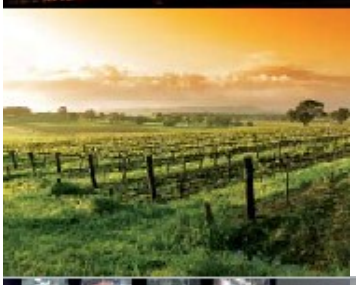
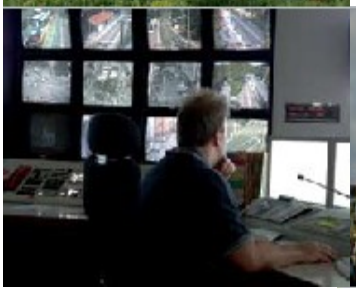
Sentient Computing




Installing Solaris 10 X86

If you have any questions or comments on the installation, please come see us at http://sencom.com.au/index.php/supportmenu/macroview-forum we keep an updated version of this document on our forums, and we add all user comments to it!

solarisinstallationv1.2.doc
Version 1.1

Sentient Computing

Document History			
Revision	**Date**	**Description**	**Author**
1.0	**17/04/2009**	**Initial Document**	**Chris Schleising**
1.1	**20/4/2009**	**Formatting and layout. Updates**	**DB and CB**
1.1a	**4/1/2010**	**More NIC info**	**DB**
1.2	**6/3/2010**	**Info on Boot options and Screen resolution**	**DB**

Table of Contents

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1. Introduction

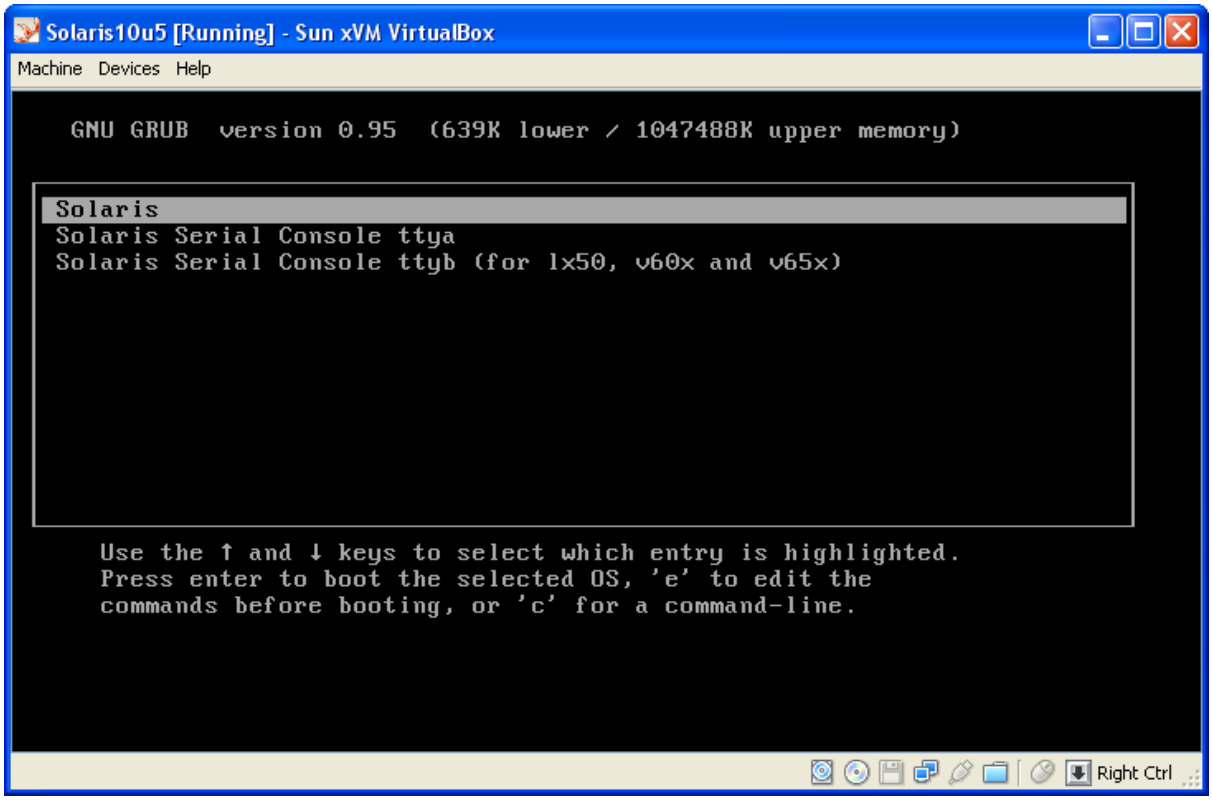
This document describes the installation process for Solaris 10 X86.

