



Netra™ CP2500 Board Release Notes

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Contents

Netra CP2500 Board Release Notes	1
Known Issues	2
Installing the Solaris Operating System	3
Preparing for the Solaris Operating System Installation	4
Ordering the Solaris 9 9/05 Operating System	5
Downloading the Required Patches	6
Preparing a Patched Network Installation Server	9
Installing Diskfull Clients Using a Network Installation Image	12
Installing a Diskless Boot Server Using a Network Installation Image	18
Troubleshooting the Diskfull Installation Process	29
Panic Problem With the Diskfull Installation Procedure	30
Solution for Panic Problem	30
Failure to Reboot	30
Solution for Failure to Reboot Problem	31

Netra CP2500 Board Release Notes

This document contains important and late-breaking information about the Netra™ CP2500 board, including:

- [“Known Issues” on page 2](#)
- [“Installing the Solaris Operating System” on page 3](#)
- [“Troubleshooting the Diskfull Installation Process” on page 29](#)

You can download the most recent version of this document, as well as other Netra CP2500 board documents, at:

<http://www.sun.com/documentation/>

Known Issues

TABLE 1 describes the known issues and available work arounds for the Netra CP2500 board at the time of this release.

TABLE 1 Known Issues

Change Request Number	Description	Work Around
6376644	Seen ipmi-remote: send error 3d error message on jade satellite during OBP & SMC update.	Make sure FWupdate command does not fail. If it fails, retry the command. If the board is reset after the fail, it will need to be power cycled.
6370957	picld[61]: SUNW_picldr: Error: Updating LED on 3 and 5 messages seen in M5 and M8 chassis.	No work around available. You can safely ignore messages.
6376653	picld[66]:SUNW_picldr: Error messages seen on Host & SAT during SMC update using FWupdate	No work around available. You can safely ignore messages.
6362674	Host MOH topology fails to include S+ and Jade Sat thermistors after it is reboot/reset. With 2 S+ in slot 3 & slot 4, host topology fails to shows their thermistors after the host OS is rebooted. Initially, the agent shows the therministor objects after it is brought up but fails to present them if the host reset/reboot. Attachment contains output from RML, prtpicl, prtcosl, cfgadm after the host is reset and the agent is brought up once again in drawerview.	Reboot the satellite to show on host MOH.

TABLE 1 Known Issues (*Continued*)

Change Request Number	Description	Work Around
6371264	<p>M5 Jade host MOH: Wait for 30 minutes or agent refuses connection if it is started in drawerview.</p> <p>When the agent is brought up in local view, snmp and RMI connections and queries are possible right after the agent is started. If the agent is brought up in drawerview, snmp and RMI connections will result in no response from agent.</p>	<p>If MOH user waits for 30 minutes before connecting to the agent, connection <i>might</i> be successful. Alternatively, user must re-start the <code>ctmgx</code> manually numerous times in both local and drawerview before connecting to the agent.</p>
6377061	<p>The receptacle state is disconnected for satellites (diskless) after unconfigure.</p>	<p>No work around available.</p>
6368493	<p>After <code>cfgadm</code> to disconnect HD1, AC reports host offline, and <code>prtpicl</code> hangs.</p> <p>In an M8 with O+ as host, user performed a <code>cfgadm -c unconfigure c1::dsk/c1t1d0</code> and then a <code>cfgadm -x disconnect c1</code>. The following were observed:</p> <ol style="list-style-type: none"> 1. <code>showcpustate</code> reported offline for host. 2. SSP panel lit amber LEDs for all the cPCI slots that have S+, Jade, and AC. 3. SSP panel lit amber LEDs for HD1. 4. <code>prtpicl -v -c fru</code> hangs: no output. 5. O+ console report <code>mcnet</code> link down. 6. <code>prtpicl -v -c location</code> output missing <code>StatusTime</code> & <code>State</code> for HD0, HD1, and RMM 	<p>Halt and power off system before changing hard disk. <code>Picl</code> and alarm card state will be correct after power on.</p>

Installing the Solaris Operating System

The following procedures describe how to install the Solaris™ operating system on the Netra CP2500 board. Prior to installing the software, you will need to download patches and prepare a patched network installation server. The installation will differ if you will install the OS on a Netra CP2500 board with a disk drive or if you will install the Netra CP2500 board as a diskless client.

This section contains the following sub-sections:

- [“Preparing for the Solaris Operating System Installation” on page 4](#)

- [“Ordering the Solaris 9 9/05 Operating System” on page 5](#)
- [“Downloading the Required Patches” on page 6](#)
- [“Preparing a Patched Network Installation Server” on page 9](#)
- [“Installing Diskfull Clients Using a Network Installation Image” on page 12](#)
- [“Installing a Diskless Boot Server Using a Network Installation Image” on page 18](#)

Preparing for the Solaris Operating System Installation

Before installing the Solaris operating system, see [TABLE 2](#) for a list of the installation requirements.

