

## Troubleshooting Guide

# ⚙️ [OAI gNB] Install Troubleshooting Guide

on the Server with RHEL

Branch: use\_msgq

## 🎯 Readme (Goals):

- Main Title Clearly Presents Problem Description
- Corresponding Titles and Numbers are available in **OAI Tutorial**  
([https://gitlab.eurecom.fr/oai/openairinterface5g/-/blob/use\\_msgq/doc/ORAN\\_FH17.2\\_Tutorial.md](https://gitlab.eurecom.fr/oai/openairinterface5g/-/blob/use_msgq/doc/ORAN_FH17.2_Tutorial.md)).

- [HW] Can't set cpu frequency
  - BIOS Setting
    - Hardware BIOS Setting
    - Disable Hyper Threading
- [PHY] No prs\_config configuration found...!!
- missing\_config\_file\_exception
  - Solution
- [PHY] DJP - delete code above this .../.../.../executables/nr-ru.c:1763
- EAL: No available hugepages reported in hugepages-2048kB
- pmc: command not found
- Edit grub file

## [HW] Can't set cpu frequency

# BIOS Setting

## Hardware BIOS Setting

Here, we are using Dell R740 as an example.

If you run OAI nr-softmodem with this error:

```
1  ...
2  sh: /sys/devices/system/cpu/cpu0/cpufreq/scaling_min_freq: No such file or dire
3  sh: /sys/devices/system/cpu/cpu1/cpufreq/scaling_min_freq: No such file or dire
4  ...
5
6  1. Check `GRUB_CMDLINE_LINUX` with `Intel_pstate=disable`
7  2. Configure BIOS
8  
9  3. Reboot
10 4. Check `cpupower`
11 ``bash=
12 # cpupower frequency-info
13 analyzing CPU 0:
14   driver: acpi-cpufreq
15   CPUs which run at the same hardware frequency: 0
16   CPUs which need to have their frequency coordinated by software: 0
17   maximum transition latency: 10.0 us
18   hardware limits: 1.20 GHz - 2.90 GHz
19   available frequency steps:  2.90 GHz, 2.90 GHz, 2.80 GHz, 2.70 GHz, 2.50 GHz,
20   available cpufreq governors: conservative ondemand userspace powersave perfor
21   current policy: frequency should be within 1.20 GHz and 2.90 GHz.
22           The governor "performance" may decide which speed to use
23           within this range.
24   current CPU frequency: Unable to call hardware
25   current CPU frequency: 2.90 GHz (asserted by call to kernel)
26   boost state support:
27     Supported: yes
28     Active: yes
```

5. Check CPU file

```
1 # cat /sys/devices/system/cpu/cpu0/cpufreq/scaling_min_freq
2 1200000
```

## Disable Hyper Threading

### ▼ Processor Settings

	当前值
Logical Processor	Disabled ▼
CPU Interconnect Speed	Maximum data rate ▼
Virtualization Technology	Enabled ▼
Adjacent Cache Line Prefetch	Enabled ▼
Hardware Prefetcher	Enabled ▼
DCU Streamer Prefetcher	Enabled ▼
DCU IP Prefetcher	Enabled ▼
Sub NUMA Cluster	Disabled ▼
UPI Prefetch	Enabled ▼
LLC Prefetch	Disabled ▼
Dead Line LLC Alloc	Enabled ▼
Directory AtoS	Disabled ▼
Logical Processor Idling	Disabled ▼
Configurable TDP	Nominal ▼
x2APIC Mode	Enabled ▼
Dell Controlled Turbo	Disabled ▼
Dell AVX Scaling Technology	0
Processor 1 Controlled Turbo	Disabled
Processor 1 Dell AVX Scaling Technology	0
Processor 2 Controlled Turbo	Disabled
Processor 2 Dell AVX Scaling Technology	0
AVX ICCP Pre-Grant	128 Heavy ▼
Number of Cores per Processor	All ▼