2. Installing Solaris 10 X86

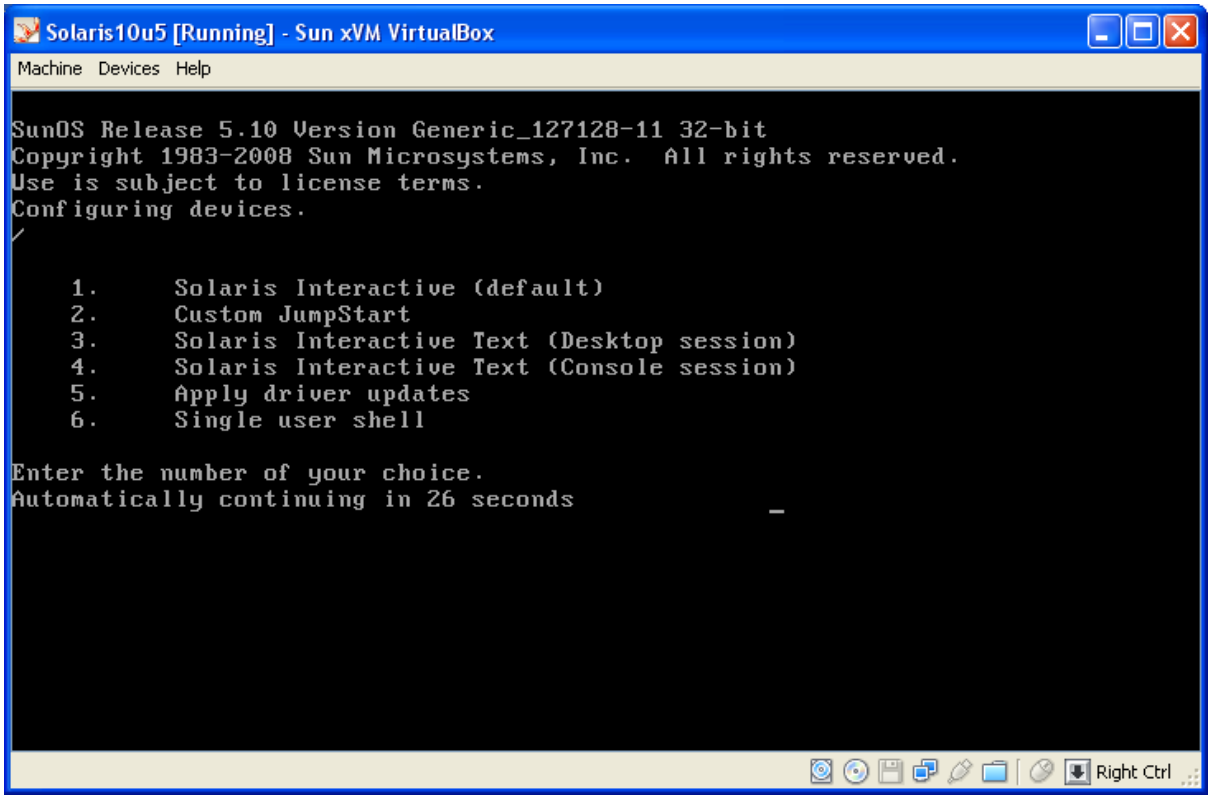
- Firstly enter the Bios and select to Boot from Solaris DVD (CD/DVD)
  Follow defaults and ensure to:
  - disable Kerberos

  - Specify the IP, hostname and gateway

  - not use IPv6



- *Select Solaris to begin the installation*



- Press 1. For Solaris interactive.

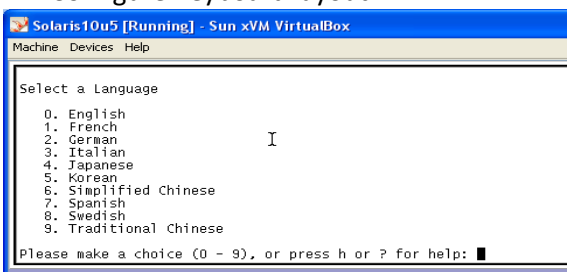
Troubleshooting

If, after selecting “Interactive Setup” in the first menu, the prompt displays “mounting install CD” then “CD-Rom is not a valid HSFS file system”
Alternatively, if, after selecting all installation options, the wizard says the CD/DVD you inserted is not a valid Solaris 10 X86 CD/DCD, Use a different CD-ROM drive.

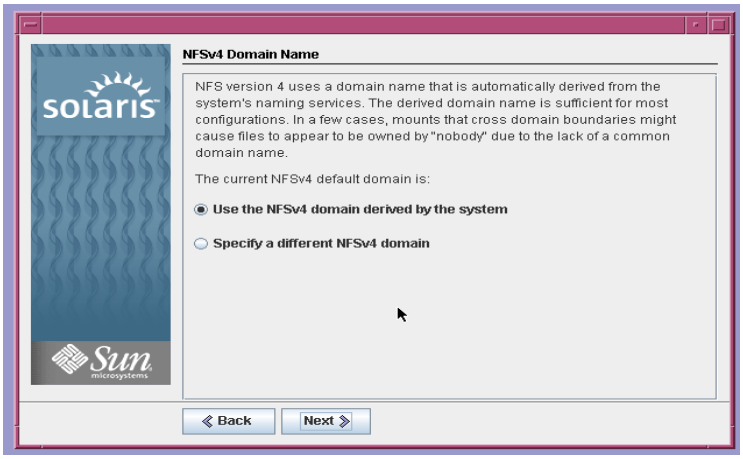
For Dell

If this is a Dell with a MegaSAS RAID controller – press 5, insert the MegaSAS driver CD, press 1 for CD/DVD, and install driver. Then press ‘e’ to end, and 1 for Solaris Interactive.