TABLE 2 Solaris Operating System Installation Requirements

Required for Installation	Information
Solaris 9 Operating System Media Kit (May 2002)	You will need a copy of <i>initial</i> Solaris 9 Operating System Media Kit that was released on May 2002. You will use the Solaris installation CDs and the Solaris Supplement CDs for the installation. For instructions on ordering the initial Solaris 9 Operating System Media Kit, see “Ordering the Solaris 9 9/05 Operating System” on page 5 .
Latest patches	Prior to installing the software, make sure that you have downloaded the required software patches. These patches are listed in the installation procedures. For information about where to download these patches, see “Downloading the Required Patches” on page 6 .
Latest firmware	You may need to update the Netra CP2500 board firmware prior to installing the Solaris operating system. For information about where to download the latest firmware, contact your Sun Service representative.

TABLE 2 Solaris Operating System Installation Requirements (*Continued*)

Required for Installation	Information
Solaris installation documentation	<p>For more specific details about installing Solaris operating system, refer to the <i>Solaris 9 Installation Guide</i> (806-5205), the <i>System Administration Guide: Basic Administration</i> (806-4073), and the <i>System Administration Guide: Advanced Administration</i> (806-4074).</p> <p>These manuals shipped in your Solaris Media Kit and can also be viewed on the Solaris documentation web site: http://docs.sun.com/</p>
A server accessible from the network	<p>In order to install the software, you will need to prepare a patched network installation server. You will need a server with adequate disk space that is accessible to the Netra CP2500 board over the network.</p> <p>Note - You will need enough available server disk space to store the required patches described in “Downloading the Required Patches” on page 6.</p>
Answers to Solaris installation questions	<p>During the Solaris operating system installation, you will be prompted to answer the following questions:</p> <ul style="list-style-type: none">• Network connectivity• DHCP• Host name• IP address• Net mask (255.255.255.0 is the default)• IPv6• Default router• Kerberos• Time zone• Name service (NIS+, NIS, DNS, LDAP or None)• Domain name• Name server• Date and time• Root password <p>Note – Refer to the Solaris installation documentation for more information about these installation questions.</p>

Ordering the Solaris 9 9/05 Operating System

The Netra CP2500 board supports the Solaris 9 9/05 Operating System that was released in September 2005. This initial Solaris 9 9/05 Operating System release (hereafter referred to as the Solaris 9 9/05 OS) requires that you install a number of patches before it will operate on the Netra CP2500 board (see “[Downloading the Required Patches](#)” on [page 6](#) for more information).

To obtain the Solaris 9 9/05 OS Media Kit, which contains the installation media and documentation, contact either your sales representative or field service technician and make a special order using the following part number: SOLZS-09AC9AYM. While the Solaris 9 9/05 OS can no longer be ordered from the Sun price list, you can obtain this version of the OS by making a special order through a qualified Sun representative.

Downloading the Required Patches

In this document's software installation procedures, you will be asked to patch the base Solaris OS with patches you have downloaded from the SunSolve web site. These patches are required when installing the Solaris Operating System on the Netra CP2500 board.

There are two types of patches to download:

- *Regular patches* are available on the main SunSolve web site, <http://www.sun.com/sunsolve>. If you specify the base patch ID number (the first six digits) in the Search SunSolve web page, you see the most recent version of the patch.
- *Point patches* are available on the point patch SunSolve web site, <http://www.sun.com/sunsolve/point>. If you specify the base patch ID number (the first six digits) in the SunSolve point patch web page, you will be able to download the most recent version. Always install point patches *after* you have installed the regular patches.

Note – Whenever patches are updated, the revision number will increase (117530-02, 117530-03, and so on). To find the latest version of a patch, perform the search without the revision number. For example, if this document asks you to download patch 117530-03, search for “117530” to find the most recent version of the patch.

See TABLE 3 for the list of patches you need to download and save to a server accessible from the network. Always download and use the *latest* version of the patches listed in TABLE 3.

TABLE 3 Required Patches

Patch	Download Location
117037-01	http://www.sun.com/sunsolve/
112233-12	http://www.sun.com/sunsolve/
112834-06	http://www.sun.com/sunsolve/
112913-01	http://www.sun.com/sunsolve/
113027-05	http://www.sun.com/sunsolve/
114129-02	http://www.sun.com/sunsolve/
114127-03	http://www.sun.com/sunsolve/
113073-14	http://www.sun.com/sunsolve/
113077-15	http://www.sun.com/sunsolve/
113277-40	http://www.sun.com/sunsolve/
114349-04	http://www.sun.com/sunsolve/
116489-01	http://www.sun.com/sunsolve/
116529-01	http://www.sun.com/sunsolve/
116532-03	http://www.sun.com/sunsolve/
117171-17	http://www.sun.com/sunsolve/
117155-07	http://www.sun.com/sunsolve/
117426-03	http://www.sun.com/sunsolve/
117428-01	http://www.sun.com/sunsolve/
118465-02	http://www.sun.com/sunsolve/
118558-21	http://www.sun.com/sunsolve/
114380-04	http://www.sun.com/sunsolve/
115669-03	http://www.sun.com/sunsolve/
116009-05	http://www.sun.com/sunsolve/
116557-04	http://www.sun.com/sunsolve/
116561-12	http://www.sun.com/sunsolve/
117124-11	http://www.sun.com/sunsolve/
120241-01	http://www.sun.com/sunsolve/

