SolarFlare Tunning

*Onload-Tunings:*

1. Config changes in /boot/grub/grub.conf:

isolcpus=2-14 nohz=off iommu=off intel\_iommu=off mce=ignore\_ce nmi\_watchdog=0 intel\_idle.max\_cstate=0 idle=poll

1. Stop the following services on the server:

# systemctl stop cpupower

# systemctl stop cpuspeed

# systemctl stop cpufreqd

# systemctl stop powerd

# systemctl stop irqbalance

1. Allocate hugepages:

vm.nr\_hugepages=2048

1. Disable interrupt moderation:

# ethtool ‐C <interface> rx‐usecs 0 adaptive‐rx off

1. Core Affinity Settings:

Set interrupt affinity such that interrupts and the application are running on different CPU cores but on the same processor package

Use the following command to identify receive queues created for an interface

# cat /proc/interrupts | grep eth2

33: 0 0 0 0 IR‐PCI‐MSI‐edge eth2‐0

34: 0 0 0 0 IR‐PCI‐MSI‐edge eth2‐1

Direct IRQ 33 to CPU core 0 and IRQ 34 to CPU core1

# echo 1 > /proc/irq/33/smp\_affinity

# echo 2 >/proc/irq/34/smp\_affinity

1. Tuned-Profile

# tuned‐adm profile network‐latency

1. Busy Poll:

Enable the kernel “busypoll” feature to disable interrupts and allow polling of the socket receive queue,

# sysctl net.core.busy\_poll = 50 && sysctlnet.core.busy\_read=50

* Spinning(busy‐wait): Onload can be configured to spin on the processor in usermode for up to a specified number of microseconds waiting for data from the network. If the spin period expires the processor will revert to conventional blocking behavior.

# export EF\_POLL\_USEC=100000 (100 ms)