LILO as the boot loader, you should also add the corresponding GRUB or LILO customized scripts at the end of this procedure.

   - Install Boot Loader: Click this check box to install a boot loader.
   - Choose Boot Loader: From the pull-down menu, select a boot loader: LILO or GRUB.
   - Kernel Parameters.
   - If you selected the GRUB boot loader:
     - Enter a GRUB password.
     - Click the check box to encrypt the GRUB password.
   - If you selected the LILO boot loader:
     - Click the first check box to use linear mode.
     - Click the second check box to force the installation to use lba32 mode.
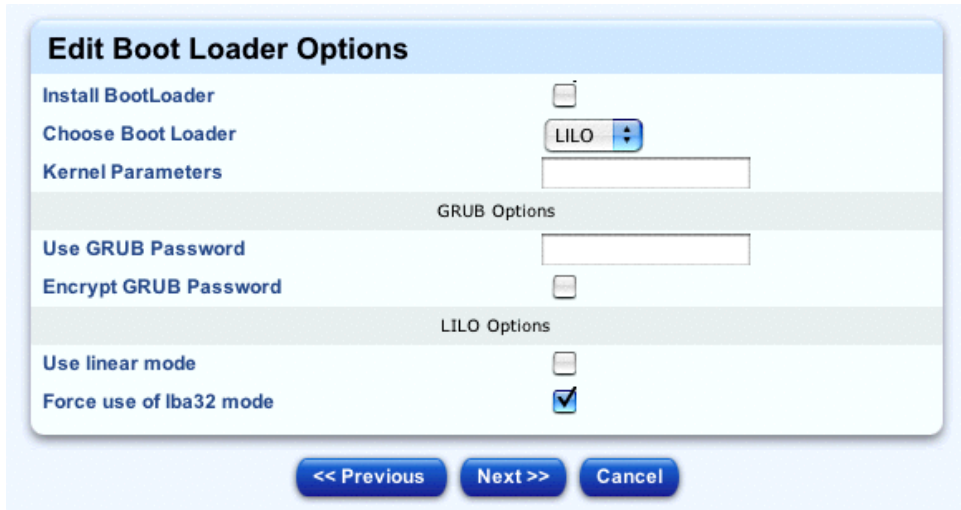
FIGURE 2-33 Edit Boot Loader Options Table

8. **Click Next.**

   The Partition Options table appears; see FIGURE 2-34.

9. **Click the radio buttons to configure the settings in each of the three sections.**

   ■ Master Boot Record

      ■ Clear the Master Boot Record
      ■ Do not clear the Master Boot Record

   ■ What Do You Want Done With Existing Partitions.

      ■ Remove all existing partitions
      ■ Remove existing Linux partitions.
      ■ Preserve existing partitions

   ■ What Do You Want Done With Disk Label

      ■ Initialize the disk label
      ■ Do not initialize the disk label
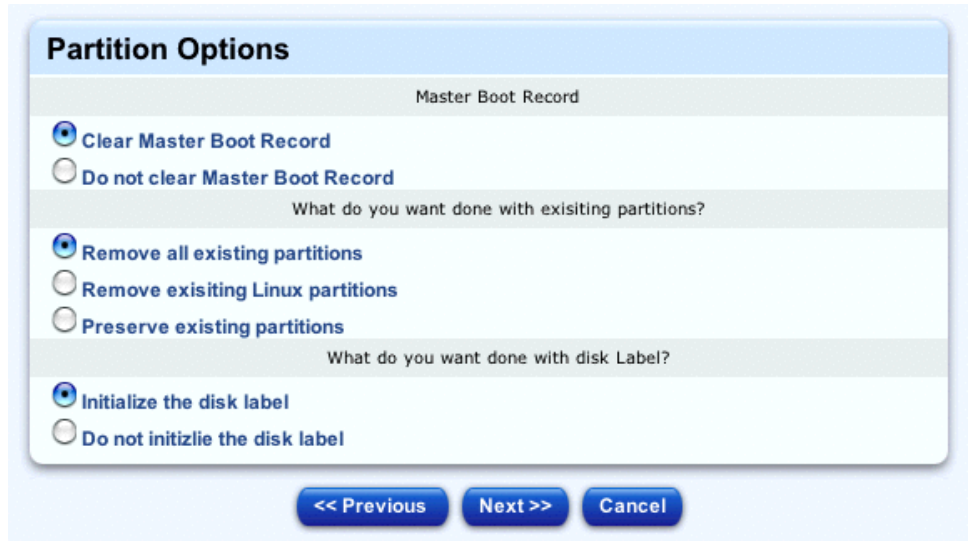
FIGURE 2-34 Red Hat—Partition Options Table

10. **Click Next.**

    The Disk Partition Information selector window appears.

11. **Add partitions to this profile.**

    You need to define a root ("/") partition and at least one swap partition for this profile. You also have the option of defining RAID partitions.

    - To add RAID partitions, go to Step 12.
    - To add disk partitions without defining RAID partitions, go to Step 13.

12. **Add RAID partitions.**

    For instructions, see "Adding RAID Partitions" on page 61.

    Add at least two RAID partitions, then add disk partitions.

13. **Add disk partitions.**

    For instructions see, "Adding Disk Partitions" on page 64.

    Return to this procedure and continue at Step 14 when you have finished adding partitions.

14. **Click Save.**

    The Disk Partition Information selector window appears showing your partitions; see Figure 2-35.
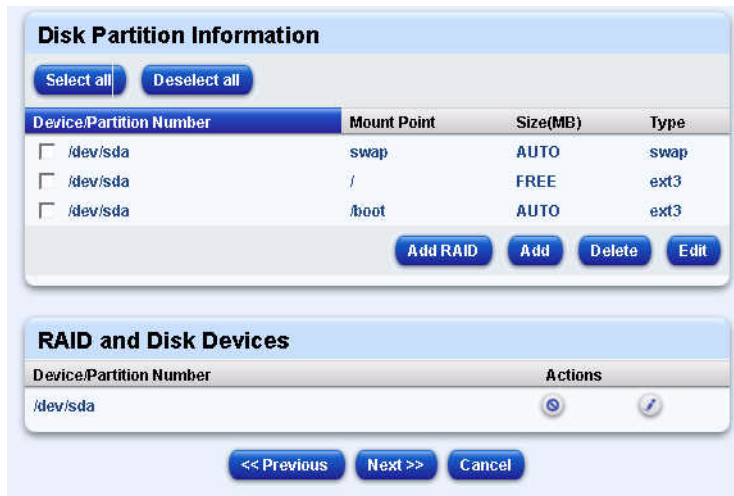
FIGURE 2-35 Red Hat Disk Partition Information Selector Window

15. Click Next.

The Edit Authentication Information table appears; see Figure 2-36.

16. Configure the following parameters for the client.

Note – All of these options are discussed in the appropriate Red Hat documentation. For more information, refer to `http://www.redhat.com/docs/`.

---

a. Shadow passwords and MD5 checksums
   - Shadow Passwords option is enabled by default.
   - Enable MD5 option is enabled by default.

b. NIS Authentication
   - Enable NIS.
   - Enter an NIS domain.
   - Use broadcast to find an NIS server.
   - Enter an NIS server.

c. LDAP Authentication
   - Enable LDAP.
   - Enter an LDAP server.
   - Enter an LDAP base name.
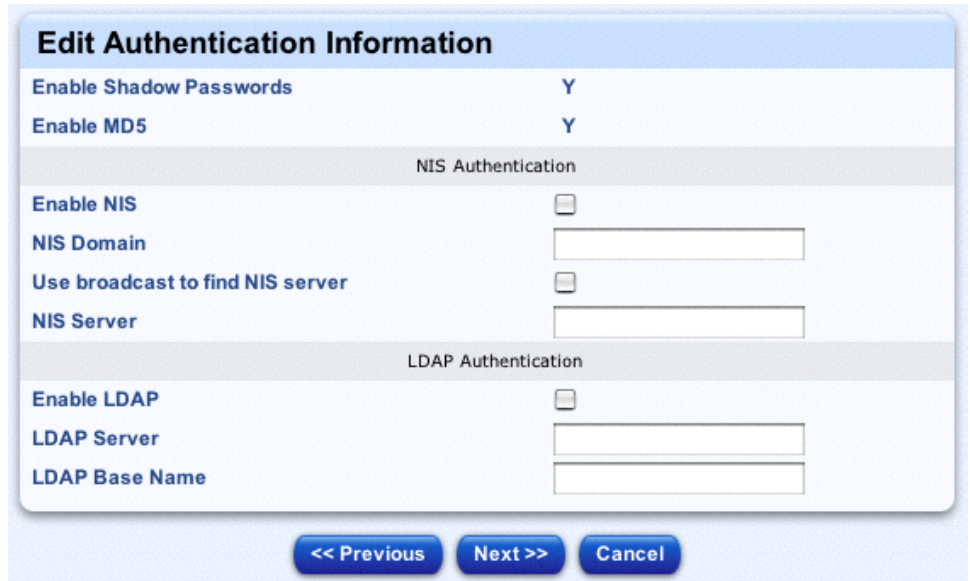
FIGURE 2-36 Red Hat Edit Authentication Information Table

17. **Click Next below the table.**

    The X Config Options table appears, see FIGURE 2-37.

18. **Configure appropriate X Window parameters:**

    ■ Click the check box to enable the X Window System.

Note – If the X Window System is not enabled, then all of the following parameters in this table are disabled.

