Oracle Solaris I/O Multipathing and Storage Device Administration Cheatsheet

This cheatsheet covers commonly used storage administration and I/O multipathing commands.

Commonly Used Storage Device and I/O Multipathing Administration Commands

For more information about the commands in the following tables, see the `cfgadm`(8), `mpathadm`(8), `dladm`(8), and `iscsiadm`(8) man pages.

TABLE 1 Device Administration Commands

Action on a Device	Command
Display all the current configurable hardware information, including those represented by dynamic attachment points.	# **cfgadm -al**
Display the list of IB communication services currently used by the InfiniBand Transport Framework (IBTF).	# **cfgadm -x list_services ib**
Identify the faulty device.	# **fmadm faulty**
Add a SCSI device to a SCSI bus on SPARC.	# **cfgadm -x insert_device** *controller*
Remove a SCSI device on SPARC.	# **cfgadm -x remove_device** *device*
Display specific PCI slot configuration information.	# **cfgadm -s "cols=ap_id:type:info" pci**
Display specific PCIe slot configuration information.	# **cfgadm -s "cols=ap_id:busy:o_state" pci**
Configure an IB port devices.	# **cfgadm -c configure** *IB-port-Ap-Id* # **cfgadm -a** *IB-port-Ap-Id*
Create an IB partition link.	# **dladm create-part -l** *link* **-P** *key partition*
Display an IB partition link information.	# **dladm show-part**
Plumb and assign an IP address to an IB partition link.	# **ipadm create-ip** *name* # **ipadm create-addr -a** *address* **[***address-object***]**
Remove an IB partition link.	# **dladm delete-part partition**
Create an EoIB (Ethernet over InfiniBand) datalink.	# **dladm create-eoib -l** *link* **-g** *gway* **-c** *gway-port eoib-link*
Display the EoIB datalink information.	# **dladm show-link [***eoib-link***]**
Remove an EoIB datalink.	# **dladm delete-eoib link**
Display the use of disk space on ZFS file systems.	# **zpool list root-pool**
Display disk label information.	# **prtvtoc** *path/device-name*
List the files that have not been accessed for a specified number of days to an output file.	# **find directory -type f[-atime** *+nnn***] [-mtime** *+nnn***] ** **-print >** *output-file* **&**
Back up and restore a COMSTAR configuration.	# **svccfg export -a stmf > COMSTAR.backup** # **svccfg import COMSTAR.backup**
Enable iSNS discovery for the target device. Restrict logical unit access to selected systems. Make the LU accessible by the system.	See Table 5, “Commands for Administering a SCSI Target – COMSTAR,” on page 3.
Add the client to the discovery domain.	# **isnsadm add-node -d** *domain-name iSCSI-name*
Display tape drive status.	# **mt -f /dev/rmt/***drive-number* **status**
Create file systems on USB storage devices.	# **mkfs -F** *FS-type* **-o** *FS-type-specific-options raw-device-file*

Oracle Solaris I/O Multipathing and Storage Device Administration Cheatsheet

TABLE 2 Fibre Channel Administration Commands

Fibre Channel Action	Command
Display information of the host bus adapter (HBA) ports and their statistics.	`# fcinfo hba-port -l`
Display all the remote ports on all the HBAs.	`# fcinfo remote-port`
Display all the remote ports on a physical port and their link statistics.	`# fcinfo remote-port -ls -p` *PWWN*
Display the status of LUNs of the Fibre Channel devices.	`# cfgadm -al -o show_SCSI_LUN`
Remove an unusable LUN from the host configuration.	`# cfgadm -c unconfigure -o unusable_SCSI_LUN` *Ap-Id*
Remove a Fibre Channel target port.	`# cfgadm -c unconfigure` *Ap-Id*
Create a virtual Fibre Channel port (NPIV).	`# fcadm create-npiv-port -p` *virtual-port-WWN* `\` `-n` *virtual-node-WWN physical-port-PWWN*
Delete an NPIV port.	`# fcadm delete-npiv-port -p` *virtual-port-WWN* `\` `-n` *virtual-node-WWN physical-port-PWWN*
Create a Fibre Channel over Ethernet (FCoE) target port on a specified network interface.	`# fcadm create-fcoe-port -i -p` *port-WWN* `\` `-n` *node-WWN Ethernet-interface*
Delete FCoE target ports.	`# fcadm delete-fcoe-port` *network-interface*