TABLE 3 Required Patches (*Continued*)

Patch	Download Location
119503-07	http://www.sun.com/sunsolve/point
119505-02	http://www.sun.com/sunsolve/point
118583-01	http://www.sun.com/sunsolve/point
118584-07	http://www.sun.com/sunsolve/point
119504-03	http://www.sun.com/sunsolve/point
118585-01	http://www.sun.com/sunsolve/point
112824-05	http://www.sun.com/sunsolve/point
118630-08	http://www.sun.com/sunsolve/point
119522-06	http://www.sun.com/sunsolve/point
119508-03	http://www.sun.com/sunsolve/point
120923-01	http://www.sun.com/sunsolve/point

Preparing the Patch Directory

1. **Create a directory into which you will copy and store the patches you will need for the Solaris OS installation.**

You will install these patches at various times during the procedures.

```
# mkdir patch_directory
```

Where *patch_directory* is the full path name of the directory that you are creating to store the required patches. This *patch_directory* must be network accessible to the board and all servers required for the Solaris OS installation.

2. **Download all of the patches in TABLE 3 and copy them to the new patch directory.**
The directory you created in [Step 1](#) should contain all of the patches listed in [TABLE 3](#).
3. **Use the `unzip` command to uncompress and extract the downloaded patches.**

Note – You may need to uncompress and extract these downloaded patches using the `unzip` command prior to using them in the Solaris installation. Refer to the `unzip(1M)` man page for the uncompress and extraction instructions.

Preparing a Patched Network Installation Server

The following procedures describe how to create a patched network installation server for a Netra CP2500 board installation. Before creating a patched network installation server, see [“Preparing for the Solaris Operating System Installation” on page 4](#) for installation requirements, and create a patch directory as described in [“Preparing the Patch Directory” on page 8](#).

Note – If you are planning to use the network installation server as a boot server for diskless clients, make sure that you have allocated enough space for the diskless server and clients. As a general rule, you need roughly 1.7 GBytes of space for the diskless server and around 300 MBytes for each diskless client in the directory where the diskless clients will be installed (by convention, this directory is in the server’s `/export` directory.)

Note – The following procedures assume that your system mounts the CD media using the Solaris Volume Manager software. If you have disabled the Volume Manager software, you need to mount the media using the `mount(1M)` command. Refer to the Solaris documentation for more information.

1. Become superuser.
2. Insert the Solaris 9 9/05 Software 1 of 2 CD in a CD-ROM drive accessible to the installation server.
3. Change directories to the `Tools` directory on the Solaris 9 CD 1 of 2.

```
# cd /cdrom/cdrom0/s0/Solaris_9/Tools/
```

4. Run the `setup_install_server` script to create an install image on the server:

```
# ./setup_install_server image_directory
```

Replace *image_directory* with the directory on the server where you want to create the Solaris installation image.

5. Eject the Solaris 9 9/05 Software 1 of 2 CD.

```
# cd /  
# eject cdrom
```

6. Insert the Solaris 9 9/05 Software 2 of 2 CD in a CD-ROM drive accessible to the installation server.
7. Change directories to the `Tools` directory on the Solaris 9 9/05 CD 2 of 2.

```
# cd /cdrom/cdrom0/Solaris_9/Tools/
```

8. Run the `add_to_install_server` script to add the Solaris 9 Software 2 of 2 CD software to the install image:

```
# ./add_to_install_server image_directory
```

Replace *image_directory* with the Solaris installation image directory.

9. Eject the Solaris 9 Software 2 of 2 CD.

```
# cd /  
# eject cdrom
```

You have created a Solaris 9 9/05 OS network installation image in the *image_directory*. The following steps will patch and prepare the network installation image for a Netra CP2500 installation.

10. Change directories to the *patch_directory*, which contains all of the downloaded patches required for the Solaris OS installation.

```
# cd patch_directory
```

Where *patch_directory* is the path to the patch directory you created in [“Preparing the Patch Directory”](#) on page 8. See [“Downloading the Required Patches”](#) on page 6 for more information.

11. Using a text editor, create a text file called `patch_order` that lists the following patches in the order shown below.

The following patches are a subset of the patches found in the `patch_directory`. Your `patch_order` file should contain the following text *in this order*:

```
112233-12
117171-17
114129-02
114127-03
113073-14
116532-03
118558-21
116009-05
116557-04
117124-11
```

12. Save this `patch_order` text file to the `patch_directory` directory.

Where `patch_directory` is the path to the patch directory you created in [“Preparing the Patch Directory”](#) on page 8.

13. Use the `patchadd` command to patch the network installation image.

```
# cd patch_directory
# patchadd -C image_directory/Solaris_9/Tools/Boot -M patch_directory ./patch_order
```

Where `image_directory` is the path to the network installation image directory, and `patch_directory` is the full path to the directory containing the downloaded patches.

This step installs all of the patches listed in your `patch_order` file to the miniroot of the network installation image. A miniroot contains a kernel and just enough software to install the Solaris OS.