    ■ Set the color depth and resolution of the monitor.
    ■ Select a default desktop from the pull-down menu: GNOME or KDE.
    ■ Click the check box to have the X Window System start up on boot.
    ■ Select a video card from the pull-down menu.
    ■ Select the amount of RAM available for the video card from the pull-down menu.
    ■ Select a monitor from the pull-down menu.
    ■ Alternatively, you can simply specify the Horizontal Sync and Vertical Sync values for your monitor. Click the check box to enable this option and enter the hsync and vsync values in the fields.
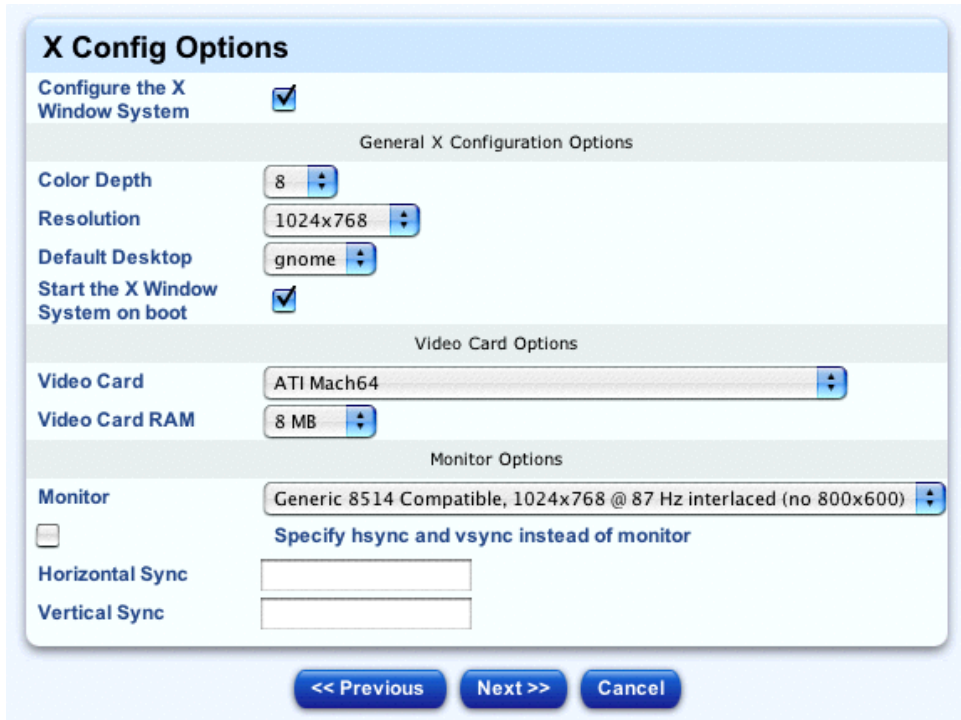
FIGURE 2-37 Red Hat X Config Options Table

19. **Click Next below the table.**

    The Edit Custom Script Options table appears.

20. **Add a Custom Script to the profile**

    The Edit Custom Script Options table contains a number of custom scripts that you can add to the profile.

    Note – If you want to upload other custom scripts to this table, see "Scripts" on page 15.

    ---

    a. **Click the check box(es) to select the custom script(s) you want to add to the profile.**

> **Note –** If you are building a machine through a serial console and you selected GRUB or LILO as the boot loader, you should now also add the corresponding GRUB or LILO customized scripts. If you do not, you will not see the boot messages and install messages on console.

b. Click Save.

The Task Progress dialog appears. Wait for the task to complete.

21. **Click Done.**

The AllStart Profiles table appears. Verify that it shows the profile you created.

Adding a Solaris x86 Profile

> **Note –** There are a large number of UI screens in this procedure with several parameters to configure on each screen.

To add a Solaris x86 profile:

1. **Select AllStart → Profiles.**

The AllStart Profiles table appears. This table lists the names of the profiles currently defined.

2. **Click Add.**

The Select System Type table appears.

3. **Select the type:** `solaris`

4. **Click Next.**

The Add AllStart Profile table appears; see Figure 2-38.
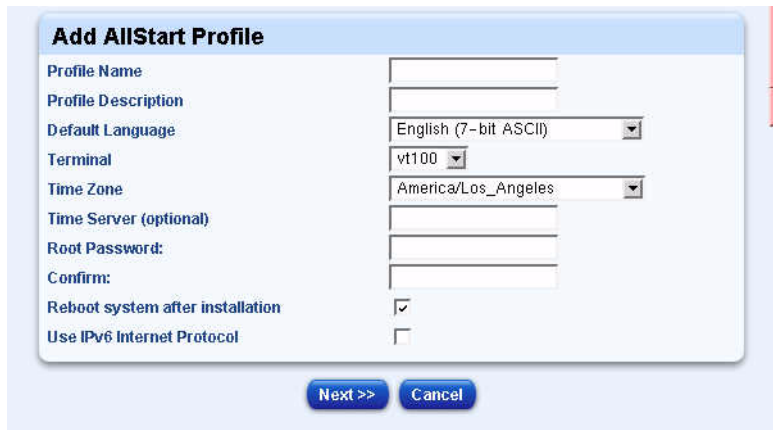
FIGURE 2-38 Solaris x86 Add AllStart Profile Table

5. **Configure the following parameters:**

   ■ Profile Name: Enter a unique, descriptive name for this profile.

   Note – It is important to use a unique, descriptive name for each profile. The system differentiates the profiles according to this name.

   ■ Profile Description: Enter a description of this profile.
   ■ Default Language
   ■ Terminal
   ■ Time Zone: From the pull-down menu, select time zone in which the hosts that you will configure are located.
   ■ Time Server (optional)
   ■ Root Password: Enter a root password for the hosts that will use this profile and confirm the password.
   ■ Reboot System After Installation: Click this check box to have the hosts reboot once the payload and profile have been installed.
   ■ Use IPv6 Internet Protocol.

6. **Click Next.**

   The Disk Partition Information selector window appears; see Figure 2-39.
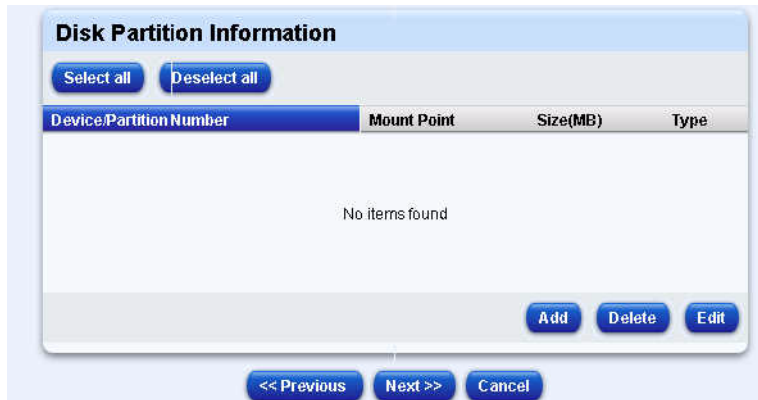
FIGURE 2-39 Solaris x86 - Disk Partition Information Selector Window

7. **Add disk partition information to the profile.**

   At a minimum, you must define a root ("/") partition and at least one swap partition.

   For instructions, see "Adding Disk Partitions" on page 64.

   Return to this procedure and continue at Step 8 after you add disk partitions.

8. **Click Save on the Partition Options table to continue.**

   The Disk Partition Information selector window appears showing your disk partitions.

9. **Click Next.**

   The Edit Authentication Information table appears; see Figure 2-40.
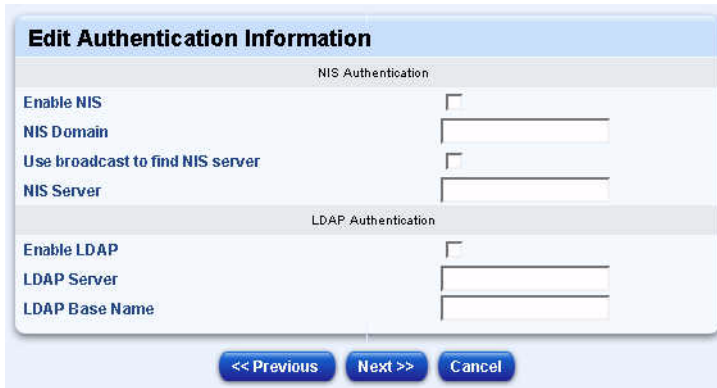
FIGURE 2-40 Solaris x86 - Edit Authentication Information Table

10. Configure the following parameters for the client.

   a. NIS Authentication

   - Enable NIS.
   - Enter an NIS domain.
   - Use broadcast to find an NIS server.
   - Enter an NIS server.

   b. LDAP Authentication

   - Enable LDAP.
   - Enter an LDAP server.
   - Enter an LDAP base name.

11. Click Next below the table.

   The Edit Custom Scripts Option Table appears.

FIGURE 2-41 Solaris x86 - Edit Custom Scripts Options Table

12. **Add a Custom Script to the profile**

    The Edit Custom Script Options table contains a number of custom scripts that you can add to the profile. If you want to upload other scripts to this table, see Scripts on page 15.

    To add a custom script to the profile:

    a. **Click the check box(es) to select the custom script(s) you want to add to the profile.**

    b. **Click Save.**

    The Task Progress dialog appears. Wait for the task to complete.

