Release Notes

These are the issues and advisories known to be outstanding for the initial release of the Sun Cobalt™ LX50 server:

Installation

Please refer to the *Sun Cobalt LX50 Server User Guide* and the *Sun Linux 5.0 User Guide* prior to installing the Sun Cobalt LX50 server.

For the latest information about the Sun Cobalt LX50 server or the Sun Linux 5.0 releases, please check the troubleshooting notes and documentation errata at *http://www.sun.com/lx50*.

Support

Service related questions and issues may be addressed by starting at the Sun™ Enterprise Services webpage (*http://www.sun.com/service*). A variety of topics, such as online support and patches, can be found. Information and procedures regarding Sun's Global Warranty Program are also available on the site.

Product Notes and Restrictions

Peripherals Details

USB keyboards, mice and storage devices

USB legacy mode in the BIOS is currently disabled. Only PS/2 keyboards and mice are enabled before the Sun Linux 5.0 operating system is loaded. (If a keyboard is required to select BIOS options, to run the diagnostics, or to select boot options in LILO, you must use a PS/2 keyboard.)

A PS/2 splitter (Y-cable) comes with every system and will facilitate both keyboard and mouse connections to the one PS/2 connector on the Sun Cobalt LX50 server.

USB devices are enabled after Linux™ and the USB drivers are loaded. (Under any Linux OS, the default is set up to use a PS/2 mouse.) To enable a USB mouse, run the "mouseconfig" program. Additionally, as with any Linux OS, the mouse is required to be configured before X-windows is started. If X-windows needs to be started without a mouse, the file `/etc/X11/XF86Config-4` will need to be edited, and the following section added:

```
Section "ServerFlags"
Option "AllowMouseOpenFail" "True"
EndSection
```

USB storage devices can be used with the Sun Cobalt LX50 server. However, this type of device must be disconnected prior to a Sun Linux 5.0 software install or recovery. (The installation will attempt to install to the USB device). Additionally, the GNOME hardware browser is shown to fail when USB storage devices are attached to the Sun Cobalt LX50 server. Remove the storage device prior to using the hardware browser. USB storage devices have also been reported to stall or stop the shutdown process as well. Remove the storage device if you want a clean and fast shutdown.

Serial connections

The serial port is set to a default speed of 9600 baud, 8 data bits, no parity, no handshake. (This can be changed if a faster connection is desired.)

Care should be taken when logging into the server over a serial console (ttyS1). If the serial cable is unplugged, the session is not closed. Therefore when a cable is reinserted, the session remains active. This behavior is seen only on the rear serial connector and only with the default settings of the internal jumpers.

The serial port is available for the serial console, as a default. If you want the serial port for another purpose (e.g. a modem), then the serial console must first be disabled. Likewise, the serial console needs to be disabled if a modem is connected/turned-on at boot time, because the Sun Cobalt LX50 server will confuse the modem interaction with keyboard boot commands.

The non-stacked RJ-45 port at the rear of the LX50 is the RS-232 port (COM2). It is configured to be compatible with the Cisco or Lantronix serial concentrators. (Sun also has an adapter to convert these RJ-45 connections to standard DB-9 connectors. This is part number X5026A.) There is an RJ-45 port at the front of the chassis that is also a serial port (COM2). The front and rear ports are shared: When a device is plugged into the front port, the rear port is automatically disabled. When the device is removed from the front port, the rear port is automatically enabled.

Drives

The hard drives require 10K RPM Ultra160 LVDS SCSI with only SCA connectors. The system supports a maximum of three internal Ultra160 drives; capacities can be mixed. The CD/FDD combination drive is not hot swappable and can be removed only with power off. (Use the handle to extract the drives. To install, push the drives in by applying pressure only on the left-most and right-most edges of the FDD portion of the module to avoid damaging the CD.)

If an external SCSI cabinet is attached, the external drives are checked for boot partitions first and, if boot partitions are found, will be boot drives. The internal drives are on SCSI bus B, while the external drives are on SCSI bus A.

Note that the drive order will change if you attach external SCSI devices. As a result, the OS will need to be re-installed from the OS restore CDs or the boot drive can be moved to the external storage cabinet in order to properly load Linux after attaching this additional storage.

