

Solaris QuickSheet

Version: 0.18.0

Date: 8/23/7

Compatibility note: This document is based upon Sparc Solaris 10

OBP

• All the following commands are to be run from the OBP and not the OS. They are only valid on Sparc hardware that uses the openboot firmware. The eeprom command can be used from the OS to view or set openboot firmware variables.

Show the value of the auto-boot? variable
printenv auto-boot?

Set the system to not auto boot

setenv auto-boot? false

Restore the system default for auto boot

set-default auto-boot?

Show the default boot device

printenv boot-device

List the actual device path for the disk device alias

devalias disk

List all openboot variables, current, and default values

printenv

Show devices seen by openboot

show-devs

Show help on all OBP commands

help

Boot the system into single user mode from the CD ROM

boot cdrom -s

Boot the system into single user mode using the default device

boot -s

Reset the system

reset-all

Packages

Install the gcc package

pkgadd -d gcc-3.4.6-sol10-sparc-local

Check to see if gcc is installed on system

pkginfo SMCgcc /or/ pkginfo | grep gcc

Remove the gcc package

pkgrm SMCgcc

Check the installation of the gcc (SMCgcc) package

pkgchk SMCgcc

Show revisions of packages on system

showrev -p

Get expected file info and source package for a file

pkgchk -l -p /usr/sfw/bin/gcc

Verify all packages (and files) on the system

pkgchk

Display information about a package

pkgchk -l SMCgcc

Display version information about an installed package

pkginfo -x SMCgcc

List all patches on the system

showrev -p /or/ patchadd -p

List patches applied to the SUNWckr package

pkgparam SUNWckr PATCHLIST

• smpatch and updatemanager can be used to manage system patches.

Devices

Scan for new devices to the system

devfsadm

List (verbosely) all attachment points (configurable hardware)

cfgadm -val

List all disks on system

iostat -En

Tape unit - X = device number, n = no rewind

/dev/rmt/Xn

- The /dev directory contains links to /devices
- (format) slice flags are:
 - wm - Writeable Mountable (ie: A filesystem)
 - rm - ReadOnly Mountable
 - wu - Writeable Unmountable (ie: swap)

Networking

Show interfaces currently installed on system, speed, and duplex

dladm show-dev - (ndd can be used to adjust speed and duplex)

List network interfaces from the global zone only

ifconfig -aZ

Remove all host specific configuration from the system (and restart)

sys-unconfig

• Primary IP configuration files

/etc/hostname.interface

↳ IP address for interface. Alternatively use ifconfig.

/etc/nodename

↳ hostname for the system. Alternatively set with hostname.

/etc/defaultdomain

↳ System domain name. (svcadm restart domain after change)

/etc/defaultrouter

↳ gateway for the system. Alternatively set with route.

/etc/hosts

↳ Linked to /etc/inet/hosts. For IPv4 addresses only.

/etc/inet/ipnodes

↳ For IPv4 and IPv6 addresses. Should be in sync with hosts file.

/etc/netmasks

↳ This is *not* a symlink to /etc/inet/netmasks.

Temporarily set IP address on hme0

ifconfig hme0 plumb up 192.168.1.17 netmask 255.255.255.0

Temporarily create an alias on hme0 (hme0:1)

ifconfig hme0:1 plumb up 192.168.1.18 netmask 255.255.255.0

Create permanent alias on hme0 interface

echo 192.168.1.18 > /etc/hostname.hme0:1

Temporarily set the default route

route add default 192.168.1.1

Permanently add the same route as above

echo 192.168.1.1 > /etc/defaultrouter

Turn off traffic on qfe3

ifconfig qfe3 down

Disable an Ethernet device (qfe3)

ifconfig qfe3 unplumb

List statistics on all interfaces on system

netstat -i

List all open ports on system

netstat -an | grep LIST

List all open TCP connections

netstat -f inet

Continuously ping a host

ping -s www.tablespace.net

• Use the snoop command to capture network packets

User Management

Add a user wfavorit to system (& create home dir) using default options

useradd -m wfavorit

View the default settings for the useradd command

useradd -D

Change the default useradd setting for base directory

useradd -D -b /export/home

Delete the password for user wfavorit, force new password on login

passwd -df wfavorit

List all user accounts that do not have passwords

logins -p

List file system usage of the /zones filesystem by user

quot /zones

Display login information for wfavorit

logins -x -l wfavorit

Change the default shell to ksh for user wfavorit

usermod -s /usr/bin/ksh wfavorit

Modify user accounts with usermod and delete accounts with userdel.

Create group accounts with groupadd, modify group accounts with

groupmod, and delete groups with groupdel.