13. **Click Done.**

    The AllStart Profiles table appears. Verify that it shows the profile you created.

Adding RAID Partitions

You have the option of defining RAID partitions (SuSE and Red Hat operating systems only) for this profile. If you are including RAID partitions, you must define at least two RAID partitions for the profile.

Use this procedure to define RAID partitions before you define disk partitions. For instructions on adding disk partitions, see "Adding Disk Partitions" on page 64.

Note – The AllStart module does very limited RAID configuration validation. A RAID configuration that you successfully create within an AllStart profile may not necessarily be supported by an operating system vendor, such as SuSE.

This procedure assumes that you have completed the procedure for adding a profile through the steps for configuring the boot loader parameters. The Disk Partition Information selector window is displayed on your system.

To define a RAID partition:

1. **Click Add RAID on the Disk Partition Information selector window.**

   An Information message appears, similar to the one shown below.
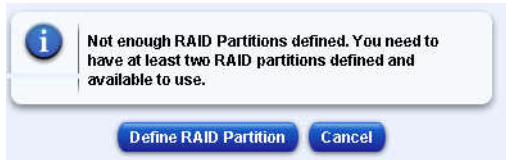
FIGURE 2-42 Define RAID Partition Information Message

2. **Ignore the information message. Click Define RAID Partition under the message.**

   The Partition Options table appears.
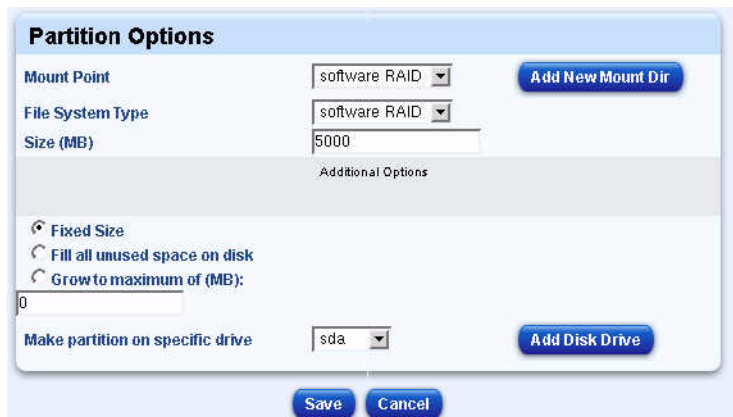
FIGURE 2-43 Partition Options Table

3. **Enter a size for the RAID partition and click Save.**

   The Disk Partition Information table appears with your partition listed on the table.

4. **Define the second RAID partition. Click Add Raid and repeat steps 2 and 3.**

   When the Partition Options table appears, configure a size and select a different drive from the scrolling list.

5. **Click Save.**

   The Disk Partition Information selector window appears. Verify that your RAID partitions appear on the table.
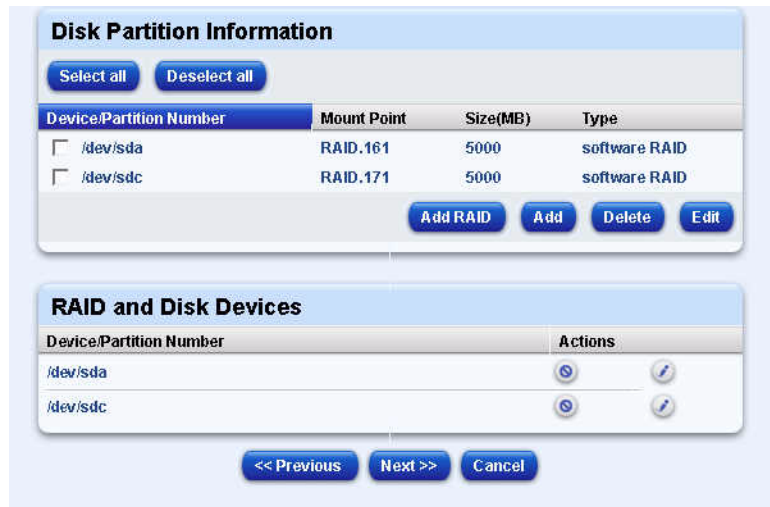
FIGURE 2-44 Disk Partition Information

6. **Define a RAID mount point.**

    a. **Click Add RAID from the Disk Partition Information window.**

       The Raid Options table appears; see Figure 2-45.

    b. **Select a mount point, such as /home from the scrolling list.**
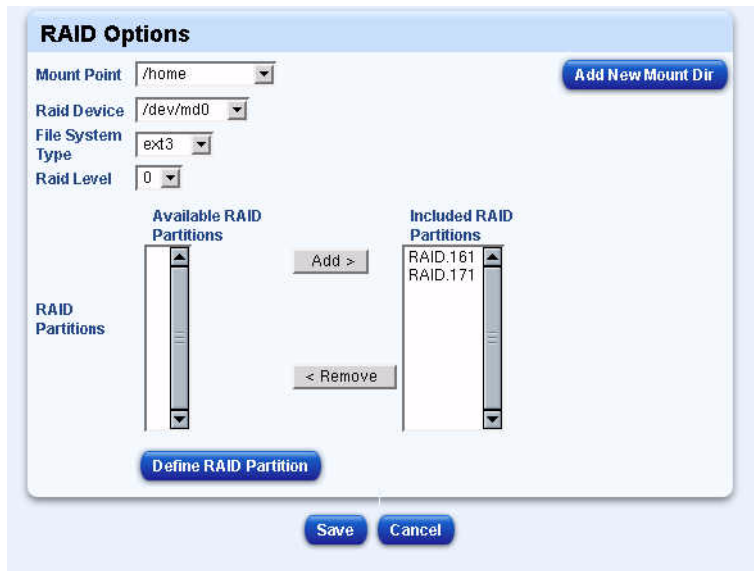
FIGURE 2-45 RAID Options Table

Note – If multiple partitions are defined for this RAID mount point and you prefer to use a subset of those partitions, use the Add and Remove buttons on the RAID Options table to define a subset for this RAID mount point

---

   c. Click Save.

   The Disk Partition Information selector window appears.

Note – To add another software RAID partition, click Add RAID again and repeat Steps 1 through 7.

---

7. **Add disk partitions to the profile.**

For instructions, see "Adding Disk Partitions" on page 64.

Adding Disk Partitions

At a minimum, you must define a / partition and at least one swap partition.

This procedure assumes that you have completed the procedure for adding a profile through the steps for configuring the boot loader parameters. The Disk Partition Information selector window is displayed on your system.

To define a disk partition:

1. **Click Add in the Disk Partition Information selector window.**

   The Partition Options table appears; see the appropriate figure for your OS.

   - For Sun JDS, see Figure 2-46
   - For SuSE and Red Hat, see Figure 2-47
   - For Solaris x86, see Figure 2-48

FIGURE 2-46 Sun JDS Partition Options Table
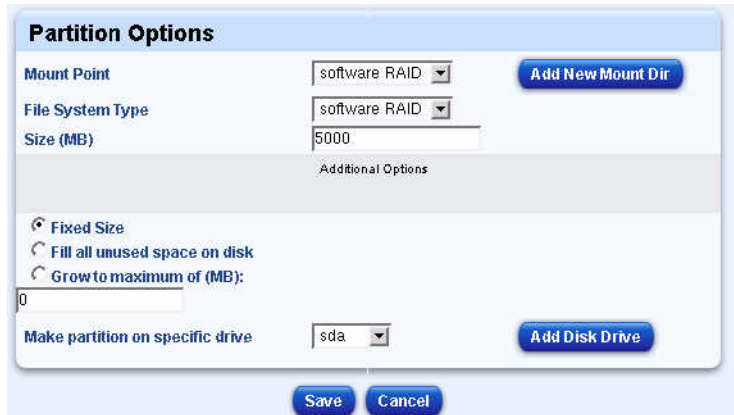
FIGURE 2-47 SuSE and Red Hat Partition Options Table
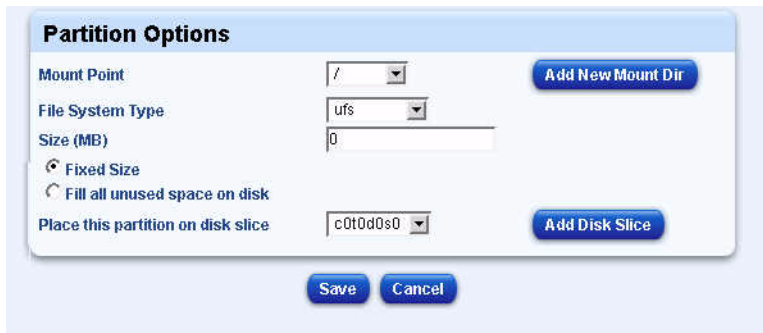
FIGURE 2-48 Solaris x 86 - Partition Options Table

2. **Configure the following parameters:**

- Mount Point

  To add a new mount directory to the pull-down menu, click Add New Mount Dir on the right. The Define A New Mount Point table appears. Enter the name for the new mount and click Save. The Partition Options table reappears, with the new mount point displayed

- File System Type
- Size: Configure the appropriate size parameters for your OS, as follows:

Sun JDS OS

- Size of the partition (MB). Enter a size in megabytes.
- Click one of the radio buttons to select:

- Limit the partition to a fixed size.
- Allow a partition to use all unallocated space on the hard disk drive.
- Determine the size automatically (only for /boot and swap).

