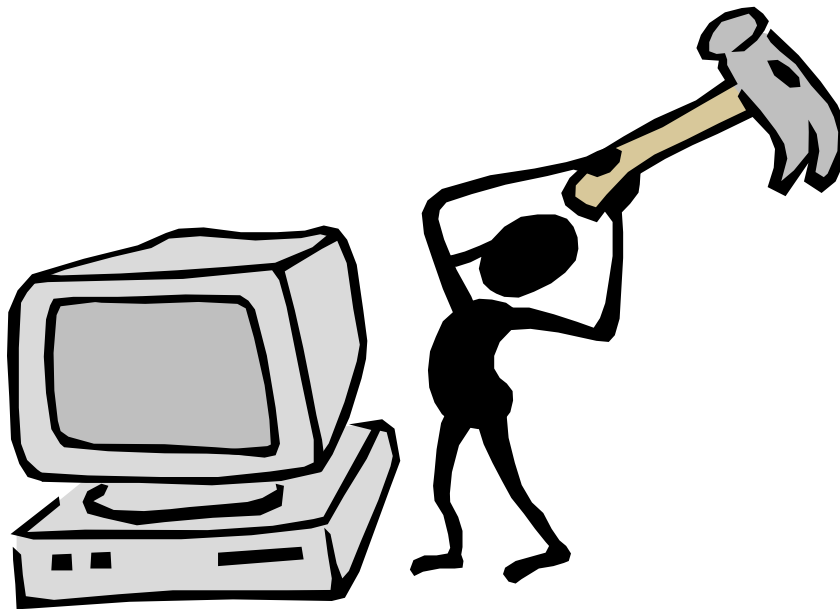


## SSC Troubleshooting Basics HP-UX & Solaris



Almost Everything You'll Need To Know  
So You Won't Smash  
Your Computer

Contributions by  
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**Warning:**

This document is a troubleshooting guide, and is meant to be used in conjunction with the appropriate product user manual.

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## HP-UX Operating System

### HP GCCS-M Basics

#### Terminal window:

- If you are not currently logged on as sysadmin then you will need to use telnet to get to a terminal window
- The terminal window is located in file manager, and then click on DIIAPS and then SA Default. you should see DTERM and XTERM
- Click on netscape and in the address bar type, "telnet:"
- Now you should get a terminal window and it should prompt you to log on to that machine
- After you type the appropriate user and password you should see a prompt like this : XXXXXXXX
- For most sysadmin functions you should be in root, so at the % prompt type, "su" and then it will prompt for the su (or super user) password. Type this in and you should see this "#".

#### Telnet:

- to log onto another computer remotely you use the "telnet" command
- get into a terminal window (see above) and log in as super user
- type, "#telnet" and then the machine hostname or IP address  
    #telnet machine\_name  
    #telnet xxx.xxx.xxx.xxx
- it will prompt for a user name and password for that machine
- to check which machine you are currently logged onto type, "#uname -a" and it will tell you the machine info
- to log out of that machine type, "exit" and check the "uname"

#### Pinging:

- to check if one computer can "talk" to another the "ping" action can be used



- you must be in a terminal window and at the prompt type, “ping” and then the machine IP or hostname such as:

#ping machine\_name

#ping xxx.xxx.xxx.xxx

- you should get data packets sent to the other machine
- if it says that there is “no route to host” or just times out and does nothing, then you aren’t “pinging” the machine

### **Who am I?**

- The “whoami” command shows what you are logged in as
- The “uname –a” command will also show what the host computer is

### **Where am I?**

- To show where you are in the file system type: “pwd” at the prompt and it will name the file path you are in
- List files within a directory type “ls”. And to be able to scroll through the file list type “ls |more” and you will see files on the left side of the terminal window and you can space bar down the list
- To list files with permissions type, “ls –al”
- To change directories type, “cd” and then the directory : #cd /etc
- You have to go in order, you can’t skip up or down directories
- To go up directories type, “cd ..”