# [PHY] No prs\_config configuration found...!!

- Adding “config” at the end in file path:

```
/home/oai/openairinterface5g/targets/PROJECTS/GENERIC-NR-5GC/CONF/oran.fh.band78.prb.conf
```

```
vi /home/oai/openairinterface5g/targets/PROJECTS/GENERIC-NR-5GC/CONF/oran.fh.band78.
```

```
prs_config :
{
  prs_id = 0;
  prs_periodicity = 160;
  prs_offset = 2;
  prs_muting = 1;
  prs_power = -6;
  prs_freq_density = 3;
  prs_freq_offset = 0;
  prs_num_sf = 1;
  prs_sf_config = 0xc0;
  prs_res= 0;
}
```

## missing\_config\_file\_exception

[https://hackmd.io/@MingHung/trace\\_error\\_missing\\_config\\_file\\_exception](https://hackmd.io/@MingHung/trace_error_missing_config_file_exception)

([https://hackmd.io/@MingHung/trace\\_error\\_missing\\_config\\_file\\_exception](https://hackmd.io/@MingHung/trace_error_missing_config_file_exception)).

## Solution

```
cd ~/openairinterface5g/cmake_targets/ran_build/build
cp ../../../../targets/PROJECTS/GENERIC-NR-5GC/CONF/oran.fhi.json ./conf.json
```

**Reference:**

- `openairinterface5g/radio/ETHERNET/oran/5g/xran_lib_wrap.hpp`
- `openairinterface5g/radio/ETHERNET/oran/5g/xran_lib_wrap.cpp`

## **[PHY] DJP - delete code above this .../.../.../executables/nr-ru.c:1763**

[https://hackmd.io/@MingHung/trace\\_error\\_DJP](https://hackmd.io/@MingHung/trace_error_DJP) ([https://hackmd.io/@MingHung/trace\\_error\\_DJP](https://hackmd.io/@MingHung/trace_error_DJP)).

## **EAL: No available hugepages reported in hugepages-2048kB**

- Configuring 1024 pages (2048kB) of hugepages for DPDK usage.

```
sudo chmod 777 /sys/kernel/mm/hugepages/hugepages-2048kB/nr_hugepages
sudo echo 2048 > /sys/kernel/mm/hugepages/hugepages-2048kB/nr_hugepages
sudo mkdir /mnt/huge-2048kB
sudo umount /dev/hugepages
sudo mount -t hugetlbfs -o pagesize=2048k nodev /mnt/huge-2048kB
```

- Check

```
[oai@R740 huge-2048kB]$ sudo mount | grep hugetlbfs  
  
nodev on /mnt/huge-2048kB type hugetlbfs (rw,relatime,pagesize=1024M)  
  
nodev on /mnt/huge-2048kB type hugetlbfs (rw,relatime,pagesize=1024M)  
  
nodev on /mnt/huge-2048kB type hugetlbfs (rw,relatime,pagesize=1024M)  
  
nodev on /mnt/huge-2048kB type hugetlbfs (rw,relatime,pagesize=1024M)  
  
nodev on /mnt/huge-2048kB type hugetlbfs (rw,relatime,pagesize=2M)
```

## pmc: command not found

### Reference

- PTP Management Client ([https://access.redhat.com/documentation/zh-cn/red\\_hat\\_enterprise\\_linux/7/html/system\\_administrators\\_guide/sec-using\\_the\\_ptp\\_management\\_client](https://access.redhat.com/documentation/zh-cn/red_hat_enterprise_linux/7/html/system_administrators_guide/sec-using_the_ptp_management_client)).
- How to use PTP Management Client (pmc) (<https://access.redhat.com/solutions/638753>).

```
sudo yum install linuxptp
```

## Edit grub file

Directly modifying the file for the next step will result in an ERROR:

```
echo: write error: Cannot allocate memory
```

Therefore, it is necessary to add parameters in the startup configuration.

```
sudo vi /etc/default/grub
```

- GRUB\_CMDLINE\_LINUX= add pci=assign-busses pci=realloc

```
6 | GRUB_CMDLINE_LINUX="pci=assign-busses pci=realloc ....other parameter....."
```

- update config

```
sudo grub2-mkconfig -o /boot/grub2/grub.cfg  
sudo reboot
```