SuSE and Red Hat OS

- Size of the partition (MB). Enter a size in megabytes.
- Click one of the radio buttons to select:
  - Limiting the partition to a fixed size.
  - Allowing a partition to use all unallocated space on the hard disk drive.
  - Allowing the partition to grow to maximum size and setting the maximum size (in MB).

Solaris x86 OS

- Size of the partition (MB). Enter a size in megabytes.
- Click one of the radio buttons to select:
  - Limit the partition to a fixed size.
  - Allow a partition to use all unallocated space.

Sample parameter values for disk partitions are as follows:

Parameter	root partition	swap partition	/
Mount Point	/home	swap	/
File System Type	ufs	swap	ufs
Size of Partition	5000	2040	fill disk

3. **Select a disk drive or slice from the Partition Options table.**

   This step varies by OS, as follows:

   - **Sun JDS, SuSE and Red Hat**: Select a drive from the pull down menu.

     To add a new disk drive to the pull-down menu, click Add Disk Drive on the right.

   - **Solaris x86:** Select a slice for the partition from the pull-down menu.

     To add a new disk slice to the pull-down menu, click Add Disk Slice on the right. The Define A New Disk Slice table appears. Enter the name for the new disk slice and click Save.

4. **Click save.**

   The Disk Partition Information selector window appears.

   Repeat Steps 1 through 4 to add as many disk partitions as you need.

   Use the Edit and Delete functions on the Disk Partition Information selector window as necessary.

Editing a Partition

● **To edit a partition, click the check box next to the partition, then click Edit.**

The Partition Options table appears. Use the options on this table to modify the partition and click Save..

Deleting a Partition

● **To delete a partition(s), click the check box next to the partition, then click Delete.**

The selector refreshes with the partition(s) removed from the list.

Note – There is no Confirm Deletion dialog for this task, so make sure that you cosee the correct partition to delete.

Editing a Disk Drive (Sun JDS Only)

● **To edit a disk drive, highlight the drive and click the _pencil_ icon in the Actions column next to that drive.**

The Disk Drive Options table appears. Use the options on this table to modify the drive, and click Save.

FIGURE 2-49 Disk Drive Options Table

Deleting a Disk Drive (Sun JDS Only)

● **To delete a disk drive, highlight the drive and click the delete icon in the Actions column next to that drive.**

Adding a New Slice (Solaris x86 Only)

● **To add a new slice:**

   a. **Click Add from the Disk Partition Information selector window.**

      The Partition Options table appears.

   b. **Configure the following parameters:**

      ■ Disk slice. Use the pull-down menu to select a slice.
      ■ Enter size.

         ■ Fixed Size
         ■ Fill all unused space on disk

   c. **Click Save.**

5. **Return to the instructions for adding a profile for your OS and continue the procedure.**

   The Disk Partition Information selector window is displayed. The next step is to add client configuration information. Return to the appropriate procedure for your OS:

   ■ "Adding a Sun Java Desktop System Profile" on page 37, continue at Step 10.
   ■ "Adding a SuSE Profile" on page 44, continue at Step 11.
   ■ "Adding a Red Hat Profile" on page 50, continue at Step 14.
   ■ "Adding a Solaris x86 Profile" on page 57, continue at Step 8.

Viewing a Profile

To view the information on a profile:

1. **Select AllStart → Profiles.**

   The AllStart Profiles table appears.

2. **Click to highlight a profile.**

3. **Click View.**

   The Detailed Profile View table appears, showing all of the parameters for the profile.

4. **Click Done to return to the AllStart Profiles table.**

Modifying a Profile

To modify a profile:

1. **Select AllStart → Profiles.**

   The AllStart Profiles table appears.

2. **Click to highlight a profile.**

3. **Click Modify.**

   The Modify AllStart Profiles table appears, and you then proceed through the same set of screens as for adding a profile.

   The Task Progress dialog appears when the task has completed.

Deleting a Profile

To delete a profile:

Note – If a profile is referenced to a client, you cannot delete the profile. You first need to modify or delete the client in question.

---

1. **Select AllStart → Profiles.**

   The AllStart Profiles table appears.

2. **Click to highlight a profile(s). You can also click Select All at the top to choose all profiles in the list.**

3. **Click Delete.**

   - If the profile(s) is referenced to a client, you cannot delete it.
   - If the profile(s) is not referenced to a client, a dialog appears, asking you to confirm the deletion.

   The Task Progress dialog appears when the task has completed.

Cloning a Profile

Cloning allows you to create an exact duplicate of an existing profile with a different name. This is useful when creating similar profiles.

Note – To view the configuration details of a current profile, see "Viewing a Profile" on page 69.

To clone a profile:

1. **Select AllStart → Profiles.**

   The AllStart Profiles table appears.

2. **Click to highlight a profile.**

3. **Click Clone**

   The Clone Profile table appears with the name and description of the profile you selected to be cloned.

FIGURE 2-50 Clone Profile Table

4. **Modify the following fields as appropriate:**

   ■ Profile Name: Enter a unique, descriptive name for this profile.

   Note – It is important to use a unique, descriptive name for each profile. The system differentiates the profiles according to this name.

   ■ Profile Description: Enter a description of this profile.

5. **Click Save.**

   Verify that the profile clone is shown on the AllStart Profiles table.

Clients

You can add, view, modify, or delete a client. You can also enable or disable a client.

FIGURE 2-51 shows a sample AllStart Clients table.

FIGURE 2-51 AllStart Clients Table

Adding a New Client

Use this procedure for adding SuSE, Red Hat, and Sun JDS clients. To add a Solaris x86 client, see "Adding a New Solaris x86 Client" on page 77.

You can add a new client manually, add a new AutoDiscovery client, choose a new client from the list of managed hosts already in the Sun Control Station, or import a list of clients in an XML-format file.

If you want to use this client or clients immediately, ensure that you enable each of the clients with the exception of managed hosts. Managed hosts are enabled automatically.

You must also enable the DHCP settings; for more information, see "Modifying the DCHP Settings" on page 89.

Note – Once you have added a client to the AllStart Clients table, you must enable the client unless the client is a managed host. Managed hosts are enabled automatically. If you do not enable the client, the AllStart module will not provide the payload to the server that corresponds to this client MAC address and IP address when the server netboots.

To add a new client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** redhat, solaris, **sjds,** **or** suse

4. **Click Next.**

   The Create AllStart Client table appears.

FIGURE 2-52 Create AllStart Client Table

5. **Configure the following parameters:**

   Note – You need to enter the MAC address of the network interface card (NIC) over which the payload and profile will be installed.

   - MAC Address: Enter the MAC address of the new client.
   - Install Type: Select the type of install: NFS or HTTP. Solaris clients require NFS.
   - Serial Console: Select the console port to use.
   - Serial Console Baud: Select a baud rate for the console.
   - Payload: Select the name of the payload to install.
   - Profile: Select the name of the profile to install.

6. **Click Next below the table.**

   The Configure Install Boot Information table appears; see Figure 2-53.

   Use these options to configure a different boot configuration during installation.
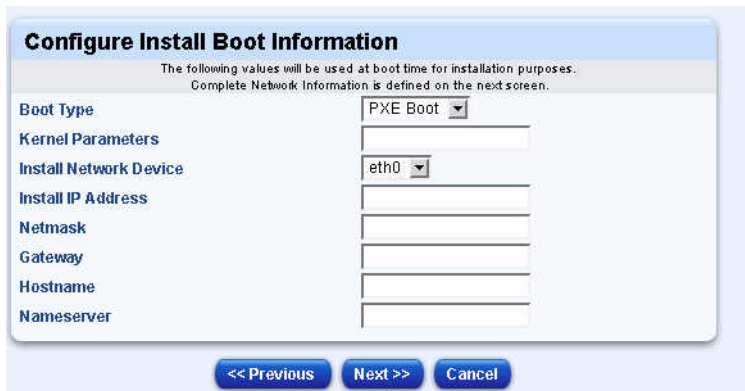
FIGURE 2-53 Configure Install Boot InformationTable

7. **Configure the following parameters:**

   - Boot Type
   - Kernel parameters

Note – When you are creating a Sun JDS client, you need to specify the following kernel parameters:

For a Sun™ LX50 server: add the argument `acpi=OFF`. (This turns off the Advanced Configuration and Power Interface [(ACPI)] feature.)

For all white-box servers: add the argument `apm=OFF`. (This turns off the Advanced Power Management [(APM)] feature.)

   - Install Network Device: Select a network device: `eth0` or `eth1`.

Note – On a Sun Fire V60x or V65x server, the installation must take place over one of the two built-in NICs.

   - Install IP Address: Enter the IP address of the new client.
   - Netmask
   - Gateway
   - Host Name
   - Name Server

8. **Click Next below the table.**

   The Network Interfaces table appears; see .

   You can configure the information for the NICs in your client.

9. **Click Add Network Interface at the bottom.**

   The Enter Network Interface Information table appears; see .

10. **Configure the following parameters:**
    - Network Device.
    - Network Type.

        - If you select Static, fill in the following fields as well.
        - If you select DHCP, click Save below the table.
        - If you select None, click Save below the table.

    - IP Address.
    - Netmask.
    - Gateway.
    - Host Name.
    - Name Server.

11. **Click Save below the table.**

    The Network Interfaces table refreshes with the new device added.

12. **You can now add another device or perform other operations on an existing device.**
    - To add another device, click Add Network Interface at the bottom. The Enter Network Information table appears.