Service Management Facility

List all services known to system and current status

svcs -a

Enable the webmin service (long FMRI)

svcadm enable svc:/application/management/webmin:default

Disable the webmin service (short name)

svcadm disable webmin

List details of the ssh(d) service

svcs -l ssh

Restart the ssh(d) service

svcadm restart ssh

Verify that the AutoFS service is running

svcs system/filesystem/autofs

Verify that the multiuser server milestone has been reached

svcs multi-user-server

Disable the telnetd service (Use -e for enable)

inetadm -d telnet

List services that the multi-user-server milestone is dependent on

svcs -d multi-user-server

List services that depend upon multi-user-server milestone

svcs -D multi-user-server

Files

/etc/vfstab - Filesystem mount table

/var/adm/loginlog - Log of login attempts

/etc/default/* - Important default settings

/etc/system - Kernel modules and config

/var/adm/messages - Syslog location

/etc/auto.* - Automounter config files

/etc/inet/ipnodes - IPv4 & v6 host file (read before /etc/hosts)

Inspecting the system

Find the total physical memory in system

prtconf | grep Memory

Find the openboot firmware version

prtconf -V

List information on all processors in the system

psrinfo -v

Find the size of a disk

iostat -En (or use the format command)

Display info on dump device

dumpadm

List all swap devices

swap -l

Show swap usage

swap -s (Includes physical memory)

Show swap size (per device)

swap -l|grep -v swaplo|awk '{ print \$1, \$4/2048 "m" }'

Show swap used (per device)

swap -l|grep -v swaplo|awk '{ print \$1, (\$4-\$5)/2048 "m" }'

Show information about a binary (bash in this example)

showrev -c /usr/bin/bash

List time of most recent reboots

last reboot

Tasks

- Force the system to look for new devices on restart
touch /reconfigure
- Mirror root filesystems (c0t0d0 to c0t1d0)
/, swap, /usr, and /var are on s0, s1, s3, and s4 respectively. s5 and s6 will be used for 10 meg metabd's on each disk. The steps are shown here with multiple reboots. This is to show the difference between each type of operation. Multiple reboots are not required.
▷ Duplicate c0t0d0's layout onto c0t1d0
prtvtoc /dev/rdisk/c0t0d0s2 | \
 fmtree -s - /dev/rdisk/c0t1d0s2
▷ Set up two meta databases on each disk
metadb -a -f c0t1d0s5
metadb -a c0t1d0s6
metadb -a c0t0d0s5
metadb -a c0t0d0s6
Note: Multiple dbs can be put in a single slice using -c option.
▷ Encapsulate / on stripe 0
metainit -f d10 1 1 c0t0d0s0
metainit d0 -m d10
metaroot d0
lockfs -fa
shutdown -i6 -g0 -y
metainit d20 1 1 c0t1d0s0
metattach d0 d20
▷ Encapsulate /usr on stripe 3 (repeat this step for /var)
metainit -f d13 1 1 c0t0d0s3
metainit d23 1 1 c0t1d0s3
metainit d3 -m d13
vi /etc/vfstab (Put metadevices in place of slices)
shutdown -i6 -g0 -y
metattach d3 d23
▷ Encapsulate swap
metainit -f d11 1 1 c0t0d0s1
metainit d21 1 1 c0t1d0s1
metainit d1 -m d11
vi /etc/vfstab (Put metadevices in place of swap entry)
shutdown -i6 -g0 -y
metattach d1 d21
dumpadm -d /dev/md/dsk/d1
▷ Optional: Allow quorum at only 50%
vi /etc/system (Add line: set md:mirrored_root_flag=1)
▷ Setup "mirror" alias and boot-device setting in firmware
ok nvedit
 0: devalias mirror /pci@1f,0/pci@1,1/ide@3/disk@1,0
 1: (Ctrl-C to exit)
ok nvstore
ok setenv use-nvramrc? true
ok setenv boot-device disk mirror
(This can also be done from the OS using the eeprom command.)
- Restart the system
shutdown -i6 -g0 -y
- HUP a process (myappsrv) by name
pgrep myappsrv (Use this to test your REGEX first)
pkill -HUP myappsrv
- Turn on the system locator beacon (turn off with -f)
locator -n
- Mount an ISO image (device /dev/lofi/1 may vary)
lofiadm -a /projects/solaris10.disk2.iso
mount -F hsfs -r /dev/lofi/1 /mnt
umount /mnt
lofiadm -d /dev/lofi/1
- Check what file system type is on metadvice d30
fstyp /dev/md/rdisk/d30