If you want to boot from, or check, SCSI bus "B" first, the setup should be changed as follows:

When the system starts up and the SCSI devices are being scanned, press <CTRL>+A to enter the SCSIselect(TM) Utility. You then need to select the following:

```
SCSI channel "B" or desired channel
Configure/View Host Adapter Settings
Boot Device Configuration
```

The desired SCSI channel is selected to boot first ("B" for internal drives, "A" for external attached storage). Save your changes by following the prompts before exiting. Then, when you are finished, press <ESC>.

Recommendations

1. One standard Sun Cobalt LX50 server configuration has 256MB of memory installed. One of the accompanying applications, Sun One Active Server Pages, requires the entire 256MB of memory for itself. While this software will run on the 256MB server, performance will be improved if you install additional memory before running the application.

2. Some Seagate 18GB hard drives may not power up properly. The Sun Cobalt LX50 server then defaults to booting from another device. It is recommended that you do not substitute Seagate 18GB drives as your primary boot source.

3. When booting from the serial console (e.g. using kermit or minicom), the highlighted options may not be visible. Set the software to VT102 emulation or ANSI in order to view all of the highlighted menu options. Also, use arrow keys instead of the function keys on the keyboard. The function keys are not always mapped properly in emulator programs.

4. The "poweroff" command may not complete when an active serial port is attached to the Sun Cobalt LX50 server. Use the "shutdown" command (e.g. "shutdown -hn now") instead.

5. SSH within Sun Linux 5.0 (on the Sun Cobalt LX50 server) does not support the "IDEA" encryptions method. Use the triple DES (3des) mode instead.

6. The system has 3 PCI bus segments. PCI Bus A is a 32-bit/33MHz segment and has the ATA controller, USB, South bridge and the two onboard 10/100 Ethernet ports on it. PCI Bus B is a 64-bit/66MHz segment and has the Adaptec 1789 dual-channel Ultra160 SCSI controller and the full size (middle PCI slot) PCI slot. PCI Bus C is a 64-bit/66MHz segment (3.3V or universal cards) which has only a low-profile PCI slot available. Gigabit Ethernet cards should be placed in the low profile slot for maximum performance.

Linux Notices, Linux Kernel

1. Linux is a very verbose operating system and the Sun Linux 5.0 operating system is no exception. Many warnings are not indications of problems, but, it is prudent to read the warnings and judge if it is indeed an error. Warnings that have been observed, which are not considered errors, are listed below:

```
Gtk warnings when starting X.
GNOME's MagicDev warnings when there is no CD in the CD-ROM drive.
linuxconf warnings from remadmin (in an X shell).
tripwire warnings, as email to root from a cron job.
Konqueror warnings when accessed from the menu.
```

2. At the end of an installation, the user may see the following (expected and harmless) messages:

```
cat: //.Xauthority: No such file or directory
(EE) xf86OpenSerial: Cannot open device /dev/psaux
```

After the installation completes, the last set of expected messages are:

```
sending termination signals...done
sending kill signals...done
disabling swap...
/tmp/sda6
unmounting filesystems...
/mnt/runtime done
disabling /dev/loop0
/proc/bus/usb done
/proc done
/dev/pts done
/mnt/sysimage/boot done
/mnt/sysimage/dev/pts done
/mnt/sysimage/diag done
/mnt/sysimage/home done
/mnt/sysimage/proc/bus/usb done
/mnt/sysimage/proc done
/mnt/sysimage/var done
/mnt/sysimage done
/mnt/source done
ejecting /tmp/cdrom...
System halted.  You may now power-down.
```

3. Attempting to list nfs mounts (e.g. using the command `df -m`) will succeed and list duplicates of the same mount points. Repeated attempts will add to the duplication. This error is harmless; the only thing failing is duplicate mount detection in the Linux-2.4 kernel.

Notes supporting the Sun Cobalt LX50 server and Sun Linux 5.0 OS

1. The rescue capabilities within Sun Linux 5.0 operating system are very limited. These capabilities should be used to edit or modify filesystems (e.g., configuration changes). If extra capabilities are needed, Open Source rescue tools should be considered.

2. When using "linux rescue" and the last action is a requested reboot, the system will halt. The message "you may safely reboot your system" then appears. If the system does not reboot itself, you must manually reboot the system.

3. The front panel has three switches on the right side. The left-most of the three is the Power button, the middle is a Reset switch and the right-most is the Select switch. ACPI has not been enabled in Sun Linux 5.0, so when you invoke a power-down sequence from Linux, the system will halt with the power-down message on the console. You can then manually power the system down using the Power button. The Reset switch immediately resets the system. The Select switch, when pressed, lights the front and rear Blue LEDs, indicating the system is now being serviced. There is also an amber LED on the front panel that illuminates when a system fault occurs. To determine the cause of the system fault, the system must be booted from the service partition and the SSU utility run to view the SEL (system event logs).