Patching the miniroot will enable you to boot the Netra CP2500 board to where you can install the Solaris Operating System.

At this point in the procedure, you can either install the Solaris OS on Netra CP2500 boards with disk drives (diskfull clients) or create a diskless boot server for Netra CP2500 board diskless clients.

- If you are installing diskfull clients using this patched network installation server, follow the procedure in [“Installing Diskfull Clients Using a Network Installation Image”](#) on page 12.
- If you are installing diskless clients, follow the procedures in [“Installing a Diskless Boot Server Using a Network Installation Image”](#) on page 18 to set up the diskless boot server.

Installing Diskfull Clients Using a Network Installation Image

This procedure will use the patched network installation server to install the Solaris OS on to a disk drive installed on or connected to a Netra CP2500 board (a diskfull client).

Note – Prior to this procedure, you must have created a patch directory as described in [“Preparing the Patch Directory” on page 8](#), and have created the patched network installation server as described in [“Preparing a Patched Network Installation Server” on page 9](#). Also, ensure that the network installation image and the patch directory are accessible over the network.

1. Change directories to the `Tools` directory of the network installation image.

Where `image_directory` is the path to the network installation image directory that you created in the section, [“Preparing a Patched Network Installation Server” on page 9](#).

```
# cd image_directory/Solaris_9/Tools/
```

2. Use the `add_install_client` command to set up the system to be installed from the network.

You will need to know the following information about the board to be installed prior to using the `add_install_client` command:

- *MAC_address* – MAC address of the board
- *IP_address* – IP address of the board
- *hostname* – Host name of the board

```
./add_install_client -e MAC_address -i IP_address hostname sun4u
```

For more information about the `add_install_client` command, refer to the `add_install_client(1M)` man page and the Solaris documentation.

3. To begin the Solaris OS installation, boot the patched network installation server at the Netra CP2500 board's OpenBoot™ PROM `ok` prompt:

```
ok boot net
```

While booting over the network, you may see the following warning messages, which can safely be ignored:

```
call to undefined service "alloc_virt"  
WARNING: could not find portid or nodeid property in multiplexer  
WARNING: could not find portid or nodeid property in i2c
```

Refer to the Solaris documentation for additional information about booting over a network.

4. Once you have booted the board over the network, perform the standard Solaris network installation procedure.

Refer to the Solaris documentation for additional installation instructions.

During the Solaris OS installation, you will be prompted with the following questions that you *must* answer as follows:

- a. The default is Auto Reboot. Be sure to select Manual Reboot.

Reboot After Installation?

After Solaris software is installed, the system must be rebooted. You can choose to have the system automatically reboot, or you can choose to manually reboot the system if you want to run scripts or do other customizations before the reboot. You can manually reboot a system by using the `reboot(1M)` command.

```
[ ] Auto Reboot  
[X] Manual Reboot
```

```
Esc-2_Begin Installation    F5_Cancel
```

b. Select Custom Install when asked which Solaris products you wish to install.

Custom install provides a choice of which Solaris products to install. For each product, it also provides an option to customize the products install.

Types of install available:

1. Default Install
2. Custom Install

Select the number corresponding to the type of install you would like [1]: **2**

c. Select Entire Group Plus OEM when asked which Solaris group you wish to install.

Available Solaris Software groups:

1. Entire Group Plus OEM (1251.5 MB)
2. Entire Group (1214.6 MB)
3. Developer Group (1058.2 MB)
4. End User Group (674.0 MB)
5. Core Group (200.0 MB)

Select the number corresponding to the desired Solaris software group [2]: **1**

d. Select Default Packages when asked if you wish to install the default software packages of the Entire Group Plus OEM Solaris software group.

The Entire Solaris Software Group Plus OEM Support consists of the Entire Solaris Software Group plus additional hardware drivers, including drivers for hardware not present at the time of installation.

Please indicate if you want the Default Packages for the Entire Group Plus OEM or if you want to select Custom Packages. Selecting Custom Packages allows you to add or remove packages from the selected Solaris Software Group. When selecting which packages to add or remove, you will need to know about software dependencies and how Solaris software is packaged.

1. Default Packages
2. Custom Packages

Default Packages or Custom Packages [1] **1**

- e. At the end of the Solaris installation, you *must* choose *not* to reboot the system. Type an exclamation point (!) to exit the Solaris installation when asked if you want to reboot the system.

```
<Press Return to reboot the system> {"!" exits}  
  [] !  
#
```



Caution – You *must* stop the reboot of the system at this point in the procedure. If you allow the system to reboot, you will need to restart the entire Solaris installation from the beginning.

5. Mount the *patch_directory*, which contains all of the downloaded patches required for the Solaris OS installation.

```
# mount patch_directory /mnt
```

Where *patch_directory* is the full path to the patch directory you created in [“Preparing the Patch Directory”](#) on page 8.