Sun Volume Manager

- Steps for encapsulating root is in tasks section
- List (verbose) the status of all metadevices in the system
metastat
- List (tree-formatted / grep-able) the metadevices in the system
metastat -c
- List each metabd, its status and device (with status descriptions)
metadb -i
- Create a soft partition (d30) on the metadvice d7
metainit d30 -p d7 10G
- Put a filesystem on the above device
echo y | newfs /dev/md/rdisk/d30
- Grow soft partition d30 by another 10 Gig
metattach d30 10G
- Grow the filesystem on the above device (currently mounted on /u01)
growfs -M /u01 /dev/md/rdisk/d30
- Find the size of a metadvice called d10
metastat -c d10
- Remove all soft partitions on meta device d7
metaclear -p d7
- Remove the metadvice d7
metaclear d7
- View the parameters (options) for metadvice d0
metaparam d0
- Set disk d0 to read roundrobin, write parallel, and pass 1
metaparam -r roundrobin -w parallel -p 1 d0

ZFS

- Define a (simple) zpool called projects on a single stripe
zpool create projects c0t1d0s7
- Define a mirror zpool called datapool on stripe 7 of two disks
zpool create datapool mirror c0t0d0s7 c0t1d0s7
- List the zpools and usage stats
zpool list
- Remove the zpool called datapool
zpool destroy -f datapool
- Create the zfs heirarchy / filesystems
zfs create datapool/home
- List all zfs filesystems
zfs list
- Limit the wfavorite filesystem to 5 Gig
zfs set quota=5G datapool/home/wfavorite

Performance Monitoring

- top-like command
prstat
- Show (top-like) process listing as well as top users
prstat -a
- View continuous disk I/O stats, refreshed every 2 seconds
iostat -xnm 2
- View continuous zfs disk I/O stats, refreshed every 2 seconds
zpool iostat -v 2
- View continuous network statistics, refreshed every 2 seconds
netstat -i 2
- View source of paging activities, refreshed every 2 seconds
vmstat -p 2
- View per-processor statistics, refreshed every 2 seconds
mpstat 2
- View continuous root (/) filesystem stats, refreshed every 2 seconds
fsstat / 2

Backup

- Create snapshot of /var file system using /u01 as a repository location
fssnap -F ufs -o backing-store=/u01 /var
- Mount the previously created snapshot on /mnt
mount -o ro /dev/fssnap/0 /mnt

- Delete the snapshot (repository will remain)
fssnap -d /var

NFS

- Change startup parameters for the NFS daemon in /etc/default/nfs
- Temporarily export /src directory
share /src
- Permanently export by putting share command in /etc/dfs/dfstab
- List all exported filesystems (on local system)
dfshares /or/ showmount -e
- Share all filesystems listed in /etc/dfs/dfstab
shareall
- Stop sharing all filesystems (not just those in /etc/dfs/dfstab)
unshareall
- List clients connected to NFS shares on this server
dfmounts
- Soft mount the /proj directory from server paris
mount -F nfs -o intr,soft paris:/proj /proj
- Show mount points on remote system called paris
showmount -e paris

Zones

- Begin interactive zone configuration for (a new) zone called "jubail"
zonecfg -z jubail
- List (-v)erbose information on all (-c)onfigured zones
zoneadm list -cv
- Boot the zone called "jubail"
zoneadm -z jubail boot
- Delete zone and configuration from system
zoneadm -z jubail uninstall -F
- Login to the console of the jubail zone from the global zone
zlogin -C jubail (Exit from session with ~. escape sequence)
- Halt the jubail zone (no shutdown scripts will be run)
zoneadm -z jubail halt
- Shutdown the jubail zone from the global zone
zlogin jubail shutdown -i0 -g0 -y
- List what zone you are currently in
zonename
- View zone performance statistics (from global zone)
prstat -Z

Other

- smc is a graphical system management interface.

Additional Help

- Visit <http://docs.sun.com> or <http://www.sun.com/bigadmin>
- Rebuild the windex database for the whatis command
catman -w
- Find all instances of "system" in the man files
whatis system
- Access the man page for "system" from section 4 (and not 3c)
man -s 4 system
- Find all man pages related to zfs
apropos zfs

About this QuickSheet

Created by: William Favorite (wfavorite@tablespace.net)

Updates at: <http://www.tablespace.net>

Disclaimer: This document is a guide and it includes no express warranties to the suitability, relevance, or compatibility of its contents with any specific system. Research any and all commands that you inflict upon your command line.

Distribution: The PDF version is free to redistribute as long as credit to the author and tablespace.net is retained in the printed and viewable versions. ~~AT&T~~ source not distributed at this time.