TABLE 3 iSCSI Device Administration Commands

iSCSI Device Action	Command
Create an iSCSI target.	See Table 5, "Commands for Administering a SCSI Target – COMSTAR," on page 3.

Configure the iSNS (Internet Storage Name Service) target discovery method.	`initiator# svcs network/iscsi/initiator`
	`initiator# iscsiadm add isns-server` *iSNS-IP-address*
	
	`initiator# iscsiadm list isns-server`
	`initiator# iscsiadm modify discovery --iSNS enable`

Configure an iSCSI initiator with static configuration.	`initiator# iscsiadm add static-config` *target-name*`,\` *target-address*`[:`*port-number*`][,`*tpgt*`]`
Remove an iSCSI iSNS discovery entry.	`initiator# iscsiadm remove isns-server` *iSNS-IP-address*`:3205`
Display the current parameter values of a specific iSCSI initiator.	`initiator# iscsiadm list` *initiator-node*
Display current parameter values of a specific iSCSI target.	`initiator# iscsiadm list target-param` *target-name*
Display information about which discovery method is used.	`initiator# iscsiadm list discovery`

TABLE 4 Oracle Solaris I/O Multipathing Administration Commands

Oracle Solaris I/O Multipathing Action	Command
Display all the logical units (LU) on a SAN.	`# mpathadm list lu`
Create a logical unit. Display the created logical unit. Enable the LU to be accessible by all systems. Verify the LU configuration.	See Table 5, "Commands for Administering a SCSI Target – COMSTAR," on page 3.
Display all the LUs associated with a specific target.	`# mpathadm list lu -t` *target-port-name*
Display all the initiator ports in the system.	`# mpathadm list initiator-port`
Display the properties of a specific initiator port.	`# mpathadm show initiator-port` *initiator-port-name*
Identify the multipathing support on your system.	`# mpathadm list mpath-support`
Disable a specific LU path.	`# mpathadm disable path -i` *initiator-port-name* `-t \` *target-port-name* `-l` *logical-unit-name*
Enable a specific LU path.	`# mpathadm enable path -i` *initiator-port-name* `-t \` *target-port-name* `-l` *logical-unit-name*

Oracle Solaris I/O Multipathing and Storage Device Administration Cheatsheet

TABLE 5 Commands for Administering a SCSI Target – COMSTAR

COMSTAR Action	Command
Enable iSNS discovery for the target device.	target# **itadm modify-defaults --isns-server** *iSNS-server-ip-address* target# **itadm modify-defaults --isns enable**
Create an iSCSI target.	target# **svcadm enable -r svc:/network/iscsi/target:default** target# **itadm create-target**
Create a logical unit.	target# **zpool create sanpool mirror** *vol1 vol2* target# **zfs create -V** *size-volume zfs-volume* target# **stmfadm create-lu dev/zvol/rdsk/***pool-name*
Display the created logical unit.	target# **stmfadm list-lu**
Verify the LU configuration.	target# **stmfadm list-view -l** *LU-name*
Make the LU accessible by the system.	target# **stmfadm add-view -h host-a -t targets-0 -n 1** *guid-number*
Enable the LU to be accessible by all systems.	target# **stmfadm add-view** *LU-name*
Restrict logical unit access to selected systems.	target# **stmfadm create-hg host-a** target# **stmfadm add-hg-member -g host-a wwn.***node-WWN* **wwwn.***node-WWN* target# **stmfadm create-tg targets-0** target# **stmfadm add-tg-member -g targets-0 wwn.***guid-number*

ORACLE

E77512, August 2018