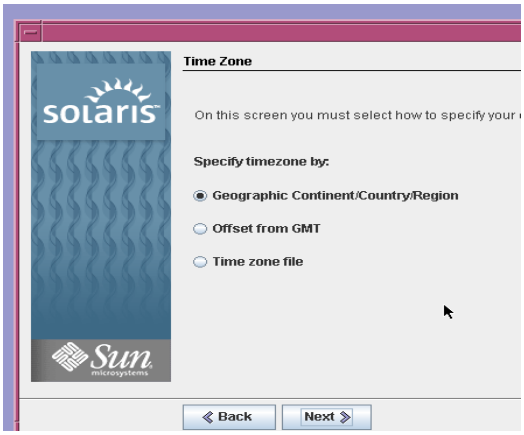
Configure Keyboard layout



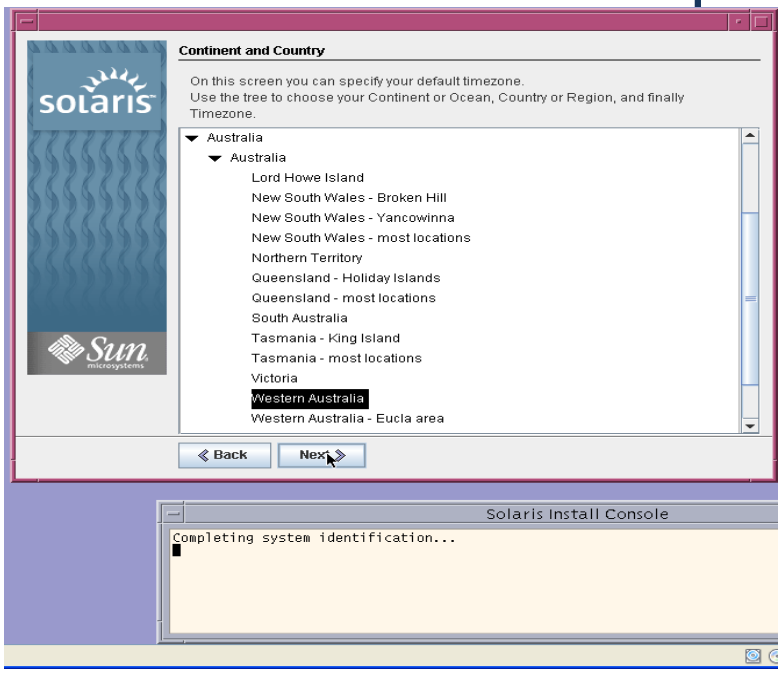
Select English and Press F2 to continue



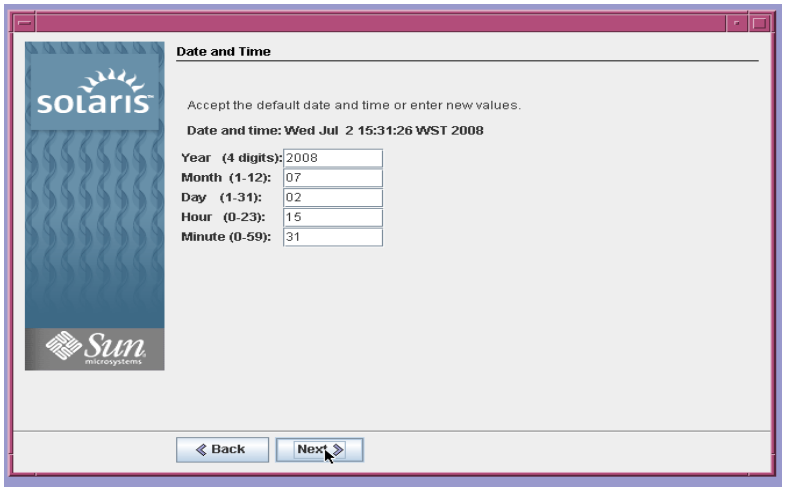
Select to Use the NFSv4 domain derived by the system.



Specify the time zone geographically.