    - To edit the configuration for an existing device, click the *pencil* icon in the Actions column next to that device. The Enter Network Information table appears.

    - To delete an existing device from the list, click the *delete* icon in the Actions column next to that device(s). The table refreshes with the device(s) removed.

    Note – There is no Confirm Deletion dialog for this task, so ensure that you choose the correct device to delete.

    ---

13. **When you are finished configuring the network interfaces, click Save below the table.**

    The Task Progress dialog appears.

FIGURE 2-54 Network Interfaces Table

FIGURE 2-55 Enter Network Interface Information Table

Adding a New Solaris x86 Client

To add a new Solaris client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

FIGURE 2-56 AllStart Clients Table

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** `solaris`

4. **Click Next.**

   The Create AllStart Client table appears.

FIGURE 2-57 Create AllStart Client Table

5. Configure the following parameters:

Note – You need to enter the MAC address of the network interface card (NIC) over which the payload and profile will be installed.

- MAC Address: Enter the MAC address of the new client.
- Description: Enter a description of the client.
- Install Type: Select the type of install: NFS for Solaris clients
- Serial Console: Select the console port to use.
- Serial Console Baud: Select a baud rate for the console.
- Payload: Select the name of the payload to install.
- Profile: Select the name of the profile to install.

6. Click Next below the table.

The Configure Install Boot Information table appears; see Figure 2-58.

Use these options to configure a different boot configuration during installation.
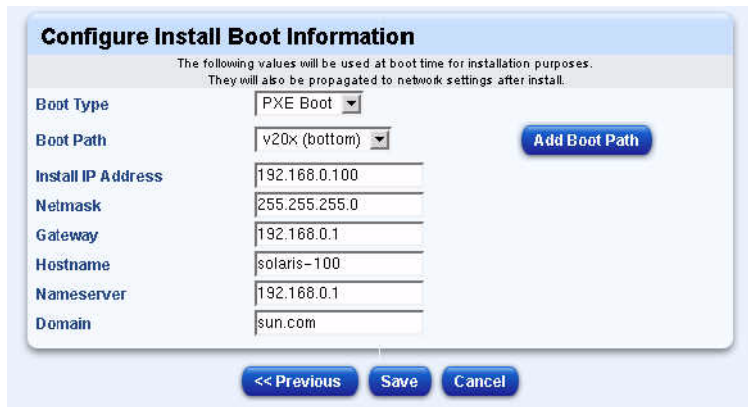
FIGURE 2-58 Configure Install Boot InformationTable

7. **Configure the following boot parameters:**

Note – You can define only one boot/network interface for Solaris x86.

- Boot Type.
- Boot Path: Select a boot path from the scrolling list.

To add a boot path to the scrolling list, click Add Boot Path and enter an Alias name and a boot_path. For example,
  - Alias Name: v20
  - Boot Path: `/pci@0,0/pci1022,7450@a/pci17c2,10@2a`
  - Alias Name: v60
  - Boot Path: `/pci@0,0/pci8086,`
    `2545@3/pci8086,1460@1f/pci8086,341@7,1`

Note – The v60 boot path works for v65; the v20 boot path works for v40.

- Install IP Address: Enter the IP address of the new client.
- Netmask
- Gateway
- Host Name
- Name Server
- Domain

8. **Click Save below the table.**

The Task Progress dialog appears.

Adding a New AutoDiscovery Client

Note – This option works in conjunction with "AutoDiscovery Function" on page 94. Use "Configuring a Client for AutoDiscovery" on page 94 to specify a range of IP addresses to be used by the AutoDiscovery client(s).

The AutoDiscovery function allows a server to obtain an IP address from a DHCP server and retrieve a default payload for that IP address from the PXE boot server. This feature is most useful in the case where the MAC address of the client is not known.

For more information about setting up the AutoDiscovery function, see "AutoDiscovery Function" on page 94.

To add a new AutoDiscovery client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** `redhat`, `solaris`, `sjds`, or `suse`.

4. **Click Next.**

   The Create AllStart Client table appears.

5. **From the pull-down menu above the table, select Add AutoDiscovery Client.**

   The AutoDiscovery Client table appears; see FIGURE 2-59.

6. **Configure the following parameters:**
   - Client Name. (The system automatically appends the prefix `default-` to the client name.)
   - Subnets: Select the subnet on which the client resides.
   - Install Type: Select the type of install: NFS or HTTP.
   - Serial Console: Select the console port to use.
   - Serial Console Baud: Select a baud rate for the console.
   - Install Network Device: Select a network device: `eth0` or `eth1`.

Note – On a Sun Fire V60x or V65x server, the installation must take place over one of the two built-in NICs.

   - Kernel parameters.
   - Payload: Select the name of the payload to install.
   - Profile:Select the name of the profile to install.

7. **Click Save below the table.**

   The Task Progress dialog appears.

Adding a Managed Host as a Client

If you have already imported a host(s) into the Sun Control Station, you can select a managed host(s) to add as an AllStart client.

Note – Managed hosts are enabled automatically.

To add a managed host as a client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** redhat, solaris, sjds, or suse.

4. **Click Continue at the bottom.**

   The Create AllStart Client table appears.

5. **From the pull-down menu above the table, select Add a Managed Host as a Client.**

   The Add AllStart Client from Managed Host table appears.

6. **Click to highlight a managed host.**

   You can only add one managed host at a time.

7. **Click Add at the bottom right.**

   The Create AllStart Client table appears.

8. **Configure the following parameters:**

   Note – A managed host must be on the network and thus already has an IP address. The MAC address field is already populated. You cannot change these two parameters.

   - Install Type: Select the type of install: NFS or HTTP.
   - Serial Console: Select the console port to use.
   - Serial Console Baud: Select a baud rate for the console.
   - Payload: Select the name of the payload to install.
   - Profile.: Select the name of the profile to install.

9. **Click Save below the table.**

   The Task Progress dialog appears.

Importing a List of Clients

You can also import a list of clients in an XML-format file. For the correct format, see .

To import a list of clients file:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click Add at the bottom.**

   The Select System Type table appears.

3. **Select the type:** `redhat, solaris sjds,` or `suse`

4. **Click Continue.**

   The Create AllStart Client table appears.

5. **From the pull-down menu above the table, select Add Clients from a File.**

   The Local Client Definitions From A File table appears.

6. **Enter the path and file name for the XML file, or click the button to locate it.**

7. **Click Create Clients below the table.**

   The Task Progress dialog appears.

XML Format for a List of Clients

The file containing the list of clients must be in the XML format shown in the following sample file.

The file must end with the .xml extension.

This sample file contains the information for two clients: the first client has two network devices, one on DHCP and the other on a static IP address; the second client has one network device on a static IP address.

Sample File

```
<clients>
    <client>
        <mac value = "00:03:47:D5:74:7A"/>
        <install_type value = "http"/>
        <console value = "none"/>
        <console_baud value = "9600"/>
        <payload value = "sjds"/>
        <profile value = "sjds"/>
        <network>
            <device value = "eth0"/>
            <bootproto value = "dhcp"/>
        </network>
        <network>
            <device value = "eth1"/>
            <bootproto value = "static"/>
            <ip value = "192.168.0.3"/>
            <netmask value = "255.255.255.0"/>
            <gateway value = "192.168.0.1"/>
            <hostname value = "bmula3.sfbay.sun.com"/>
            <nameserver value = "192.168.0.1"/>
        </network>
        <boot>
            <boottype value = "pxe"/>
            <device value = "eth0"/>
            <ip value = "192.168.0.3"/>
            <netmask value = "255.255.255.0"/>
            <kernel_params value = "acpi=off"/>
            <hostname value = "bmula3.sfbay.sun.com"/>
            <gateway value = "192.168.0.1"/>
        </boot>
    </client>
    <client>
```

```
        <mac value = "00:10:4B:0F:93:75"/>
        <install_type value = "http"/>
        <console value = "none"/>
        <console_baud value = "9600"/>
        <payload value = "sjds"/>
        <profile value = "sjds"/>
        <network>
            <device value = "eth0"/>
            <bootproto value = "static"/>
            <ip value = "10.1.10.60"/>
            <netmask value = "255.255.255.0"/>
            <gateway value = "10.1.10.1"/>
            <hostname value = "bmula6.sfbay.sun.com"/>
            <nameserver value = "10.1.10.1"/>
        </network>
        <boot>
            <boottype value = "pxe"/>
            <device value = "eth0"/>
            <ip value = "10.1.10.60"/>
            <netmask value = "255.255.255.0"/>
            <kernel_params value = "acpi=off"/>
            <hostname value = "test.central.sun.com"/>
            <gateway value = "10.1.10.1"/>
        </boot>
    </client>
 </clients>
```

Enabling a Client

The first column in the AllStart Clients table is Enabled. If the client is enabled, there is a "Y" in this column; if it is not enabled, there is an "N."

If the client has been enabled and a build has been initiated, there is a "B" in the Enabled column.

Note – Managed hosts are enabled automatically since the client boot loader is modified to allow it to initiate building upon reboot. To PXE/netboot the client using DHCP, you must reenable the client using this procedure.

To enable a client that is currently not enabled:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click to highlight a client(s). You can also click Select All at the top to choose all clients in the list.**

3. **Click Enable at the bottom.**

   The Task Progress dialog appears.

The AllStart Clients table now displays a "Y" in the Enabled column for this client(s).