### **The man command:**

- type “man” and then the command in question to get help for specific commands
- example: #man fsck
- this will give you a detailed description and usages of the command and related commands

## HP GCCS-M File System

### Important Directories / Files Structures.

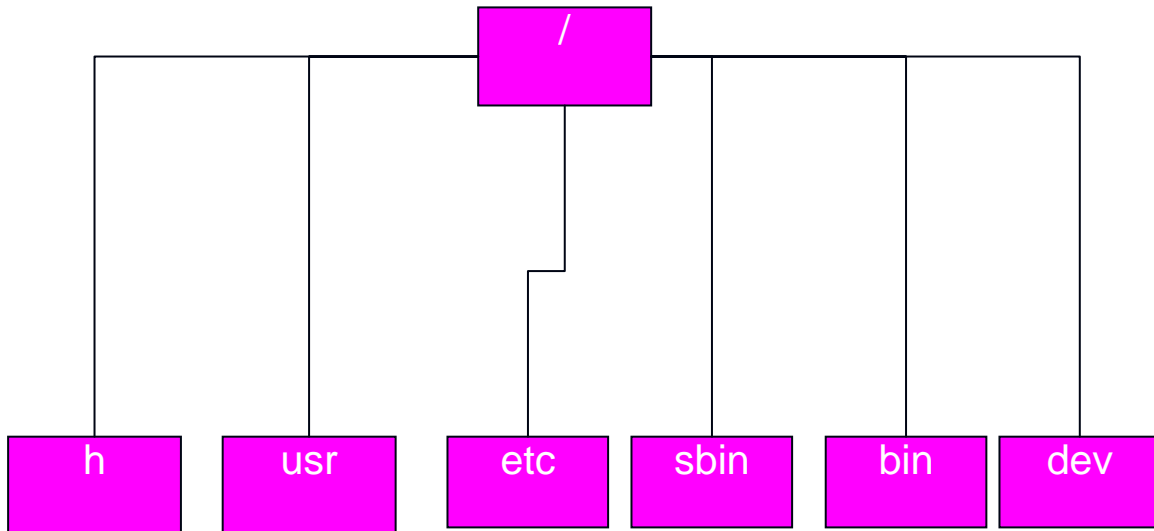


Figure 1

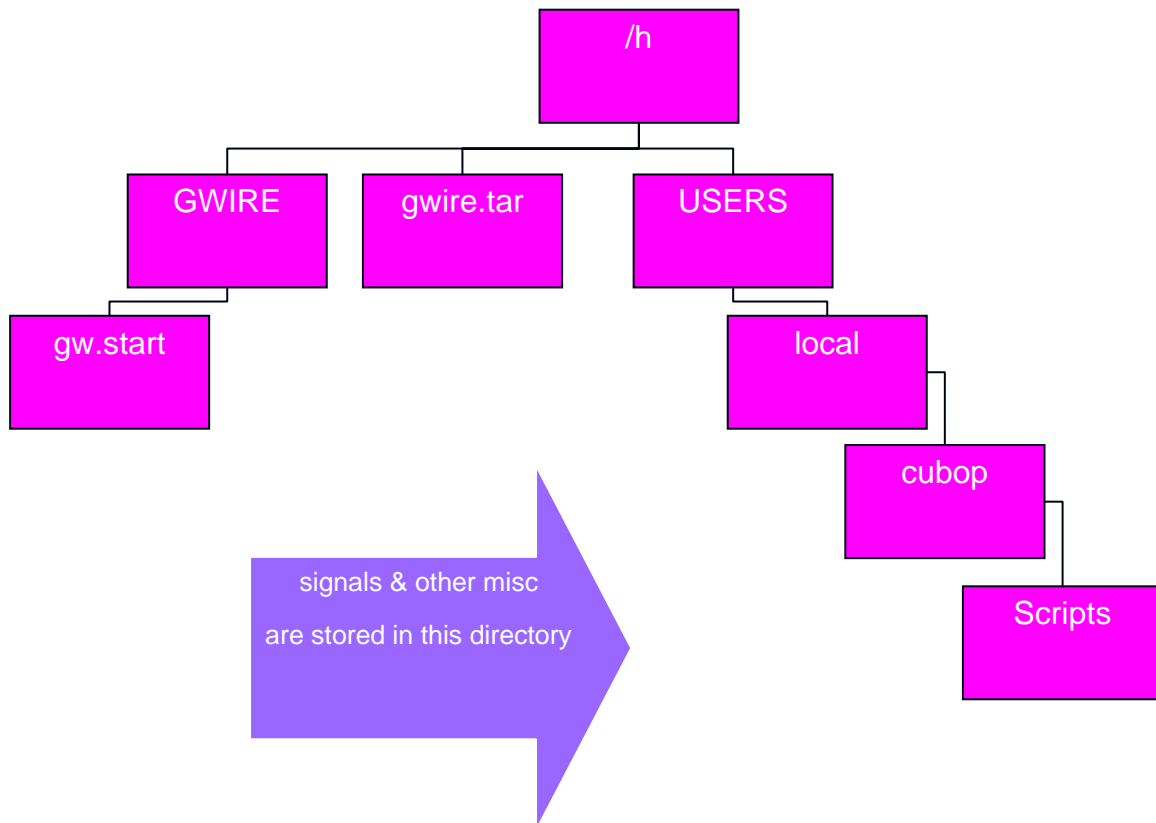


Figure 2



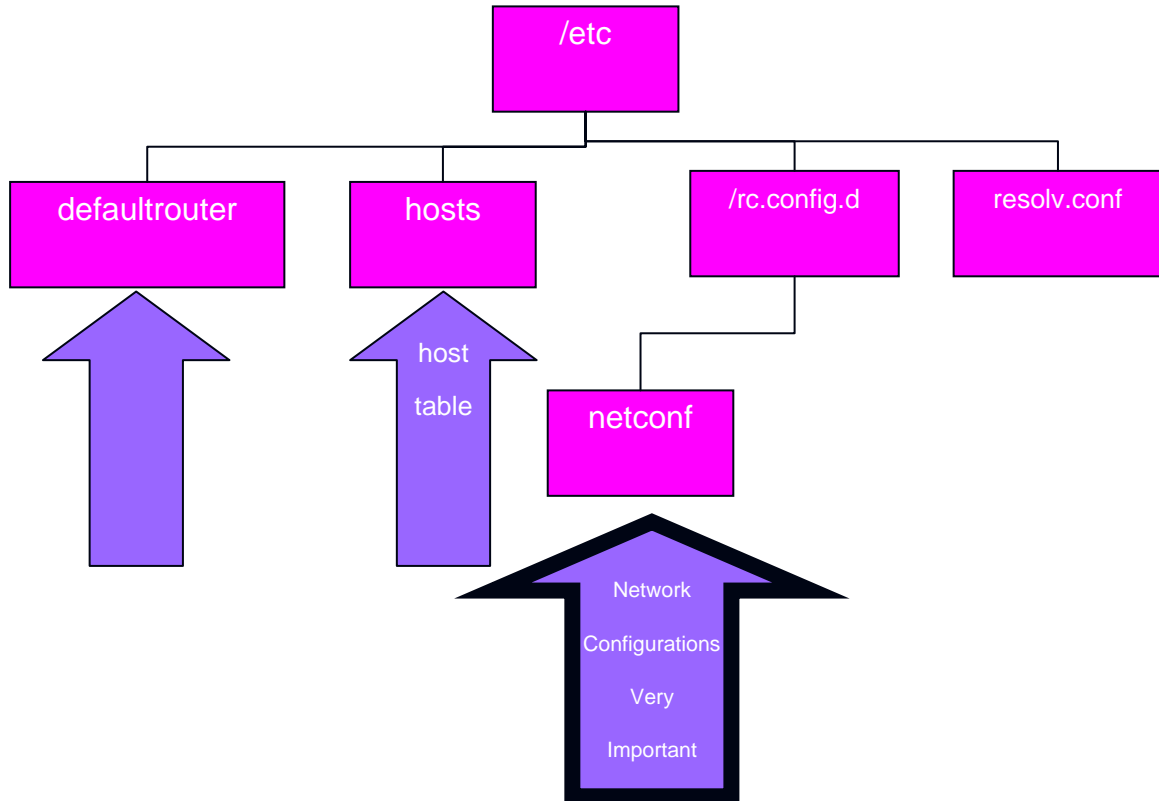


Figure 3

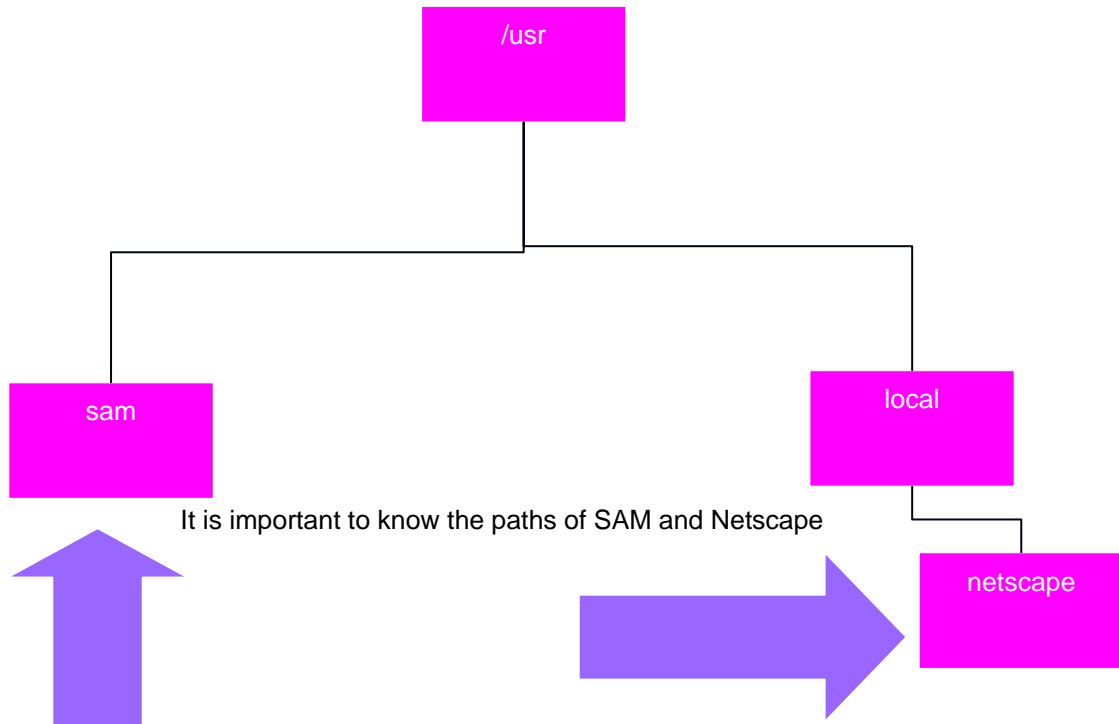


Figure 4

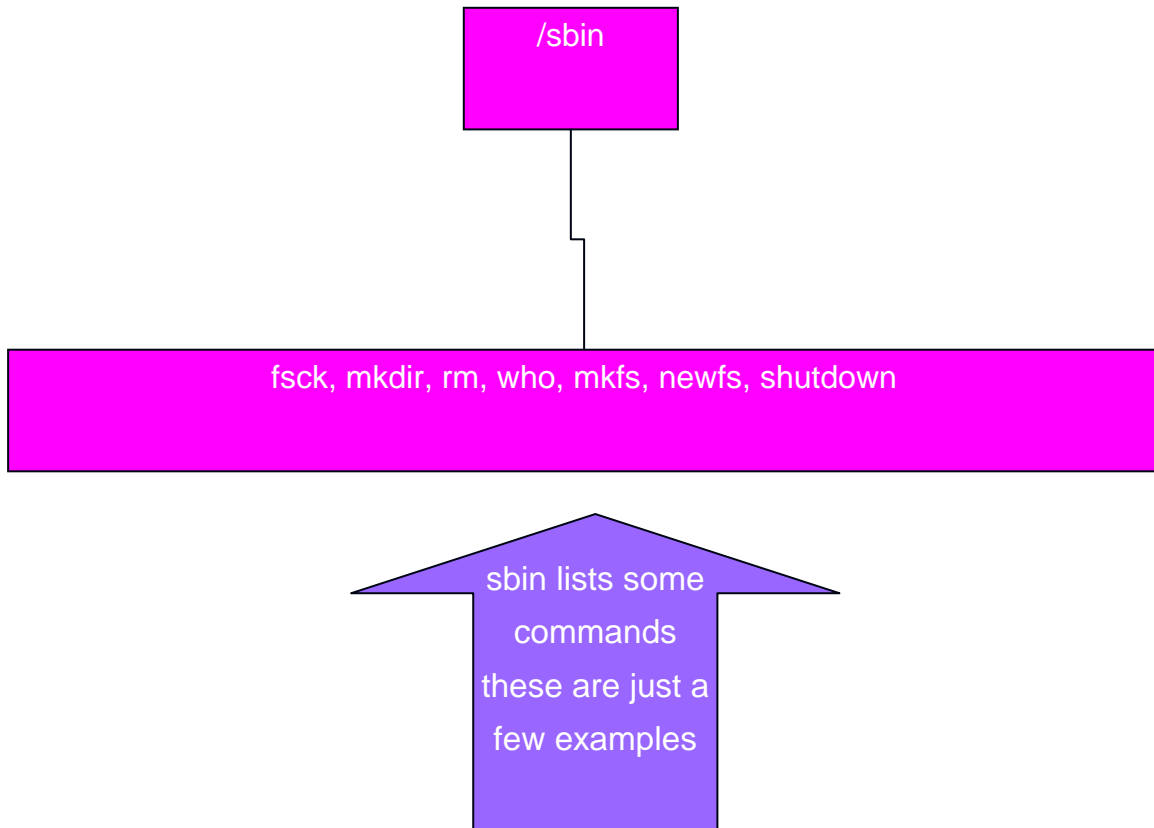


Figure 5



## Not So Basic UNIX Commands (HP-UX & Solaris)

The vi command:

- You have to be in root to edit files