6. Use the `patchadd` command, and the `patch_order` file you created when you created the network installation image, to install the patches.

```
# cd /mnt  
# cat ./patch_order  
112233-12  
117171-17  
114129-02  
114127-03  
113073-14  
116532-03  
118558-21  
116009-05  
116557-04  
117124-11  
# patchadd -R /a -M /mnt ./patch_order
```

7. After installing the software patches, reboot the board.

```
# cd  
# /sbin/init 6
```

8. Log into the board as superuser and insert the Software Supplement For the Solaris 9 Operating Environment CD in a CD-ROM drive accessible to the installation server.
9. Create a directory into which you will copy and store system-specific packages from the Software Supplement For the Solaris 9 Operating Environment CD. You will apply these system-specific packages later in this procedure.

```
# mkdir package_directory
```

Where *package_directory* is the name of the directory that you are creating to store these additional system-specific packages. This *package_directory* must be network accessible to the board.

10. Type the following commands to copy the system-specific packages from the Supplement CD to the directory you just created:

```
# cd /cdrom/cdrom0/Netra_ct_Platform_1.0/Product
# tar cvf - .* | ( cd package_directory ; tar xvf - )
```

Where *package_directory* is the name of the directory that you created in [Step 9](#) to hold these additional system-specific packages.

11. Eject the Software Supplement For the Solaris 9 Operating Environment CD.

```
# cd /
# eject cdrom
```

12. Use the `pkgadd` command to install the three system-specific packages you copied from the Software Supplement For the Solaris 9 Operating Environment CD.

```
# pkgadd -d package_directory SUNW2jdrct SUNWctac SUNWctmgx
```

Where *package_directory* is the name of the directory that you copied and stored the three system-specific software packages.

13. Change directories to the *patch_directory*.

```
# cd patch_directory
```

Where *patch_directory* is the full path to the directory containing the downloaded patches.

14. Using a text editor, create a text file called `patch_order2` that lists these patches in the following order.

The following patches are a subset of the patches you should have already downloaded prior to starting this procedure. See [“Downloading the Required Patches” on page 6](#) for more information.

Your `patch_order2` file should contain the following text *in this order*:

```
117037-01
112834-06
112913-01
113027-05
113077-15
113277-40
114349-04
116489-01
116529-01
117155-07
117426-03
117428-01
118465-02
114380-04
115669-03
116561-12
120241-01
119503-07
119505-02
118583-01
118584-07
119504-03
118585-01
112824-05
118630-08
119522-06
119508-03
120923-01
```

The `patch_order2` file contains a subset list of the patches that you downloaded in the section, [“Downloading the Required Patches” on page 6](#).

15. Save the `patch_order2` text file to the `patch_directory` directory.

Where `patch_directory` is the full path to the directory containing the downloaded patches.

16. Use the `patchadd` command, and the `patch_order2` file you created in Step 14, to install the patches.

```
# patchadd -M patch_directory ./patch_order2
```

Where *patch_directory* is the full path to the directory containing the downloaded patches.

17. After installing the patches, reboot the board.

While booting the board, you may see the following warning messages, which can safely be ignored:

```
call to undefined service "alloc_virt"  
WARNING: could not find portid or nodeid property in multiplexer  
WARNING: could not find portid or nodeid property in i2c  
WARNING: cvc_register: register w/ no console open!
```

You have completed the Solaris OS installation on the diskfull client.

Installing a Diskless Boot Server Using a Network Installation Image

This procedure will set up a diskless boot server by starting the Solaris OS services required for diskless clients. For additional information about diskless boot servers and diskless clients, refer to the Solaris documentation, which you can find at:

<http://docs.sun.com>

▼ To Create a Boot Server For Diskless Clients

This procedure sets up a boot server by starting the operating systems services required for diskless clients. Once you set up the boot server, see [“To Add a Diskless Client” on page 27](#) for instructions on adding diskless clients to the boot server.

You must have a superuser (root) password on your diskless boot server to perform the following tasks.

Note – Prior to this procedure, you must download all of the patches listed in [“Downloading the Required Patches” on page 6](#) and create the patched network installation server as described in [“Preparing a Patched Network Installation Server” on page 9](#). Also, ensure that the network installation image is accessible over the network.

1. Prepare a patched network installation server.

Follow the procedures in [“Preparing a Patched Network Installation Server” on page 9](#) to create a patched network installation server.

Note – When setting up the boot server for diskless clients, make sure that you have allocated enough space for the diskless clients. You need roughly 1.7 GBytes of space for the diskless server and around 300 MBytes for each diskless client in the directory where the diskless clients will be installed (by convention, this directory is in the server’s `/export` directory.)

2. Log into the network server as superuser and change directories to the `/usr/sadm/bin` directory.

```
# cd /usr/sadm/bin
```

3. Use the `smosservice` command to add boot services to the installation server.

```
# ./smosservice add -u root -p root_password -- -x mediapath=image_directory \  
-x platform=sparc.sun4u.Solaris_9 -x cluster=SUNWCXall -x locale=locale
```

Where:

- `root_password` is the root password for the installation server
- `image_directory` is the path to the directory where the Solaris 9 install image is stored
- `locale` is the locale that you want to use

Refer to the `smoservice(1M)` man page for more information and options.

For example, if the following entries were used for each variable, the command would appear as follows.