An information message appears to enable DHCP. See .

Disabling a Client

The first column in the AllStart Clients table is Enabled. If the client is enabled, there is a "Y" in this column; if it is not enabled, there is an "N."

If the client has been enabled and a build has been initiated, there is a "B" in the Enabled column.

To disable a client that is currently enabled:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click to highlight a client(s). You can also click Select All at the top to choose all clients in the list.**

3. **Click Disable at the bottom.**

   The Task Progress dialog appears.

   The AllStart Clients table now displays an "N" in the Enabled column for this client(s).

Viewing a Client

To view the information for a client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click to highlight a client.**

3. **Click View at the bottom right.**

   The View AllStart Client table appears, displaying the following information:
   - MAC Address
   - IP Address
   - Client Enabled (Y/N)
   - Install Network Device
   - Serial Console

- Serial Console Baud
- Boot Loader
- Kernel Parameters
- Install Type
- Name of the Payload
- Name of the Profile
- Device Information

4. **Click Done at the bottom to return to the AllStart Clients table.**

Modifying a Client

To modify a client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click to highlight a client.**

3. **Click Modify at the bottom right.**

   The tables particular to the type of client you added appear and can be modified.

   For example, if you want to modify an AutoDiscovery client, the AutoDiscovery Client table appears. If you want to modify a client that was added as a single new client, the Modify AllStart Client table appears.

   Proceed through the screens as you would for adding a client. For explanations of the screens that appear, refer to the Adding a Client procedure that corresponds to the type of client that you want to modify.

   See "Adding a New Client" on page 72.

Deleting a Client

To delete a client:

1. **Select AllStart → Clients.**

   The AllStart Clients table appears.

2. **Click to highlight a client(s). You can also click Select All at the top to choose all clients in the list.**

3. **Click Delete at the bottom right.**

> **Note –** If the client is currently enabled, it is automatically disabled.

A dialog appears, asking you to confirm the deletion.

4. **Click Delete.**

The Task Progress dialog appears.

The client is removed from the AllStart Clients table.

Building a Client

Once you have created a client and enabled it in the Control Station UI, you are ready to install the payload and profile on the client.

> **Note –** The client entry must be enabled in the AllStart Clients table for the build operation to succeed.

To build your client(s):

1. **Configure your client(s) to boot from the network.**

2. **Reboot the client(s).**

This causes the client(s) to pull the payload and profile from the Sun Control Station.

> **Note –** The installation is not an active "push" operation from the Sun Control Station to the client. The client must "pull" the payload and profile from the Control Station; the client receives a payload and profile according to the client entry in the AllStart Clients table.

Viewing the Build Status of a Client

You can view the status of a client that AllStart is currently building.

To view the build status of a client:

1. **Select AllStart → Clients.**

The AllStart Clients table appears.

2. **Click to highlight a client(s). You can also click Select All at the top to choose all clients in the list.**

3. **Click Build Status at the bottom right.**

   The View AllStart Client table appears. For a client, the table shows the name of the payload, the phase in which the build is currently, a description of an error that might appear, and the amount of time required for the build.

4. **Click Done at the bottom to return to the AllStart Clients table.**

Service

You can view the settings for the following services:

- DHCP
- NFS
- HTTP
- Client Always Netboot

NFS and HTTP must be enabled at all times. You cannot disable these two services.

You can modify the DHCP settings.

Client Always Netbooting

Some older PCs do not have a key sequence to PXE boot at initial boot, or else you may not be present to initiate a PXE boot. The Client Always Netbooting option allows you to change the BIOS settings of the PC and then initiate builds by enabling a client.

Enabling the Client Always Netbooting feature configures a machine to boot from the network. The AllStart module software can then dictate whether to build the client, or to boot from the client's hard drive if the client has already been built.

For instructions on enabling this feature, see "Enabling the Client Always Netbooting Feature" on page 93.

Viewing DCHP Information

To view the current DHCP information:

1. **Select AllStart → Service.**

   The Current Service Settings table appears.

FIGURE 2-60 Current Service Settings Table

2. **Click View DHCP Info below the table.**

   The Additional DHCP Settings table appears. For each entry, the table shows the networ,k the network mask, and the range of IP addresses.

3. **Click to highlight an entry.**

4. **Click Details at the bottom right.**

   The Detailed DHCP Settings table appears. This table shows the following information:

   - Network.
   - Netmask
   - IP Range
   - Router
   - DNS Server
   - DNS Server 2
   - DNS Server 3
   - Domain
   - Domain 2

5. **Click Done to return to the Additional DHCP Settings table.**

6. **Click Previous to return to the Current Service Settings table.**

Modifying the DCHP Settings

To modify the DHCP settings:

1. **Select AllStart → Service.**

   The Current Service Settings table appears.

2. **Click Modify below the table.**

   The Modify Service Settings table appears.

   Note – NFS and HTTP cannot be disabled.

   Modify Service Settings

DHCP Enabled	☐
DHCP Interface	eth0 ▾
NFS Enabled	Y
HTTP Enabled	Y
Client Always Netboot	☐

   [Save] [Modify DHCP Info] [Cancel]
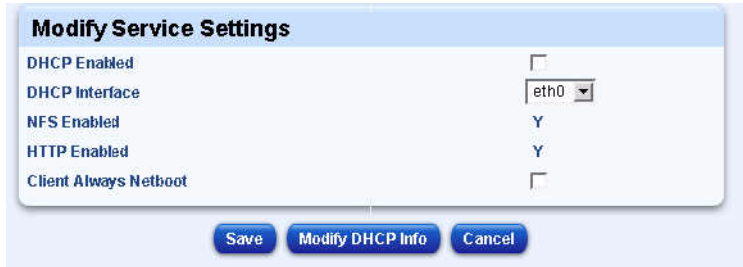
   FIGURE 2-61 Modify Service SettingsTable

3. **You can configure the following settings.**
   - DHCP Enabled: Click the check box to enable or disable DHCP service.
   - DHCP Interface: Select eth0 or eth1 from the pull-down menu.
   - Client Always Netboot: Click the check box to enable or disable.

4. **If you want to modify the DHCP information, click Modify DHCP Info below the table.**

   The Modify DHCP Settings Table appears. In this window, you can add new DHCP information, modify existing DHCP information, or delete DHCP information.
   - To add new DHCP information, see "Adding New DHCP Information" on page 91
   - To modify DHCP information, see "Modifying DHCP Information" on page 92
   - To delete DHCP information, see "Deleting DHCP Information" on page 93

   Note – If you make changes to the DHCP information, you must click Save at the end; otherwise, your changes will not take effect.

   ---

5. **Click Save.**

   The Task Progress Dialog appears.

Adding New DHCP Information

Note – When choosing a low-end and high-end IP address for a range of addresses in the Modify DHCP Settings page:

The IP address of the Sun Control Station server cannot fall within the range of IP addresses.

The broadcast address for the network (for example, 192.168.0.255) cannot fall within the range.

You cannot enter the same IP address for both the low-end and high-end of the range.

Certain versions of DHCP do not use the first nor the last IP address in the range listed, so a valid range containing only one IP address would look like, for example: `10.1.10.100 - 10.1.10.102`.

6. **Click Add on the Modify DHCP Settings selector window.**

   The Add New DHCP Settings table appears; see . Fill in the following information.

   - Network
   - Netmask
   - IP Range (enter the low IP address in the first field and the high IP address in the second field)
   - Router
   - DNS Server
   - DNS Server 2
   - DNS Server 3
   - Domain
   - Domain 2

7. **Click Save.**

   The Modify DHCP Settings table appears, with an entry for the new DHCP information.

FIGURE 2-62 Add New DHCP Settings Table

Modifying DHCP Information

8. **Click to highlight an entry in the table.**

9. **Click Edit on the Modify DHCP Settings selector window.**

Note – Refer to the Note under "Adding New DHCP Information" on page 91.

The Modify DHCP Settings table appears. The Network and Netmask information is already populated.

Edit the following information.

■ IP Range (enter the low IP address in the first field and the high IP address in the second field)
■ Router
■ DNS Server
■ DNS Server 2
■ DNS Server 3
■ Domain
■ Domain 2

10. **Click Save.**

    The Modify DHCP Settings table appears.

Deleting DHCP Information

11. **Click to highlight an entry in the table.**

12. **Click Delete on the Modify DHCP Settings selector window.**

    A dialog appears, asking you to confirm the deletion.

13. **Click Delete.**

    The Task Progress dialog appears.

    The entry for the DHCP information is removed from the Modify DHCP Settings selector window.

14. **Click Previous to return to the Modify Service Settings table.**

15. **If you have made any changes, click Save below the table.**

    Note – If you do not click Save at this stage, your changes to the DHCP information will not be saved and will not take effect.

    The Task Progress dialog appears.

Enabling the Client Always Netbooting Feature

To enable the Client Always Netbooting feature:

1. **From the AllStart GUI, click on Services and select Modify.**

2. **Click to Enable Client Always Netbooting.**

3. **Define the Distribution, Payload, Profile, and Client.**

4. **Go into Client Hardware Box and enter Setup.**

5. **Set Client Hardware Box to Always Boot from Network.**

    This option varies depending on vendor hardware.

6. **Power on the client machine.**

    Once the client has started building, the Enabled Status on the 'Client' Screen will appear as "B" for Building

7. (*Optional*) To initiate another build, reenable the client.

This will set the Enabled Status back to "Y."