- To change information within text files type, “vi” and then the file name: #vi netconf
- Once the file is shown you can use the arrow keys to move throughout the file
- To insert text first hit the “esc” button, and then “i”. from then on if you type anything it will insert where you left the cursor last
- To delete text first hit the “esc” button, and then “x”. now all text that the cursor is on will be deleted when you push the “x” key
- When you go back and forth between inserting and deleting you must hit the “esc” button before you switch
- To save hit “esc” and then “:wq” . if you don’t want to save, “:q”
- To delete entire rows hit “ddd”
- To make a new file type, “vi” and return at the prompt. type the new info into the file. then type, “:w filename” this will save the file as whatever you name it. (go back to netconf)(go back to hosts)

The tar command:

- This command lists/gets/compresses files from/to devices such as a DAT drive
- tar -xvf gets the file from the tape and “expands” it and will put it into whatever directory you are currently in. normally on our HP machines the device alias for the DAT drive is 0mn. you must put the path of the device after the tar command
- # tar -xvf /dev/rmt/0mn
- tar -cvf gets the file and “compresses” the file. you can use this command to put a file onto a DAT tape.
- # tar -cvf /dev/rmt/0mn
- tar -t will show you what is on the tape
- # tar -t /dev/rmt/0mn



The `ps -ef` command:

- lists machine processes with additional information such as what user is using that process, process number, what date it started, how long it's been running, and the path for that process
- you can kill the process by typing, “#kill (process number)”

The `df` command:

- reports number of free files system disk blocks
- use `df -k` to list in kilobytes (KB). this lists space used and space available for all mounted file systems
- use `df -l` to list local file systems only
- use `df -F nfs -e` for number of free files on all nfs mounted file systems (-F =file system)