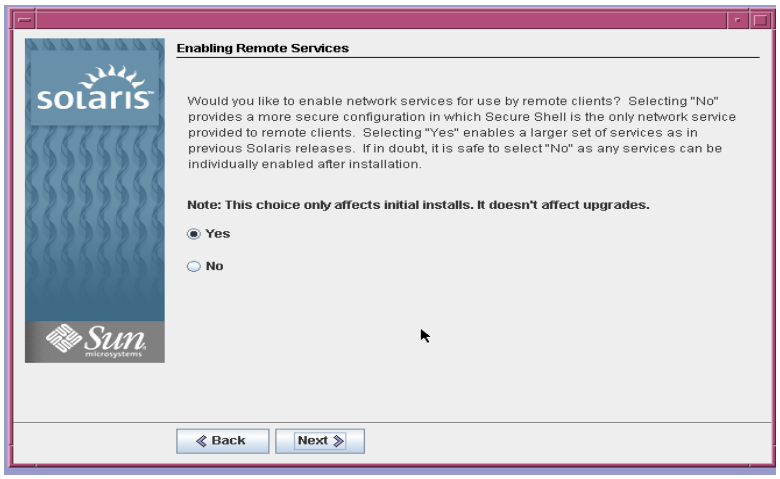


Select WA

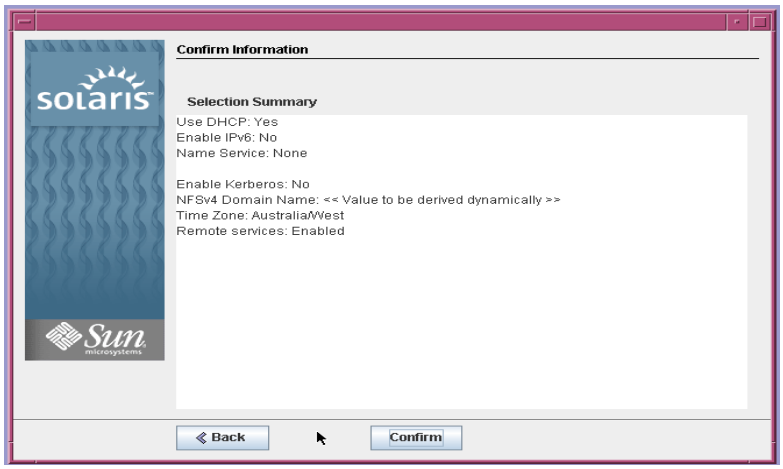


Input the date and time then press next

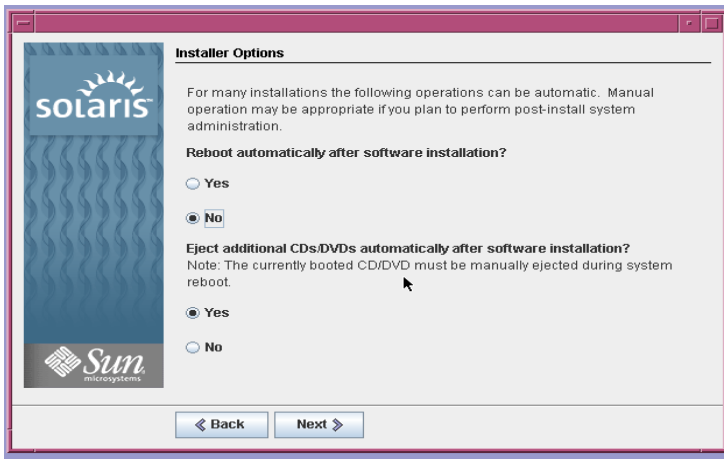
Enter a Root Password



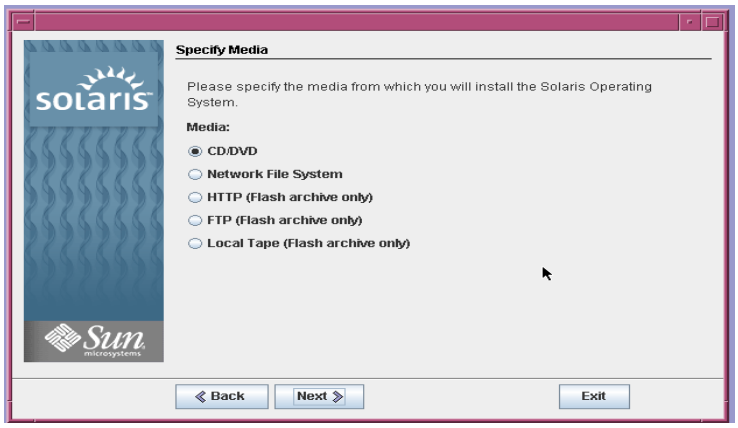
Select Yes.



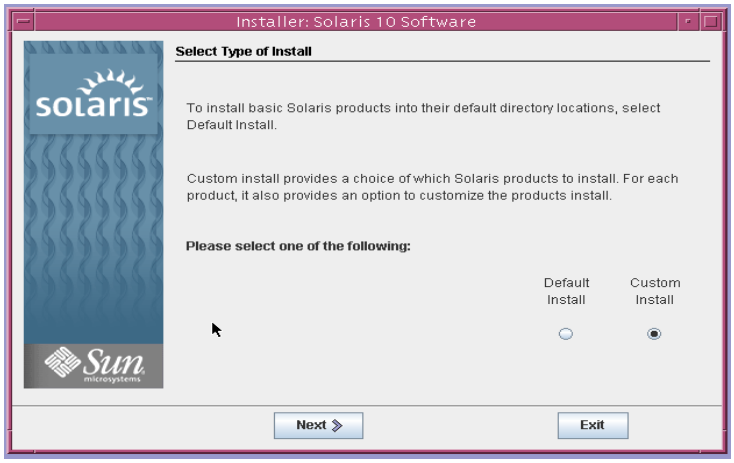
Confirm the settings.



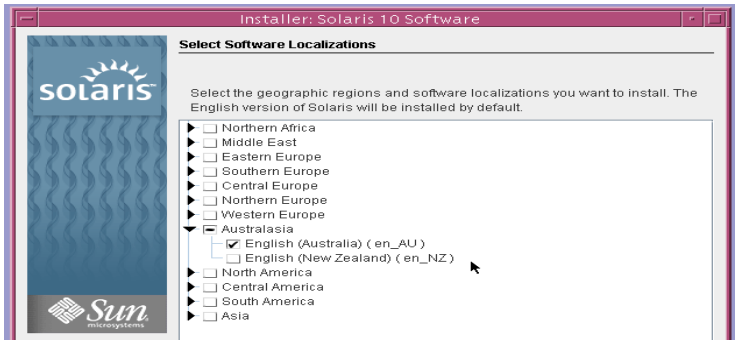
Select No to auto Reboot and yes to Eject CD/DVD



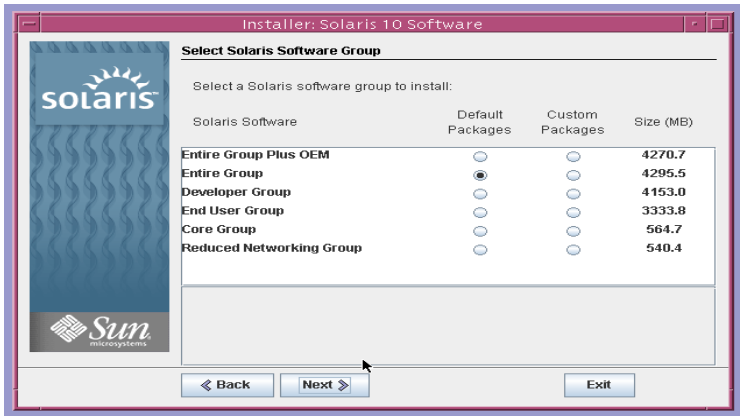
Select CD/DVD or appropriate media



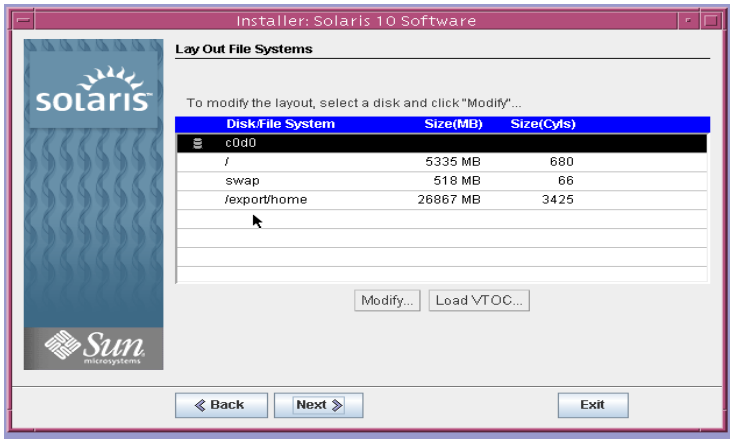
Select Custom Install.