AutoDiscovery Function

Note – This function works in conjunction with .

The AutoDiscovery function in the AllStart control module allows a server to obtain a DHCP address from the Sun Control Station and retrieve a default payload and profile for that DHCP address from the PXE boot server. This feature is most useful in the case where the MAC address of the client is not known.

First, you specify a range of IP addresses in the DHCP table. Second, you create an AutoDiscovery client and enable the client. Third, you netboot the host machine; the host then obtains its network information, payload, and profile from the AllStart module.

Configuring a Client for AutoDiscovery

Note – This procedure assumes that you have already configured a DHCP server and enabled the DHCP service under AllStart → Services.

If you have not, refer to .

To configure a client for AutoDiscovery:

Specify Range of IP Addresses

1. Select AllStart → Services.

The Current Service Settings table appears.

2. Click Modify below the table.

The Modify Service Settings table appears.

3. Click the check box DHCP Enabled.

4. Select the DHCP interface from the pull-down menu.

Select eth0 or eth1.

5. **Click Modify DHCP Info below the table.**

   The Modify DHCP Settings selector table appears.

   Note – If you make changes to the DHCP information, you must click Save at the end; otherwise, your changes will not take effect.

   ---

6. **Click to highlight an entry in the table.**

7. **Click Edit at the bottom right.**

   The Modify DHCP Settings table appears. The Network and Netmask information is already populated.

8. **Enter the range of IP addresses to use for AutoDiscovery.**

   Enter the low IP address of the range in the first field; enter the high IP address of the range in the second field.

   Note – You do not need to fill in the other fields in this table.

   ---

9. **Click Save.**

   The Modify DHCP Settings selector window appears.

10. **Click Previous to return to the Modify Service Settings table.**

11. **If you have made any changes, click Save below the table.**

    Note – If you do not click Save at this stage, your changes to the DHCP information will not be saved and will not take effect.

    The Task Progress dialog appears.

Create an AutoDiscovery Client

12. **You now need to create a client.**

    You can create more than one AutoDiscovery client.

    When you create an AutoDiscovery client, the system automatically appends the prefix `default-` to the client name.

    To create an AutoDiscovery client, see "Adding a New AutoDiscovery Client" on page 80.

Enable the AutoDiscovery Client

13. Once you have created the client, you must enable the client.

To enable a client, see "Enabling a Client" on page 84.

Netboot the Host Machine

14. Netboot the host machine on the network.

The host machine will obtain its network information and payload through the AutoDiscovery client that you have just created.

Advanced

Under the Advanced submenu item, you can:

- Enter registration information that will be used when installing the Sun Java Desktop System distribution software.
- Select your AllStart preferences.

Registering Sun JDS Software

To register your Sun JDS software:

1. Select AllStart → Advanced.

The Registration Information table appears.

2. Fill in the fields in this table.

3. Click Save

The Registration Information table refreshes, indicating that the information was saved successfully.

Selecting AllStart Preferences

This screen allows you to customize the AllStart screens so that only those OS distributions that interest you are displayed.

Note – If you select only one OS distribution to display, then the Select System Type selector will not appear in the AllStart procedures. You will go directly into the procedure.

To select your AllStart preferences:

1. **Select AllStart $\rightarrow$ Advanced.**

   The Registration Information table appears.

2. **From the pull-down menu above the table, select Preference Selection.**

   The AllStart Preferences table appears; see FIGURE 2-63.

3. **Click to enable the OS distributions that you want to display in the AllStart screens.**

4. **Click Save**

   The AllStart Preferences table refreshes, indicating that the information was saved successfully.
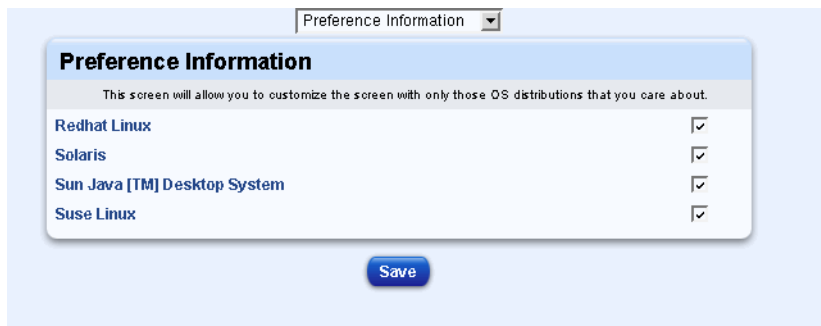
FIGURE 2-63 AllStart Preferences Table

Upgrade Information and Troubleshooting Issues

This chapter includes a troubleshooting section that provides resolution for certain problems that may occur at the boot stage and at the installation stage. This chapter also includes a procedure that explains how to preserve your AllStart configuration when you upgrade the Sun Control Station software.

Required Device Drivers for Sun Fire V60x and Sun Fire V65x Servers

Ethernet Driver

The gigabit Ethernet controller on the Sun Fire V60x and Sun Fire V65x servers requires an Intel PRO/1000 Network Interface (e1000) driver.

Sun recommends that customers install Version 4.4.19 or later of this driver. Version 4.4.19 was the Ethernet driver used within Sun for compatibility testing; it was shown to install consistently and successfully run a set of predefined test cases.

The Intel README file in the e1000 source tar file contains the instructions for building the driver. This information is also available online in HTML format at:
http://www.intel.com/support/network/adapter/1000/e1000.htm

To download any Intel drivers, visit the support site at:
http://appsr.intel.com/scripts-df/support_intel.asp

● **Perform a search on "e1000 4.4.19" and you will find the appropriate tar file to download.**

SCSI Driver

The Sun Fire V60x server and Sun Fire V65x server have an Ultra 320 SCSI controller that is supported by only the most recent distributions.

If you intend to use only Sun-qualified add-on cards, then you must install Version 1.3.7 or later of this driver. If you intend to use non-Sun-qualified PCI-33 add-on cards, then you must install Version 1.3.10 or later of this driver.

Both Versions (1.3.7 and 1.3.10) were used within Sun for compatibility testing; they were shown to install consistently and successfully run a set of pre-defined test cases.

The latest SCSI drivers can be downloaded from the developer site at:
http://people.freebsd.org/~gibbs/linux/

How to Upgrade Sun Control Station Software and Preserve AllStart Configurations

You need to uninstall the Sun Control Station software before you can upgrade to a later Version. The AllStart module provides export and import scripts that allow you to preserve profile and client configurations. You need to manually re-create the distribution and payload configurations.

1. **Log in to the Control Station server as root.**

2. **Run the AllStart export scripts. Type:**

   ```
   # /scs/sbin/as_export.pl -t profiles -f /tmp/profiles.xml
   # /scs/sbin/as_export.pl -t clients -f /tmp/clients.xml
   ```

3. **Uninstall then reinstall the Sun Control Station software**

   See the *Sun Control Station Software Installation Guide* for instructions.

4. **Add the distributions and payloads using the same names as before.**

   /Refer to the relevant sections in this guide for instructions.

5. **Run the AllStart import scripts. Type:**

   ```
   # /scs/sbin/as_import.pl -f profiles -f /tmp/profiles.xml
   # /scs/sbin/as_import.pl -f clients -f /tmp/clients.xml
   ```

6. **Turn on DHCP and enable the clients.**

   For more information about the import and export scripts, see the man pages located in `/scs/share/man/man1`.

Customizing the Configuration Files

You can customize the configuration files.

To customize the configuration files:

● **Add a comment (AllStart: static) to the configuration file that signals to the AllStart module that it should not overwrite this configuration.**

The comment can be placed anywhere in the file but it must appear at the beginning of a line. Some examples are:

`/etc./exports => # Allstart: static`

`/etc/dhcpd.conf => # Allstart: static`

`/tftpboot/pxelinux.cfg/* => # Allstart: static`

`/scs/share/allstart/config/ks-*.cfg => # Allstart: static`

`/scs/share/allstart/config/ay-*.xml => <!-- # Allstart: static -->`

Files generated by AllStart now have a *<comment> <date>* entry.

Files that might need to share configurations with other services now support customizations. Add your customized lines below the following line in the configuration file:

`Put custom additions below (Do not change/remove this line)`

Two configuration files support this syntax:

`/etc/dhcpd.conf`

`/etc/exports`

Troubleshooting

Once you get past the boot stage and the client is loading the RPMs and the files, the installation should work correctly. The following sections describe common problems that may occur at the boot and installation stage:

- "Problems at Boot Stage" on page 102
- "Problems at Installation" on page 105
- "General Issues" on page 110

Terminal Windows

Terminal windows are a valuable tool when you are trying to debug a problem.

You can switch terminal windows by pressing ctrl-alt-<Fx> on the client being built. The terminal windows are:

- **ctrl-alt-F1**: The initial console, before the X11 install takes over
- **ctrl-alt-F2**: Shell access, only available once the install kernel is running; autoyast log files are located in /var/log/YaST2/.
- **ctrl-alt-F3**: Install messages
- **ctrl-alt-F4**: Kernel messages
- **ctrl-alt-F7**: The X11 install screens (if X11 is running)

Problems at Boot Stage

Issues With the DHCP Server or the PXE Boot

If the DHCP server is not running or if the file controlling the PXE boot contains errors in it, the boot stage will fail.