4. The system is shipped with 3 CDs for installation and rescue. If, for any reason, Sun Linux needs to be reinstalled, simply place the first CD into the drive. Then follow the "OS Restore Procedure" section of the *Sun Linux 5.0 User Guide* documentation. Note that there is no support for text mode when reinstalling the OS in this version of the Sun Linux 5.0 rescue CD.

5. The Sun Cobalt LX50 server is shipped with a diagnostic partition pre-installed on the hard drive. To boot from this partition, press the F4 key while the system is booting and before it gets to the LILO Linux boot screen. A standalone diagnostic CD has also been shipped with your system and can be used in place of the diagnostic partition. Refer to the *Sun Linux 5.0 User Guide* to reinstall the diagnostic partition.

6. The Sun Cobalt LX50 server has been pre-installed with Linux and the LILO boot manager. There are 4 boot options available:

    ```
    linux : Uni-processor, boot console is the CRT & PS/2 keyboard/mouse
    linux-serial : Uni-processor, boot console is the RS-232 port
    linux-up : Dual processor, boot console is the CRT & PS/2 keyboard/mouse
    linux-up-serial : Dual processor, boot console is the RS-232 port
    ```

    Note that systems with one or two processors can run any of the boot options above. You don't need two processors to run the DP kernel. It will, however, make a single processor system run faster if you select the UP kernel.

    The choice between the serial console and the monitor (CRT) options determines where various status messages appear. Messages appear on both consoles during boot. Once the system has booted, it is possible to log into either console; both will be active regardless of the LILO boot option selected. Note that if the ISC system management stack is enabled, the kernel module will only load with the SMP (dual processor) kernel.

7. The system comes up as a default in run level 3 and in text mode. Switching to run level 5 brings graphics capability and the gnome GUI. In level 3, the graphical environment can also be brought up by using the `startx` command.

8. On the rear panel, the stacked RJ-45 ports are the Ethernet ports. The ports are configured with *eth0* on the bottom and *eth1* on the top. If 10/100 Ethernet cards are placed in the PCI slots, the full size slot becomes *eth0*, the low profile slot becomes *eth1*, the bottom rear is *eth2*, and the top rear is *eth3*. This is the case for all Intel 10/100 cards. When using other vendors, the ordering will remain *eth0*/*eth1* on the rear ports.

   Half-duplex (auto-negotiation) is the default setting for the ethernet drivers. Depending on your equipment, you may wish to force the setting to full-duplex. To do this, the `/etc/modules.conf` file must be edited (as root). The following new line needs to be added and changes saved to the file:

   ```
   options eepro100 full_duplex=1
   ```

9. Kudzu runs at start-up and will detect and re-configure as required when new hardware has been detected. It will also configure the network. (The source is at `/usr/src/linux-2.4`.) For security reasons, the system comes with only ssh and local sendmail network services enabled. Other services will need to be configured if they are required.

10. The boot order from BIOS is:

    Floppy (1st)

    CD (2nd)

    HDD (sda) next

    PXE (eth0

    PXE (eth1)

    This can be changed within the BIOS by going into setup. To get into BIOS setup, press <F2> when you see the first system sign-on messages (before LILO appears). To change the boot order, select the 'Boot' menu options.

11. Intel management software is available to preview. To start the preview, please type in the following steps:

    ```
    /sbin/chkconfig isc on
    /sbin/chkconfig dmispd on
    /sbin/chkconfig dmi2snmpd on
    ```

    After a reboot, the software is enabled.

12. The Sun Cobalt LX50 server uses variable speed fans, which speed up under heavy load.

13. When uninstalling Tomcat, the *mod_jk2* rpm may not uninstall completely. Use the `rpm -e --nopreun mod_jk2-2.0-1.0-1.4.0.2` command to complete the uninstall.

14. If the machine is rebooted while Tomcat is still active, a Java™ socket error will occur during the shutdown process. This error does not effect performance and can be ignored.

15. The Sun Streaming Server 2.0 software, included on the LX50, is for evaluation purposes only. Go to *http://www.sun.com/servers/gplinux* in order to view the licensing agreement.