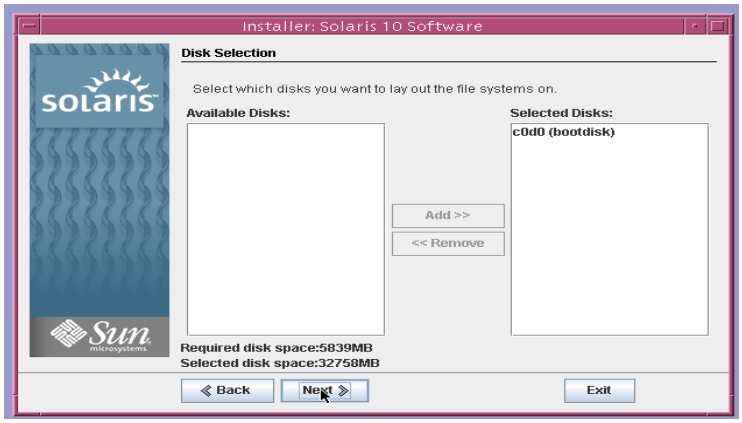
Select Australian software localizations.



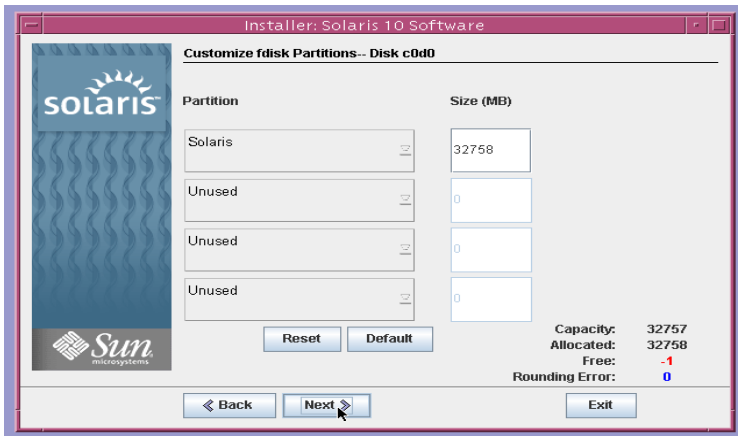
Select “Entire Group”