- `root_password = root_password`
- `image_directory = /export/install`
- `locale = en_US`

```
# ./smoservice add -u root -p root_password -- -x mediapath=/export/install \  
-x platform=sparc.sun4u.Solaris_9 -x cluster=SUNWCXall -x locale=en_US
```

4. Place the Software Supplement For the Solaris 9 Operating Environment CD in a CD-ROM drive accessible over the network.

5. Create the text file `/tmp/usr_admin` with the following contents for the `usr` space package:

```
mail=
instance=unique
partial=nocheck
runlevel=nocheck
idepend=nocheck
rdepend=nocheck
space=nocheck
setuid=nocheck
conflict=nocheck
action=nocheck
basedir=/usr_sparc.all
```

6. Type the following command to add the `usr` space package to the `usr` area of the boot service.

```
# /usr/sbin/pkgadd -S -M -R /export/Solaris_9 \
-d /cdrom/cdrom0/Netra_ct_Platform_1.0/Product \
-a /tmp/usr_admin -n SUNWctac
```

7. Create the text file `/var/sadm/install/admin/opt_admin` with the following contents for the root space packages:

```
mail=
instance=unique
partial=nocheck
runlevel=nocheck
idepend=nocheck
rdepend=nocheck
space=nocheck
setuid=nocheck
conflict=nocheck
action=nocheck
basedir=/opt
```

8. Type the following commands to add the root space packages to the clone area:

Note – The two commands beginning with `tar cvf` are both single long entries.

```
# mkdir '/export/root/templates/Solaris_9/SUNWctmgx_1.0,REV=2000.11.22.10.47_sparc.all'
# mkdir '/export/root/templates/Solaris_9/SUNW2jdrft_4.1_all'
# cd /cdrom/cdrom0/Netra_ct_Platform_1.0/Product
# tar cvf - ./SUNW2jdrft | ( cd '/export/root/templates/Solaris_9/SUNW2jdrft_4.1_all' ; \
tar xvf - )
# tar cvf - ./SUNWctmgx | ( cd '/export/root/templates/Solaris_9 \
/SUNWctmgx_1.0,REV=2000.11.22.10.47_sparc.all' ;\ tar xvf - )
```

9. Apply the root space packages to the clone area:

```
# /usr/sbin/pkgadd -S -n -a /var/sadm/install/admin/opt_admin \
-R /export/root/clone/Solaris_9/sun4u \
-d /cdrom/cdrom0/Netra_ct_Platform_1.0/Product SUNW2jdrft
# /usr/sbin/pkgadd -S -n -a /var/sadm/install/admin/opt_admin \
-R /export/root/clone/Solaris_9/sun4u \
-d /cdrom/cdrom0/Netra_ct_Platform_1.0/Product SUNWctmgx
```

10. Apply Solaris usr pkgs to the clone area.

```
# mkdir '/export/root/templates/Solaris_9/SUNWcs1_11.9.0,REV=2002.04.06.15.27_sparc.all'
# mkdir '/export/root/templates/Solaris_9/SUNWcs1x_11.9.0,REV=2002.04.06.15.27_sparc.all'
# mkdir '/export/root/templates/Solaris_9/SUNWhea_11.9.0,REV=2002.04.06.15.27_sparc.all'
# mkdir '/export/root/templates/Solaris_9/SUNWpiclu_11.9.0,REV=2002.04.06.15.27_sparc.all'

# cat /var/sadm/install/admin/root_admin
mail=
instance=unique
partial=nocheck
runlevel=nocheck
idepend=nocheck
rdepend=nocheck
space=nocheck
setuid=nocheck
conflict=nocheck
action=nocheck
basedir=/
#

# cd image_directory/Solaris_9/Product

# tar cvf - ./SUNWcs1 | ( cd '/export/root/templates/Solaris_9/SUNWcs1_11.9.0,REV=
2002.04.06.15.27_sparc.all' ; tar xvf - )

# tar cvf - ./SUNWcs1x | ( cd '/export/root/templates/Solaris_9/SUNWcs1x_11.9.0,REV=
2002.04.06.15.27_sparc.all' ; tar xvf - )

# tar cvf - ./SUNWhea | ( cd '/export/root/templates/Solaris_9/SUNWhea_11.9.0,REV=
2002.04.06.15.27_sparc.all' ; tar xvf - )

# tar cvf - ./SUNWpiclu | ( cd '/export/root/templates/Solaris_9/SUNWpiclu_11.9.0,REV=
2002.04.06.15.27_sparc.all' ; tar xvf - )

# /usr/sbin/pkgadd -S -n -a /var/sadm/install/admin/root_admin \
-d image_directory/Solaris_9/Product \
-R /export/root/clone/Solaris_9/sun4u SUNWcs1 SUNWcs1x SUNWhea SUNWpiclu
```

11. Apply Solaris root pkgs to Solaris_9 usr area.

```
# /usr/sbin/pkgadd -S -n -M -a /var/sadm/install/admin/usr_admin \
-d image_directory/Solaris_9/Product \
-R /export/Solaris_9 SUNWcar.u SUNWcsr SUNWcarx.u
```

12. Ensure that all of the patches you downloaded in section, [“Downloading the Required Patches”](#) on page 6, are in the `patch_directory` you created in [“Preparing the Patch Directory”](#) on page 8.