Resolution

- **Run the following commands:**

```
run tftp localhost
tftp> get pxelinux.0
```

You should receive a response similar to this:

```
Received 10205 bytes in 0.1 seconds
```

- **If this does not work, verify the following items.**

   1. Ensure that `tftp` is enabled.

      ```
      chkconfig --list |grep tftp
      ```

   2. Ensure that `xinted` is running.

      ```
      /etc/init.d/xinetd restart
      ```

   3. Ensure that `/tftpboot/pxelinux.0` exists, with the permissions set to 644.

   4. Ensure that the permissions are set to 755 on `/tftpboot`.

   5. Ensure that `dhcpd` is started and that the entry for the client MAC address is in the file `/etc/dhcpd.conf`.

   6. Ensure that `/tftpboot/pxelinux.cfg/netboot-$mac` exists.

   7. The hex files in the file `/tftpboot/pxelinux.cfg` that symlink to `netboot-$mac` should be the IP address in hex format entered when creating the client.

Install Process Hangs After `pxelinux.0` Has Been Loaded

Resolution

1. **Enable logging on the `tftp` daemon.**

2. **As the `root` user on the Sun Control Station server, edit the file `/etc/xinetd.d/tftp`. Add the following option to the `server_args` line:**

   ```
   server_args = -l -s /tftpboot
   ```

Note – Older versions of `tftp` in Red Hat 7.3 might use the `-v` option instead of `-l`. To verify this, check the man page for `in.tftpd`.

---

3. **Next, while net booting a client, run the command:**

   ```
   tail -f /var/log/messages
   ```

   On the control station server, you should see messages similar to the following:

```
Mar  7 19:03:28 lx50 in.tftpd[31083]: sending pxelinux.0
Mar  7 19:03:28 lx50 in.tftpd[31084]: sending pxelinux.cfg/0A010A15
Mar  7 19:03:28 lx50 in.tftpd[31085]: sending JDSSUN-8.1-linux
Mar  7 19:03:29 lx50 in.tftpd[31086]: sending JDSSUN-8.1-initrd
```

If you see that only `JDSSUN-8.1-linux` is being sent and you have USB devices connected to the client (including a keyboard and mouse), disconnect the devices and try to netboot the client again.

4. **Another possible solution is to turn off USB Legacy support in the BIOS.**

Possible Problem in Client Configuration

Resolution

● **Ensure that the boot interface selected in the client configuration matches the interface over which the DHCP request is sent.**

In a terminal window, press ctrl-alt-F3 to view the install messages.

Build Process Hangs While Kernel is Booting

Resolution

In the Configure Install Boot Information table for the client, add the following entries to the kernel parameters.

■ First try:

```
apm=off acpi=off
```

■ If that does not work, enter the parameters for the `failsafe` mode:

```
ide=nodma apm=off acpi=off vga=normal nosmp noapic
```

Problems at Installation

The installation is most likely to fail if the system cannot find the file `ay-$mac.xml` (for Sun JDS) or `ks-$mac.cfg` (for Red Hat) listed in `/tftpboot/pxelinux.cfg/netboot-$mac`.

The installation will also fail at this stage if it does not detect the hardware needed for the installation (for example, it cannot load the correct SCSI driver).

- **If using NFS: Ensure that the** `portmap` **and** `nfs` **services are started.**

- **If using HTTP: Try browsing to** `http://x.x.x.x/allstart/config/` **where** `<x.x.x.x>` **is the IP address of your client.**

If there are errors in the `ksconfig` file, the problem will show up here. This includes such things as invalid disk partitioning schemes or an invalid package configuration.

- **For Sun JDS: Correct the errors in the file:**

  `/scs/share/allstart/config/ay-$mac.xml`.

- **For Red Hat: Correct the errors in the file:**

  `/scs/share/allstart/config/ks-$mac.cfg`.

Once you get past the boot stage and the client is loading the RPMs, the installation should work correctly.

Problems Building Solaris x86

If the build appears to be hung and you see a message similiar to the one below in the Control Station `/var/log/messages` file, the client system is having problems with mounting the filesystems it needs to build.

Error message: Oct 25 20:12:21 machine1 rpc.mountd: authenticated mount request from 192.168.1.88:518 for /scs/share/allstart/jumpstart/2/Solaris_9/Tools/Boot (/scs/share/allstart/jumpstart) (message repeated 7 times)

Resolution:

● **Make sure no other programs are conflicting with NFS. Restart NFS services. Type:**

```
% /etc/rc.d/init.d/nfs stop
```

```
% /etc/rc.d/init.d/nfslock stop
```

```
% /etc/rc.d/init.d/portmap stop
```

```
% /etc/rc.d/init.d/portmap start
```

```
% /etc/rc.d/init.d/nfslock start
```

```
% /etc/rc.d/init.d/nfs start
```

Improving NFS Build Performance

To improve NFS build performance for any supported operating system except Solaris 9 x86, do the following:

1. **Remove the file:** /etc/sysconfig/nfs

2. **Restart NFS. Type:**

```
% /etc/rc.d/init.d/nfs restart
```

Rebuilding an AllStart Client

When rebuilding a client from one operating system (OS) to another, you might experience disk partitioning errors. To correct this, try the following:

1. **Perform a hard reset of the client system: power the system off and then back on again.**

   Now start the build process again on that client by rebooting the client.

2. **If that does not correct the errors, perform a low-level format of your hard disk drives.**

   Again, start the build process on that client by rebooting the client.

Interrupting Serial Console Output While Building a Sun JDS Client

You can redirect your output to a serial console during a build process for a Sun JDS client. If you do so, do not disconnect from the serial console during the build process.

If you disconnect during the build process, the build will be interrupted or the build process might be killed.

Once you reconnect to the serial console, the build process might continue or it might not. This depends on your serial console software.

Kernel Parameters on Sun JDS Clients

When you are creating a Sun JDS client, you need to specify the following kernel parameters:

- For a Sun LX50 server: Add the argument `acpi=OFF`.

  This turns off the Advanced Configuration and Power Interface (ACPI) feature.

- For all white-box servers: Add the argument `apm=OFF`.

  This turns off the Advanced Power Management (APM) feature.

  If these parameters are not set, modify the client so that they are. See "Modifying a Client" on page 86.

Problems Building a Sun JDS Client

Frame Buffer Problems

Error message: "Press <RETURN> to see the video modes available, <SPACE> to continue or wait 30 secs."

Resolution

If you see this error message, the selection for your frame buffer is invalid. This can cause X11 not to start correctly once the client is built.

This frame-buffer value is based on the resolution and color-depth settings configured in the X11 Configuration Options of the profile for this client. If you selected "Automatically Detect X11 Settings", the default value is 1024 x 768 x 16.

If necessary, you can override this parameter in the Configure Install Boot Information screen for the client. Add the following line in the kernel parameters for the client:

```
No frame buffer install:
```

```
vga=normal
```

Set the frame buffer to a different mode. Scan for a mode you like at the above prompt and enter the corresponding hex value here. For example,

```
vga=0x31e
```

If you do not want to change this parameter through the control station UI, you can edit the file `/tftpboot/pxelinux.cfg/netboot-*`, where * is the MAC address or the default-[name], depending the type of client. Modify the `vga=` parameter in this file.

Note – The control station UI overwrites these changes if you modify the payload, profile or client.

If you have already built a unit and are still receiving this error message and want to remove it, you need to edit the file `/boot/grub/menu.lst`. Change the `vga=` parameter as shown above.

For further information, visit the following web site:

http://www.tldp.org/HOWTO/Framebuffer-HOWTO.html

X11 Configuration Problem

X11 does not start when the build process on the Sun JDS client is completed.

Resolution

Ensure that the frame buffer is working correctly. Correcting any frame buffer problems is the quickest way to ensure that X11 runs correctly.

See "Frame Buffer Problems" on page 108.

Problems Building a Red Hat Client

Anaconda Error Message During Red Hat 2.1 Build.

If you are building Red Hat 2.1 from a Red Hat 2.1 server, you may see the following Red Hat Anaconda error message during the build:

```
Traceback (innermost last)

File "/usr/bin/anaconda", line 598, in instClass.setInstallData(id)

File "/usr/src/build/110263-
i386/install/usr/lib/anaconda/Kickstart.py"

line 839 in setInstallData

File "/usr/src/build/110263-
i386/install/usr/lib/anaconda/Kickstart.py"

line 556, in readKickstart
```

Resolution

To resolve, do one of the following:

* **1) Run the same Red Hat 2.1 Update version on the Sun Control Station Server as on the client.**

  For example, if the Sun Control Station server is running Red Hat 2.1u4, install this version on the client rather than Red Hat 2.1u3.

* **2) Build clients using NFS rather than HTTP.**

  This can be done by choosing "nfs" in the install type drop-down menu on the first client screen.

AllStart Hangs When Building a Sun Fire V20z with RHEL3.0 (64-Bit)

When building a RHEL3.0 AMD 64 bit version client on Sun Fire v20z hardware, AllStart might hang when installing the scsi `mptscsih` driver.

Resolution

Load the latest RHEL3.0 update version. RHEL3.0u3 AMD 64 bit is verified to install on Sun Fire v20z hardware.

General Issues

Known Limitations When Creating the Root ('/') and Boot ('/boot') partitions on RAID Devices

The AllStart module does very limited RAID configuration validation. A RAID configuration that you successfully create within an AllStart profile may not necessarily be supported by an operating system vendor, such as SuSE.

Resolution

Refer to the vendor documentation included with your operating system software for specific information.