The `ioscan -nf` command:

- this command will list all the devices with the names and paths of the device

The `ln` command:

- `ln -s` is the symbolic link command. For example the alias for the DAT drive is `0mn` and the address is `c1t4d0BESTn`. So to link them:

```
#ln -s 0mn c1t4d0BESTn
```



## Important Files

netconf :

- the netconf file controls most of the networking configurations
- it is located in the rc.config.d directory
- to get there type, “#cd /etc” and then “#cd rc.config.d” and then type, “ls” and it will list the files
- to view the file type, “more netconf”
- to edit the file type, “vi netconf” (go to vi instructions)
- if you make changes to the file you need to reboot the machine. type, “#reboot”

hosts:

- this file is the host table for that machine
- you can edit this file using the “vi” command (go to vi instructions)
- if you edit this file you need to reboot for the changes to take effect

defaultrouter:

- this file sets the gateway
- it should only be one IP address shown

resolv.conf:

- this file is located in /etc
- it lists the domain name and DNS IP
- it should look like this:  
nameserver xxx.xxx.xxx.xxx
- if this file is edited you must reboot for changes to take effect



## HP P100 NIC Instructions

1. Either email driver to machine or put on dat and read driver from this source.
2. tar -xvf "file name"
3. Open SAM
4. Click on "software management"
5. Click on "install software to local host"
6. Get software... change to "local directory" and change path to " /HP"
7. Under actions, select "install (analysis)"
8. After that is done select ok, and then yes, yes
9. It'll install now and then click yes to reboot
10. After reboot do a lanscan to see if both devices are listed (lan0 and pfe1) (Ref lanscan instructions, page 18)
11. cd /etc
12. cd rc.config.d
13. vi netconf  
(Ref. vi instructions, page 12)
14. edit this file.. change lan0 to pfe1 and then save file, " :wq!"



15. reboot
16. after reboot do lanscan to see if pfe1 is up  
(Ref lanscan instructions, page 18)
17. Try pinging another machine and then try pinging DNS
18. If all is good you are done!

For 10.20 OS installations, use the December 2000 CD-ROM

For earlier installations, you must go into the kernel (Under SAM) and turn on the GSC-to-PCI driver.

## B2000

Problem: Place card in system, power up, and system crashes.  
Solution: Upgrade OS to HP-UX 11 and install AEI 11 driver.

Solution<sup>1</sup>: In HP-UX 10.20, the BTLAN driver creates a conflict with AEI's P100 fiber optic NIC. The resolution is to simply remove the conflict. This is accomplished by following the steps described below:

1. Load AEI's B2000 HP-UX device driver (hyperlinked above) for the P100 card... system will reboot.
2. Start SAM (Systems Admin tool)
3. Click "Remove" software from host.
4. Under listed software, click on workstation ACE, then Click on Networking 2
5. Under the run times (for Networking 2)... remove every run time, remove all libraries, and remove all cores.
6. Click "Finish"
7. The kernel will then rebuild, and will reboot.
8. PFE will be the only driver in the system, and there will no longer be a conflict.

---

<sup>1</sup> Compliments of David Pacifico, SPAWAR (variance is in the process of being approved, call for updated status)





B2600

Problem:

Solution:

B3600C

Problem: No Link

Solution: Use AEI's an updated driver for the B3600C  
Call Randy at 951-296-2022, ask for B3600 device driver

J6000

Problem:

Solution:



## LANSCAN, LANADMIN, AND IFCONFIG

lanscan:

- This command lists what network device the machine “sees” and which one is being used

lanadmin:

- This command allows you to view the LAN configurations and edit them

ifconfig:

- This command shows if the interface is up or not, `#ifconfig pfe1`
- It will list the IP address that represents the broadcast being received by that machine
- You can set the interface as “up” `#ifconfig lan0 UP` but this only turns it on if it was previously marked as “down”.