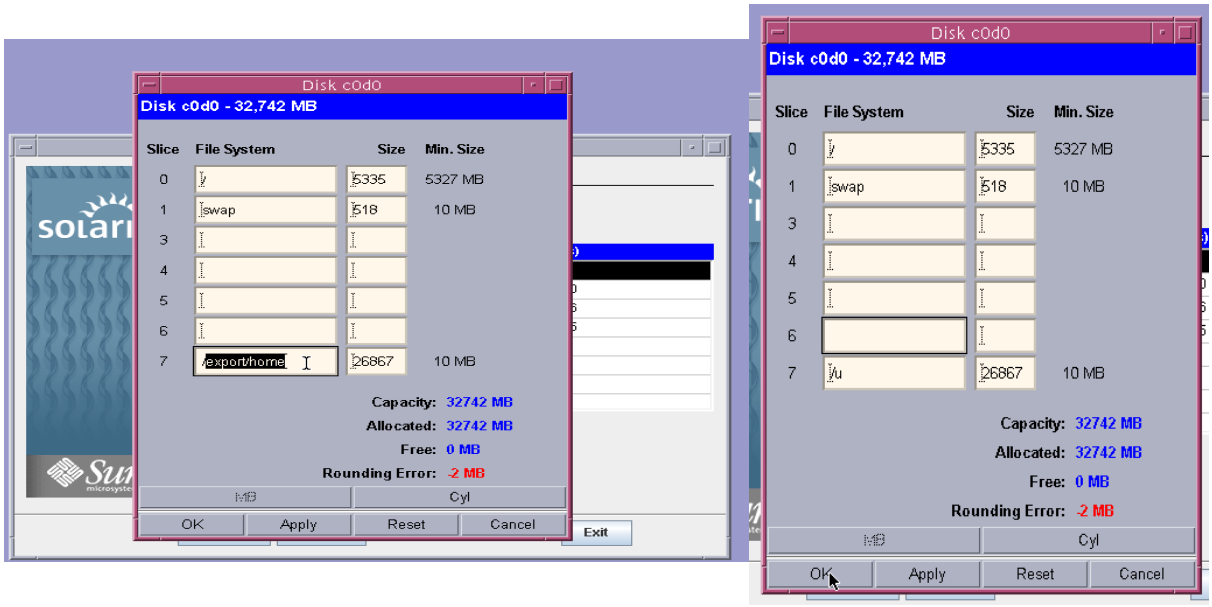
Press Next



Press Next



Ensure all memory used for Solaris Partition and Press Next

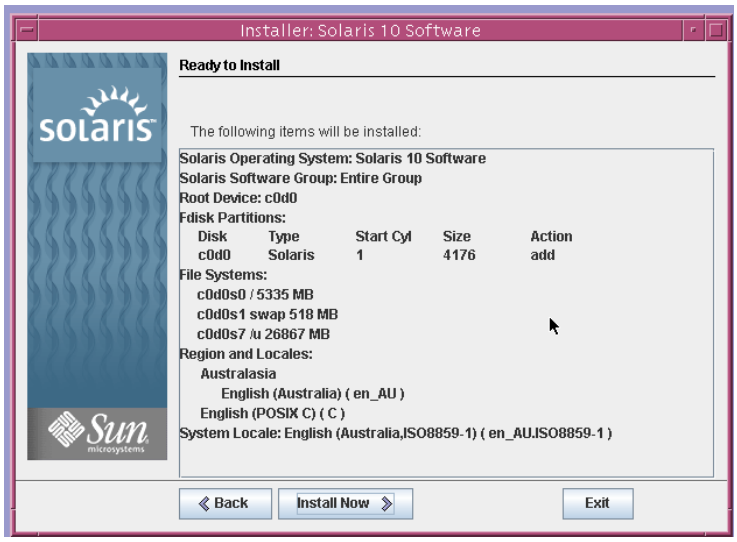


Now we must change /export/home to /u/macro

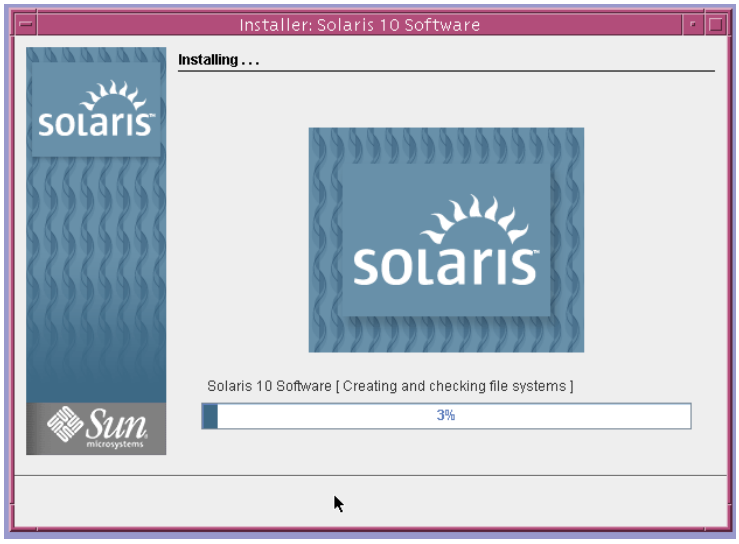
- Select Modify

Delete /export/home
Replace with /u

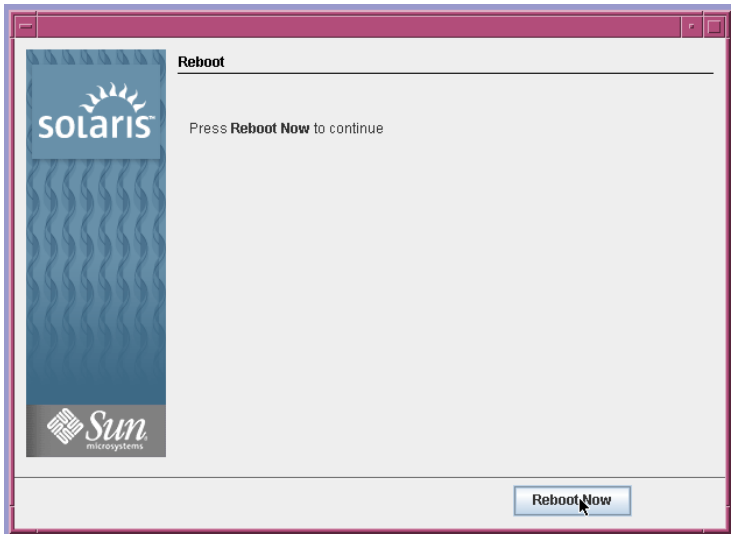
Increase the / partition to 10G
Increase the swap partition to about twice the amount of RAM
The rest is allocated to the /u
Press OK
Press Next



Check details and press Install Now.



Wait while Solaris installs.



Remove the CD from the drive and select “Reboot Now”

Select Java Desktop System.
Installation has finished.

3. Following the OS Install

3.1. Add a user:

(macro used as example)

groupadd macro
useradd –g macro –d /u/macro –m –s /bin/bash macro
passwd macro

3.2. Remaining Configuration

Setting up rsync:

For use of rsync and ntp the following files need to be added.
Use USB or FTP to retrieve files from W: Drive or http://www.sunfreeware.com/

libiconv-1.11-sol10-x86-local
ntp-4.2.4p6-sol10-x86-local
openssl-0.9.8j-sol10-x86-local
libgcc-3.4.6-sol10-x86-local
rsync-3.0.4-sol10-x86-local
readline-5.2-sol10-x86-local

IN : su
cp rmdisk (x) /tmp
#cd /tmp
gunzip (x)

pkgadd –d (x)

Now Rsync has been added, the path to the file needs to be added to the start file .bashrc or .profile.

As macro
$ cd
$ vi .bashrc and add
/usr/local/bin to $PATH.

To be able to rsync between machines, the hostname of the machine you indend to put, or retrieve files from needs to be added to the *.rhosts* file in the home directory of the user.

3.3. Enable ping for all users

cp /usr/sbin/ping /usr/bin

3.4. To use standard l command

```
# vi /usr/bin/l

 ls -la $*

# chmod +x /usr/bin/l
```

To add users and change the size of partitions you can use the Management Console (SMC).