You should have copied all of the patches listed in [TABLE 3](#) when you followed the procedure, [“Preparing the Patch Directory”](#) on page 8. The `patch_directory` is the full path to the directory you created to store the downloaded patches.

13. Change directories to the `/usr/sadm/bin` directory.

```
# cd /usr/sadm/bin
```

14. Use the `smossservice patch` command to apply the patches to the diskless boot service in the following order:

- 117037-01
- 112233-12
- 112834-06
- 112913-01
- 113027-05
- 114129-02
- 114127-03
- 113073-14
- 113077-15
- 113277-40
- 114349-04
- 116489-01
- 116529-01
- 116532-03
- 117171-17
- 117155-07
- 117426-03
- 117428-01
- 118465-02
- 118558-21
- 114380-04
- 115669-03
- 116009-05
- 116557-04
- 116561-12
- 117124-11
- 120241-01
- 119503-07
- 119505-02
- 118583-01
- 118584-07
- 119504-03

- 118585-01
- 112824-05
- 118630-08
- 119522-06
- 119508-03
- 120923-01

[CODE EXAMPLE 1](#) displays how to install these patches using the `smosservice patch` command, where *root_password* is the root password of the diskless boot server and *patch_directory* directory is the full path to patch directory you created in [“Preparing the Patch Directory” on page 8](#). You must add the additional `-m -U` flags when you install the last patch to the installation image.

CODE EXAMPLE 1 Installing Patches to the Diskless Boot Service

```
# ./smosservice patch -u root -p root_password -- -a patch_directory/117037-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/112233-12
# ./smosservice patch -u root -p root_password -- -a patch_directory/112834-06
# ./smosservice patch -u root -p root_password -- -a patch_directory/112913-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/113027-05
# ./smosservice patch -u root -p root_password -- -a patch_directory/114129-02
# ./smosservice patch -u root -p root_password -- -a patch_directory/114127-03
# ./smosservice patch -u root -p root_password -- -a patch_directory/113073-14
# ./smosservice patch -u root -p root_password -- -a patch_directory/113077-15
# ./smosservice patch -u root -p root_password -- -a patch_directory/113277-40
# ./smosservice patch -u root -p root_password -- -a patch_directory/114349-04
# ./smosservice patch -u root -p root_password -- -a patch_directory/116489-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/116529-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/116532-03
# ./smosservice patch -u root -p root_password -- -a patch_directory/117171-17
# ./smosservice patch -u root -p root_password -- -a patch_directory/117155-07
# ./smosservice patch -u root -p root_password -- -a patch_directory/117426-03
# ./smosservice patch -u root -p root_password -- -a patch_directory/117428-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/118465-02
# ./smosservice patch -u root -p root_password -- -a patch_directory/118558-21
# ./smosservice patch -u root -p root_password -- -a patch_directory/114380-04
# ./smosservice patch -u root -p root_password -- -a patch_directory/115669-03
# ./smosservice patch -u root -p root_password -- -a patch_directory/116009-05
# ./smosservice patch -u root -p root_password -- -a patch_directory/116557-04
# ./smosservice patch -u root -p root_password -- -a patch_directory/116561-12
# ./smosservice patch -u root -p root_password -- -a patch_directory/117124-11
# ./smosservice patch -u root -p root_password -- -a patch_directory/120241-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/119503-07
# ./smosservice patch -u root -p root_password -- -a patch_directory/119505-02
# ./smosservice patch -u root -p root_password -- -a patch_directory/118583-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/118584-07
# ./smosservice patch -u root -p root_password -- -a patch_directory/119504-03
# ./smosservice patch -u root -p root_password -- -a patch_directory/118585-01
# ./smosservice patch -u root -p root_password -- -a patch_directory/112824-05
# ./smosservice patch -u root -p root_password -- -a patch_directory/118630-08
# ./smosservice patch -u root -p root_password -- -a patch_directory/119522-06
# ./smosservice patch -u root -p root_password -- -a patch_directory/119508-03
# ./smosservice patch -u root -p root_password -- -a patch_directory/120923-01 -m -U
```

The following patches must be installed manually:

- 117155-07
- 117426-03
- 116557-04
- 119503-07
- 118584-07

- 114129-02
- 114127-03
- 113073-14
- 117428-01
- 118558-21
- 117124-11
- 119505-02
- 118584-07
- 112824-05
- 119522-06

15. Manually install the previously listed patches, using the `patchadd` command:

```
# patchadd -R /export/Solaris_9 -M patch_directory 117155-07 117426-03 116557-04 119503-07
118584-07 119504-03
# patchadd -R /export/root/clone/Solaris_9/sun4u -M patch_directory 114129-02 114127-03 113073-
14 117428-01 118558-21 117124-11 119505-02 118584-07 119504-03 112824-05 119522-06
```

During 119503-07 patch installation you may see the following message:

```
Failed to create lock file.
: No such file or directory
```

You can safely ignore this message.

