

Memory error check SOP

Reference:

<https://blog.51cto.com/dangzhiqiang/1782896>

<https://serverfault.com/questions/643542/how-do-i-get-notified-of-ecc-errors-in-linux>

1. Check if there is memory controller support

ls /sys/devices/system/edac/mc

find /lib/modules/\$(uname -r) -name '*edac*'

edac-util -rfull

➔ There will appear the message like...

```
aa@aa-desktop:~/Desktop$ ls /sys/devices/system/edac/mc
mc0 mc1 power subsystem uevent
aa@aa-desktop:~/Desktop$ find /lib/modules/$(uname -r) -name '*edac*'
/lib/modules/5.3.0-46-generic/kernel/drivers/edac
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/skx_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/ie31200_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i5400_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i7core_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/e752x_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/pnd2_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i10nm_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i3200_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/amd64_edac_mod.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/x38_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i82975x_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i5100_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i5000_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/edac_mce_amd.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/sb_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i3000_edac.ko
/lib/modules/5.3.0-46-generic/kernel/drivers/edac/i7300_edac.ko
aa@aa-desktop:~/Desktop$ edac-util -rfull
mc0:noinfo:all:UE:0
mc0:noinfo:all:CE:0
mc1:noinfo:all:UE:0
mc1:noinfo:all:CE:0
aa@aa-desktop:~/Desktop$
```

2. Install mce-inject

<https://github.com/andikleen/mce-inject/blob/master/mce-inject.8>

sudo apt install bison

sudo apt install flex

make

sudo modprobe mce_inject

##Create correct data in mce-inject directory

vi correct

##input following value

CPU 1 BANK 2

STATUS corrected

RIP 0x12341234

3. Modify machine check code to prevent ECC cause system crash

cd /sys/devices/system/machinecheck/machinecheck0

cat tolerate ◦ (should be "0")

echo 3 >tolerate

cat tolerate (should be "3")

4. Install rasdaemon

sudo apt install rasdaemon

sudo rasdaemon -e

systemctl start rasdaemon

systemctl enable rasdaemon

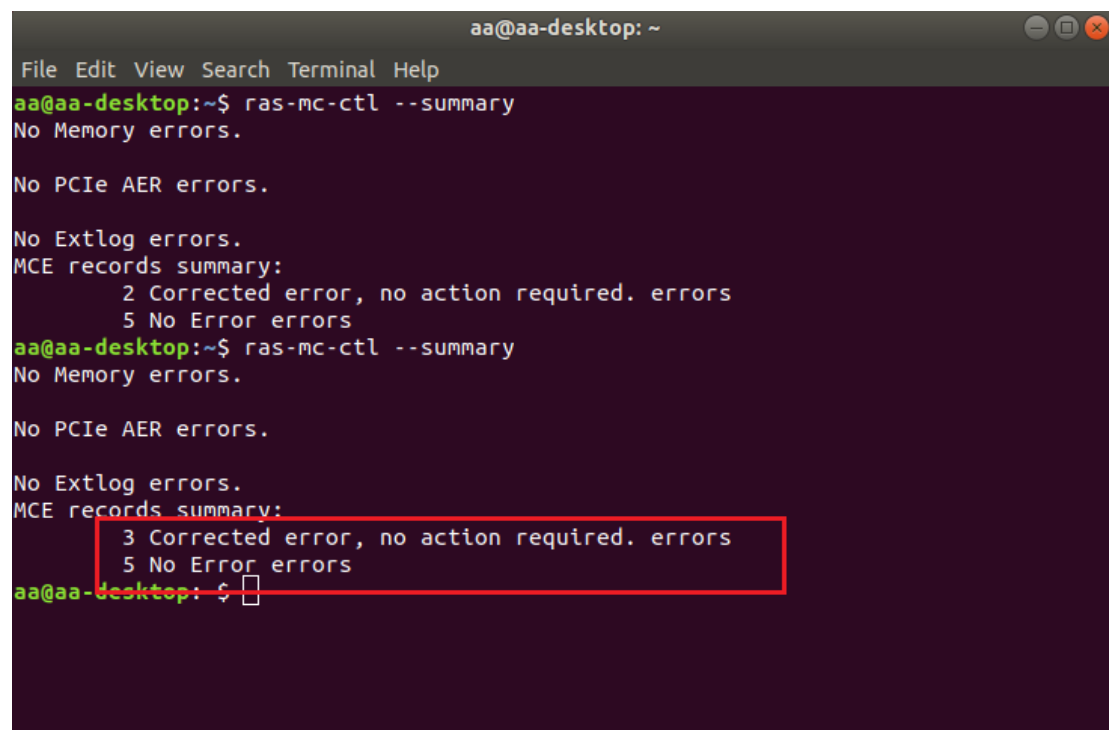
systemctl status rasdaemon.service

5. Execute mce_inject

sudo modprobe mce_inject

Execute "./mce-inject correct "

Check ECC error by "ras-mc-ctl --summary"



```
aa@aa-desktop: ~  
File Edit View Search Terminal Help  
aa@aa-desktop:~$ ras-mc-ctl --summary  
No Memory errors.  
  
No PCIe AER errors.  
  
No Extlog errors.  
MCE records summary:  
    2 Corrected error, no action required. errors  
    5 No Error errors  
aa@aa-desktop:~$ ras-mc-ctl --summary  
No Memory errors.  
  
No PCIe AER errors.  
  
No Extlog errors.  
MCE records summary:  
    3 Corrected error, no action required. errors  
    5 No Error errors  
aa@aa-desktop:~$
```