When Things Go Wrong

### HP NIC Install Problems:

- What to do if you get an error message after the “Install Analysis”:
  - the message will say that it can’t access or mount `h/data/global` files
  - go to “Options” on the pull down menu and go to “Change” then deselect “mount file systems from `/etc...`”
  - click OK and retry “Install Analysis”

### Tape Device Problems:

- What to do if it can’t read the tape device during segment installation:
  - check the tape device path: during a segment installation change the source from DAT to other and enter the device path. ie. `/dev/rmt/c14td0BESTn`
  - to check the device path do an “`ioscan -nf`” and try the different paths until one works (go to ioscan instructions)



### **No Tracks:**

- First check the TMS/UCP by logging in as sysadmin. Use the pull down menu for this option and select “TMS Config”
- On a client, make sure that “client” and “network” are selected. If this isn’t correct, then that machine won’t see the global files. You will need to reboot the machine if you changed anything with the TMS/UCP.
- To see if the machine sees the global files use the pulldown menu for “Hardware” and then select “Disk Manager”. You should see “jots1: h/data/global” listed in that menu. If you don’t, you have bigger problems!
- If this doesn’t work, make sure all network configurations are correct.

### **Broken Links:**

- The easy way to fix this is to telnet into another machine that has that same file that is broken on your machine.
- After you are into the other machine, ‘vi’ the file you want.
- Next you ‘vi’ the broken file on the local host and make sure all the info inside is deleted.
- Type ‘i’ in that window and then in the telnet window.. Select all of the file in the that window
- Then in the local host window, middle click and the entire file should be copied to that window.
- Last, in the local host window, hit ‘Esc, Shift, and then type ‘wq!’ That saves the file.

### **Single User Mode (HP):**

- Working in Single User Mode is helpful when your machine isn’t allowing anyone to log on or is generally having a fit. This mode allows you to log onto the machine in a terminal window setting.
- To do this, you need to “break” the boot by pushing [Esc] key before it boots up. There will be a prompt to do this when the computer first starts booting.
- Once it is broken, there will be a prompt. Type, ‘sea’ for search, then enter (searches bus for your drives). Then after that type ‘bo’ then the



device you want to boot off of (p1 is typically your hard drive), and then there will be another prompt asking if you want to interact with the IPL, type 'y' for yes. Yet another prompt will come up, type:

`'HPUX -iS /stand/vmunix'`

- This will boot the computer in Single User Mode. And once booted a username/password prompt appears type : root and the password for root.
- When using this mode, some commands will not execute. Such as lanadmin will not work. Try and changing the 'shell' and sometimes that works.
- You can run SAM using this mode. Just type ./ and then the path of SAM. (Go to **Error! Reference source not found.**, page **Error! Bookmark not defined.** )
- You don't have mouse functions so you have to TAB around to get to things in SAM.

### **CRON Jobs:**

- This tool can allow your system to perform jobs automatically for you. It is good to reboot the system once a week, preferably on Monday.
- Log on as sysadmin and go to SAM. Then click on "Processes Manager" and you will see a CRON Job icon..click on it.
- You can create new jobs by using the Create New option from the pulldown menu. You have to schedule your jobs using zulu time, but not in military form.



## Sun Basics

### Sun Basics:

- Most configuration files are in /etc
- Some important files are: hostname.pfx0, resolv.conf, hosts, defaultrouter- these files are configuration files
- Telnet instructions are the same as HP
- Ping instructions are the same as HP

### Important Commands:

The sys-unconfig command: this command will unconfigure the machine

- The command is located in /usr/bin
- You must be root to execute this command
- Once you execute this command the machine will boot into the bios and run the initial setup
- You will be prompted to input the machine hostname and IP, DNS and IP, and NIC. it will ask to enable DHCP-select no, it will also ask to enable Kerberos Security-select no.
- When prompted for power save option select no
- It will reboot automatically

### Note:

One option for the P100 is a Solaris Boot ROM. The Boot ROM makes for a driverless installation in Solaris. It is recommended that anyone not completely comfortable with the Solaris operating environment obtain the Boot ROM.

[www.aei-it.com](http://www.aei-it.com)



## **User Notes**

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