16. After the patches are installed, follow the procedure in [“To Add a Diskless Client” on page 27](#) to add a diskless client.

▼ To Add a Diskless Client

1. Prepare a boot server for the diskless clients.

If you have not yet created a boot server for the diskless clients, follow the steps in [“To Create a Boot Server For Diskless Clients” on page 19](#) before continuing with this procedure.

2. Log into the patched boot server as superuser.

3. Verify that the IP addresses for all other network interfaces on the boot server have corresponding hostnames in the hosts database.

The `smdiskless` command will fail if IP addresses of any network interfaces on the boot server do not have a corresponding hostname in the `hosts` databases.

4. Collect the following information for the diskless client you are adding:

- the client’s IP address
- the client’s Ethernet address

- the client's host name

5. Change directories to the `/usr/sadm/bin` directory.

```
# cd /usr/sadm/bin
```

6. Set up the diskless clients.

For each diskless client, type the following command as superuser (root):

```
# ./smdiskless add -- -i ip_address -e ethernet_address -n host_name \  
-x os=sparc.sun4u.Solaris_9 -x root=/export/root/host_name \  
-x swap=/export/swap/host_name -x swapsize=swap_size -x tz=time_zone \  
-x locale=locale -x ns=name_service -x nameserver=name_server
```

Where:

- *ip_address* is the client's IP address
- *ethernet_address* is the client's Ethernet address
- *host_name* is the client's host name
- *swap_size* is the size of the swap space that you will be using. The default is 24, however, your swap space should be the same amount as your memory. The maximum is 999.
- *time_zone* is the client's time zone
- *locale* is the client's locale
- *name_service* is the client's nameservice
- *name_server* is the nameserver's hostname

Refer to the `smdiskless(1m)` man page for more information and options.

For example, if the following entries were used for each variable, the command would appear as follows.

- *ip_address* = 129.144.214.999
- *ethernet_address* = 8:0:20:22:b3:aa
- *host_name* = client_host
- *swap_size* = 128
- *time_zone* = US/Pacific
- *locale* = en_US
- *name_service* = NIS
- *name_server* = nameserver_host:


```
# ./smdiskless add -- -i 129.144.214.999 -e 8:0:20:22:b3:aa -n client_host \  
-x os=sparc.sun4u.Solaris_9 -x root=/export/root/client_host \  
-x swap=/export/swap/client_host -x swapsize=128 -x tz=US/Pacific \  
-x locale=en_US -x ns=NIS -x nameserver=nameserver_host
```

You have to type your superuser password again after typing this command. The installation process should take roughly 5 minutes per client and about 15-30 minutes for the operating environment service to install; however, no progress is displayed on screen while the process is running. Do not cancel or kill the process until the process has successfully completed.

You should see messages similar to the following after a few moments, confirming that the command went through successfully the second time:

```
Login to client_host as user root was successful.  
Download of com.sun.admin.osservermgr.cli.OsServerMgrCli from client_host was  
successful.
```

7. Reboot the server.

Once the client setup completes you need to reboot the server for the installation to take effect.

8. Boot the diskless client:

Log on to the client and run `boot net` at the `ok` prompt.

```
ok boot net
```

Troubleshooting the Diskfull Installation Process

Some systems encounter problems in the diskfull installation. This section lists the common problems and solutions for them.

Panic Problem With the Diskfull Installation Procedure

Some systems may panic following [Step 4](#) Once you have booted the board over the network, perform the standard Solaris network installation procedure.

If this happens you will see output similar to the following:

```
To select a different media, enter B to go Back.
[172.18.10.75:/images/Solaris_9-0502]

The system is being initialized, please wait... /WARNING: pcisch0
(pci@1e,600000): PCI fault log start:
PCI SERR
pcisch0 (pci@1e,600000): PBM AFSR=0x0.00000000 dwordmask=0 bytemask=0
pcisch0 (pci@1e,600000): PCI primary error (0):
pcisch0 (pci@1e,600000): PCI secondary error (0):
pcisch0 (pci@1e,600000): PBM AFAR 0.00000000:WARNING: pcisch0: PCI
config space CSR=0x2a0 pcisch0 (pci@1e,600000): PCI fault log end.

panic[cpu0]/thread=30002b597c0: pcisch-0: PCI bus 1 error(s)!

000002a100077ea0 pcisch:pbm_error_intr+15c (3000025b050, 7b2, 14004a8,
1400000, f640, 125d36c)
%10-3: 000003000007d8d0 0000000000000003 0000000000000001
0000030000283230
%14-7: 0000000000000000 00000000142cba8 00000000140d590
000000000140b800 000002a100077f50 unix:current_thread+108 (29fff982000,
```

Solution for Panic Problem

To solve this problem, patch the network installation image with the patch_order2 patches.

You should now be able to complete the diskfull installation procedure.

Failure to Reboot

Some systems may fail to reboot following [Step 7](#) After installing the software patches, reboot the board.

Solution for Failure to Reboot Problem

If the system fails to reboot following [Step 7](#), do the following:

- Boot the system off the net
- Mount the disk
- Execute [Step 8](#) through [Step 17](#)

You should now be able to boot the system from the disk.

