

AIX / HMC Tip Sheet

HMC Commands

lshmc -n (lists dynamic IP addresses served by HMC)
lssyscfg -r sys -F name,ipaddr (lists managed system attributes)
lssysconn -r sys (lists attributes of managed systems)
lssysconn -r all (lists all known managed systems with attributes)
rmsysconn -o remove -ip <ipaddr from lssysconn list> (removes a managed system from the HMC)
mkvterm -m {msys} -p {lpar} (opens a command line vterm from an ssh session)
rmvterm -m {msys} -p {lpar} (closes an open vterm for a partition)

Activate a partition

chsysstate -m managedsysname -r lpar -o on -n partitionname -f profilename -b normal
chsysstate -m managedsysname -r lpar -o on -n partitionname -f profilename -b sms

Shutdown a partition

chsysstate -m managedsysname -r lpar -o {shutdown/ossshutdown} -n partitionname [-immed][restart]

VIO Server Commands

lsdev -virtual (list all virtual devices on VIO server partitions)
lsmmap -all (lists mapping between physical and logical devices)
oem_setup_env (change to OEM [AIX] environment on VIO server)

Create Shared Ethernet Adapter (SEA) on VIO Server

mkvdev -sea{physical adapt} -vadapter {virtual eth adapt} -default {dflt virtual adapt} -defaultid {dflt vlan ID}

SEA Failover

ent0 - GigE adapter
ent1 - Virt Eth VLAN1 (Defined with a priority in the partition profile)
ent2 - Virt Eth VLAN 99 (Control)
mkvdev -sea ent0 -vadapter ent1 -default ent1 -defaultid 1 -attr ha_mode=auto ctl_chan=ent2
(Creates ent3 as the Shared Ethernet Adapter)

Create Virtual Storage Device Mapping

mkvdev -vdev {LV or hdisk} -vadapter {vhost adapt} -dev {virt dev name}

Sharing a Single SAN LUN from Two VIO Servers to a Single VIO Client LPAR

hdisk = SAN LUN (on vioa server)
hdisk4 = SAN LUN (on viob, same LUN as vioa)
chdev -dev hdisk3 -attr reserve_policy=no_reserve (from vioa to prevent a reserve on the disk)
chdev -dev hdisk4 -attr reserve_policy=no_reserve (from viob to prevent a reserve on the disk)
mkvdev -vdev hdisk3 -vadapter vhost0 -dev hdisk3_v (from vioa)
mkvdev -vdev hdisk4 -vadapter vhost0 -dev hdisk4_v (from viob)
VIO Client would see a single LUN with two paths.
spath -l hdiskx (where hdiskx is the newly discovered disk)
This will show two paths, one down vscsi0 and the other down vscsi1.

AIX Performance TidBits and Starter Set of Tuneables

Current starter set of recommended AIX 5.3 Performance Parameters. Please ensure you test these first before implementing in production as your mileage may vary.

Network

```
no -p -o rfc1323=1
no -p -o sb_max=1310720
no -p -o tcp_sendspace=262144
no -p -o tcp_recvspace=262144
no -p -o udp_sendspace=65536
no -p -o udp_recvspace=655360
nfso -p -o rfc_1323=1
NB Network settings also need to be applied to the adapters
nfso -p -o nfs_socketsize=600000
nfso -p -o nfs_tcp_socketsize=600000
```

Memory Settings

```
vmo -p -o minperm%=5
vmo -p -o maxperm%=80
vmo -p -o maxclient%=80
Let strict_maxperm and strict_maxclient default
vmo -p -o minfree=960
vmo -p -o maxfree=1088
vmo -p -o lru_file_repage=0
vmo -p -o lru_poll_interval=10
```

IO Settings

```
Let minpgahead and J2_minPageReadAhead default
ioo -p -o j2_maxPageReadAhead=128
ioo -p -o maxpgahead=16
ioo -p -o j2_maxRandomWrite=32
ioo -p -o maxrandwrt=32
ioo -p -o j2_nBufferPerPagerDevice=1024
ioo -p -o pv_min_pbug=1024
ioo -p -o numfsbufs=2048
If doing lots of raw I/O you may want to change lvm_bufcnt
Default is 9
ioo -p -o lvm_bufcnt=12
Others left to default that you may want to tweak include:
ioo -p -o numclust=1
ioo -p -o j2_nRandomCluster=0
ioo -p -o j2_nPagesPerWriteBehindCluster=32
```

Useful Commands

vmstat -v or -l or -s	lvmo
vmo -o	iostat (many new flags)
ioo -o	svmon
schedo -o	filemon
lvmstat	fileplace

Useful Links

1. Lparmon – www.alphaworks.ibm.com/tech/lparmon
2. Nmon – www.ibm.com/collaboration/wiki/display/WikiPtype/nmon
3. Nmon Analyser – www-941.ibm.com/collaboration/wiki/display/WikiPtype/nmonanalyser
4. vmo, ioo, vmstat, lvmo and other AIX commands
<http://publib.boulder.ibm.com/infocenter/pseries/v5r3/topic/com.ibm.aix.doc/doc/base/commandsreference.htm>