4. Installing MWM using lesstiff

Mwm is a nice windows manager for VNC. To install get the SFWlestf file from http://www.sunfreeware.com/
pkgadd –d

5. MWM Settings

To change the following pop-up menu settings vi the file:
/opt/sfw/lib/X11/mwm/system.mwmrc

To get rid of the Pager and scroll find the System Mwm file (/opt/sfw/lib/X11/app-defaults/Mwm), copy to home directory and set (un-comment – remove leading !)

*usePager: False
*edgeScrollX: 0
*edgeScrollY: 0

6. Anonymous FTP

Do a

```
# ftpconfig –d /export/ftp
```

Vi the /etc/passwd file

```
ftp:x:30000:30000:Anonymous FTP:/export/ftp:/bin/false
```

7. Remote Desktop

To get remote desktop working on solaris the following need to be added.
From www.sunfreeware.com.au download the following packages:

- rdesktop
-libgcc
openssl
create new dir in /usr/local/bin called rdesktop
gunzip (x)
pkgadd –d (x)

8. Enable rexec for VNC access

Do a
 # svcadm enable rexec

9. Optional Installation Steps

These steps are instructions for a number of steps that may not be required for all MacroView systems.

9.1. Optional: Install Network Driver for Dell Systems.

The BRCMbcme.pkg is available on the downloads section of www.sencom.com.au

Use a USB drive to transfer BRCMbcme.pkg to /tmp
Install driver:
pkgadd –d BRCMbcme.pkg
Use:
#prtconf –pv |more
To find a string with "Ethernet" as device type, find the vendor-id: 0000XXXX and device-id: 0000YYYY

Install the driver to the pci card

#update_drv –a –i "pciXXXX,YYYY" bcme
#ifconfig –a plumb
#ifconfig –a
the NIC device should come up after the ifconfig –a

Edit the /etc/defaultrouter and /etc/resolv.conf

Firstly ensure /etc/hosts and /etc/defaultgateway are correctly configured.
Then
cd into /etc
vi defaultrouter and add the following:

192.168.20.1

vi resolv.conf and enter the following:

nameserver 192.168.20.1
nameserver 192.168.20.101

Then

cp /etc/nsswitch.dns /etc/nsswitch.conf

At this point, run **sys-unconfig** to install network.

9.2. Optional: Setting up VNC. For U5

VNC allows MacroView to be run directly through a browser on the the intranet, to install VNC for U5 a package is required from SenCom. Please contact us for more information.
In the /u/macro (home) directory,
vi .bash_profile *(You'll probably be creating this!)*
insert the following text:
PATH=$PATH:/usr/openwin/bin:/u/macro/bin:/usr/X11R6/bin:/usr/X11/bin
export PATH
Save the file

In a start file in the /etc/rc2.d directory (Usually S99MacroView) add:

```
/usr/bin/su – macro –c "/usr/bin/vncserver –httpd :1"
/usr/bin/su – macro –c "/usr/bin/vncserver –httpd :2"
/usr/bin/su – macro –c "/usr/bin/vncserver –httpd :3"
/usr/bin/su – macro –c "/usr/bin/vncserver –httpd :4"
/usr/bin/su – macro –c "/usr/bin/vncserver –httpd :5"
```

This will add 5 vnc connections, *ipaddress*:5801 -> *ipaddress*:5805

For the Macroview VNC – ftp VNCINSTALL.tar and MacroView_vncInstall.sh to /
./MacroView_vncInstall.sh

9.3. Optional: Setting up VNC For U4

VNC allows MacroView to be run directly through a browser on the the intranet, to install VNC for U4 a package is required from SenCom. Please contact us for more information.
FTP or use USB drive to copy the contents of vncsol10_x86 folder.
run installsol10vnc.ksh
./installsol10vnc.ksh
Answer yes to all options. This will install VNC
Copy VNCMOD.ksh to /bin and run this to edit settings

9.4. Optional: Setting up DBase

This step requires a licensed copy of dbase4

FTP dbase4 to /tmp

tar xvf dbase4
cd dbase4
source setup
chmod 777 /usr/local/lib/dbaseiv/login.db

As macro user:
$ cd
$ vi .bashrc
add:
export set DBPATH=/usr/local/lib/dbaseiv

Running db4 should bring up dbaseiv now.

Note: Make sure /usr/loca/lib/dbaseiv/login.db is set to 777 using chmod.

9.5 Setting up user start file on Solaris

As the server is initializing the system looks for and executes system initialization file /etc/.profile during login. Individual user initialization files should be placed in the home directory of the user. At sentient for Macroview users we use the .bashrc file as below:

 # .bashrc

```
# Source global definitions
if [ -f /etc/bashrc ]; then
        . /etc/bashrc
fi

# User specific aliases and functions
PATH=$PATH:$HOME/bin:/u/macro/bin:/usr/local/bin:/usr/X11R6/bin:/usr/openwin
/bin:/usr/oasys/bin:/dev/null

export PATH
unset USERNAME

export LD_LIBRARY_PATH=/usr/X11R6/lib
export MACRODIR=$HOME/config
export SCANRATE=1
export CLRSPAD=1
export ENGDIR=$HOME/eng/engdir
export EZENGDIR=$HOME/ezeng/dgt
export MV_HELP_PATH=$HOME/help/lib
export NAVDIR=$HOME/nav
export DBPATH=/usr/local/lib/dbaseiv
export DBTERM=xterm
LD_LIBRARY_PATH=/usr/X11R6/lib
export LD_LIBRARY_PATH
```

For remote logins, the system will look to load the file .profile for the environment for the user. To enable this create a link between .bashrc and .profile.

