

BIOS

Booting to BIOS

For the farm nodes, at the command line type

```
sudo ipmitool chassis bootdev bios
```

This should cause the console interface to show the BIOS screen after the next reboot. Subsequent reboots do not do this.

For the login nodes, the best I have been able to do is hit ESC-9. This gives the "rbsu" CLI to view/control BIOS settings. We have only been able to get the VT100-graphics version of the BIOS with a crash cart.

SL2x170z BIOS Settings

```
Main
-> Boot Settings Configuration
    -> Splash Screen           - change to 'DISABLED'
    -> Restore After AC Power Loss - change to 'OFF'
Advanced
-> IPMI Configuration
    -> Serial Port Configuration
        -> Serial Port Switching - change to 'ENABLED'
-> Remote Access Configuration
    -> BIOS Serial Console       - change to 'ENABLED'
    -> Serial Port Mode          - change to '57600'
Boot
-> Boot Device Priority          - move 'Network' to the TOP
Advanced
->PowerConfiguration
    ->PowerEfficiencyMode = Performance
```

For the new 12-core cluster, cpo also made a point of disabling:

- Intel VT-d
- Intel Virtualization Technology
- Intel HT technology

Karl A. mentioned that HT can also be disabled at the linux level, and that was done for the 8-core cluster.

Using CONREP

To save BIOS to a conrep file (use -s flag, for save):

```
sudo ~/sfs/sw/package/CONREPforHPPProLiantSL2x170zG6Server-Linux-3.00/conrep -s -x/nfs/slac/g/suncatfs/sw/package/CONREPforHPPProLiantSL2x170zG6Server-Linux-3.00/conrep_SL2x170zG6_2010.12.17.xml -f/u/if/cpo/suncat/suncat1064.dat
```

To load BIOS from a conrep file (use -l flag, for load):

```
sudo ~/sfs/sw/package/CONREPforHPPProLiantSL2x170zG6Server-Linux-3.00/conrep -l -x/nfs/slac/g/suncatfs/sw/package/CONREPforHPPProLiantSL2x170zG6Server-Linux-3.00/conrep_SL2x170zG6_2010.12.17.xml -f/u/if/cpo/suncat/suncat1064.dat
```

Verify memory speed performance with (first few lines should be 11MB/s, NOT 10MB/s)

```
/nfs/slac/g/suncatfs/sw/package/llcbench/cachebench/cachebench -m 29 -e 1 -x 2 -d 5 -w
```