$ ln –s .bashrc .profile

9.6 Setting up server start file on Solaris

Server start files are found in the /etc/rc2.d directory.

At sentient we use the file S99Macroview. Options to have this file on a new server include the use of ftp from another macroview server i.e. Darwin or

$ vi S99Macroview

And add the line:

```
/u/macro/system/start.mvtest > /u/macro/logs/start_mvtest.log
```

To start all macroview drivers and files. In S99Macroview the path /u/macro/system/start.*[servername] point to a start file in /u/macro/system.*

In /u/macro/system add start file from Darwin (start.dairy) or create : start.mvtest

Ensure file is executable
$ chmod +x

10. Cleaning up the /var/adm/wtmpx file

Add the line

```
> /var/adm/wtmpx
```

to the S99MacroView file

11. TROUBLESHOOTING

11.1. Screen Resolution

This shouldn't be a problem, but if you have issues with the screen resolution after setup, and can only see a low resolution you may need to configure the Xorg Server.

Create a xorg.conf file using following command

$ /usr/X11/bin.xorgconfig

Follow the commands and enter details of monitor and graphics hardware etc. (Handy to have these ready)

Move the resulting xorg.conf file to

/etc/X11/xorg.conf

Restart the Xserver and all should be fine.

During installation one one site, the screen resolution was grainy and un-focused and no matter whether a sys-unconfig was completed or X server restarted, the screen res was terrible and no options were available on the GUI to resolve the issue.

To fix this, as superuser, run

kdmconfig

Then follow the prompts inputting info regarding the monitor in use, keyboard and mouse etc.

Also you can use /usr/X11/bin/Xorg –configure
A better one is /usr/X11/bin/xorgcfg
And if you are an expert on Video Cards /usr/X11/bin/xorgconfig

For all troubleshooting please see our forums on

11.2. Boot Options

When Grub is first loaded – Press “e”
Select line starting with kernel/
Press “e”

- Add “ –s” – sor single user
- Add “ –v” – for verbose boot
- Add “ –r” – for recobfigure (I think same as sys-unconfig)

Press “Enter”
Press “b” to boot

11.3. MacroView License Manager

For some reason the mvlmd process wont run as root – so do a
Su – macro –c “bin/mvlmd –file system/*lic > /dev/null “ &

11.4. Hangs on Boot

If at boot, the system hangs on the “Use is subject to license terms” screen, press the STOP +A to get to the ok prompt then type

$ boot -v

More information is then given in the output.

From this we found that disabling the USB legacy in the Bios prevented the hang up.

11.5. Changing the Hostname

If after setup, you require changing the hostname of the server, this is done in 3 places;

/etc/hostname
/etc/nodename
/etc/hosts

Either vi the files or

$ hostname (newname)
$ nodename (newname)

11.6. Auto Login

Use the gnome-control-center

- Desktop
- Sessions
- Add script to start program.

In script add the line
gnome-session-save –kill -silent

11.7. Disable Serial Monitoring

```
# sacadm –l
```

Reports all devices that are being monitored

- Remove a `ttymon` port monitor.

```
# sacadm -r -p mbmon
```

-r

Specifies the **remove** port monitor status flag.

-p

Specifies the *pmtag* `mbmon` as the port monitor tag – returned from -l

11.8. Other Documents

In the Sentient technical library

Perle Installaion

Adding Hard Disk

http://sencom.com.au/index.php/supportmenu/macroview-forum

12. More NIC Information for Intel NIC – MB820

To the Intel NIC working on the MB820 motherboard, I used the below to get it working. With the following changes:

1. The device-id from the prtconf was 1050. So I used vi to change the values in the boot master and driver_alias file from 1029 to 1050.
2. After I made the changes did a sys-unconfig – and viola!

I recently installed Solaris 10 06/06 x86 on my desktop machine, a Compaq Evo with an onboard Intel 10/100 network card.

At first the Solaris installation seemed to hang while trying to find a network configuration from a non-existant RPC boot server. In retrospect, I think the problem was that Solaris didn't find an appropriate driver for the card but after waiting a long time, the installation continued skipping the network configuration.

Running **prtconf -pv** shows the pci identification details for the ethernet card:

```
    model: 'Ethernet controller'
power-consumption: 00000001.00000001
fast-back-to-back:
devsel-speed: 00000001
interrupts: 00000001
max-latency: 00000038
min-grant: 00000008
subsystem-vendor-id: 00000e11
subsystem-id: 00000012
unit-address: '8'
class-code: 00020000
revision-id: 00000081
vendor-id: 00008086
```

device-id: 0000103b
name: 'pcie11,12'

Looking up the identification information in the PCI ID repository tells me I'm dealing with a 82801DB PRO/100 VM (LOM) Ethernet Controller

Looking at /boot/solaris/devicedb/master, I found the following similar drivers:

```
bash-3.00# grep 82801DB /boot/solaris/devicedb/master
pci8086,1039 pci8086,1039 net pci iprb.bef "Intel 82801DB Ethernet 82562ET/EZ PHY"
pci8086,103d pci8086,103d net pci iprb.bef "Intel 82801DB PRO/100 VE Ethernet"
```

Both cards use the iprb driver so I add the identifier for my driver into /etc/driver_aliases:

```
iprb "pci8086,1038"
iprb "pci8086,1039"
iprb "pci8086,103b"
iprb "pci8086,103d"
```

Load the driver with the modload command and plumb the interface:

```
modload /kernel/drv/iprb
ifconfig iprb0 plumb
```

If that works, create the /etc/hostname.iprb0 file. I wanted to use DHCP so I did the following:

```
touch /etc/dhcp.iprb0
touch /etc/hostname.iprb0
```

Then do a reconfigure reboot.