Fixmap report

Code

```
#include <linux/kernel.h>
#include <linux/module.h>
#include <linux/mm.h>
#include <linux/mm_types.h>
#include <linux/sched.h>
#include <linux/export.h>
#include <linux/highmem.h>
#include <asm/fixmap.h>

// alloc_memory __set_fixmap __fix_to_virt

int fixmap(){
  unsigned long faddr;
  unsigned long paddr;
  struct page *page;

  page = alloc_page(__GFP_HIGHMEM);
  if (!page || !PageHighMem(page)) {
    printk("%s alloc_page() failed.\n", __func__);
    return -ENOMEM;
  }

  paddr = page_to_phys(page);
  set_fixmap(20, paddr);

  faddr = __fix_to_virt(20);

  printk("fixmap at %lx\n", faddr);
  struct task_struct *pp;
  for_each_process(pp) {
    printk("PID: %d", pp->pid);
    if(__fix_to_virt(20) == faddr){
      printk("true\n");
    }
  }

}

static int __init fmap_init (void) {

  int x = 0;
  printk("Module start\n");

  x = fixmap();
```

```
  return 0;

}

static void __exit fmap_exit (void) {

  printk("Module end\n");

}

module_init(fmap_init);
module_exit(fmap_exit);
```

Result

```
[202250.798486] Module start
[202250.798492] fixmap at fffeb000
[202250.798494] PID: 1 has new mapping
[202250.798495] PID: 2 has new mapping
[202250.798497] PID: 3 has new mapping
[202250.798498] PID: 4 has new mapping
[202250.798499] PID: 5 has new mapping
[202250.798500] PID: 6 has new mapping
[202250.798501] PID: 7 has new mapping
[202250.798502] PID: 8 has new mapping
[202250.798503] PID: 9 has new mapping
[202250.798505] PID: 10 has new mapping
[202250.798506] PID: 11 has new mapping
[202250.798507] PID: 12 has new mapping
[202250.798508] PID: 13 has new mapping
[202250.798509] PID: 14 has new mapping
[202250.798510] PID: 15 has new mapping
[202250.798511] PID: 16 has new mapping
[202250.798512] PID: 17 has new mapping
[202250.798513] PID: 18 has new mapping
[202250.798514] PID: 20 has new mapping
[202250.798515] PID: 21 has new mapping
[202250.798516] PID: 22 has new mapping
[202250.798517] PID: 23 has new mapping
[202250.798518] PID: 25 has new mapping
[202250.798519] PID: 26 has new mapping
[202250.798520] PID: 27 has new mapping
[202250.798521] PID: 28 has new mapping
[202250.798522] PID: 29 has new mapping
[202250.798523] PID: 30 has new mapping
[202250.798524] PID: 31 has new mapping
[202250.798525] PID: 32 has new mapping
[202250.798526] PID: 33 has new mapping
[202250.798527] PID: 34 has new mapping
[202250.798528] PID: 35 has new mapping
[202250.798529] PID: 36 has new mapping
[202250.798530] PID: 37 has new mapping
[202250.798531] PID: 38 has new mapping
[202250.798532] PID: 41 has new mapping
[202250.798533] PID: 42 has new mapping
[202250.798534] PID: 43 has new mapping
[202250.798535] PID: 44 has new mapping
[202250.798536] PID: 45 has new mapping
[202250.798537] PID: 46 has new mapping
[202250.798538] PID: 57 has new mapping
[202250.798539] PID: 58 has new mapping
[202250.798540] PID: 59 has new mapping
[202250.798541] PID: 60 has new mapping
[202250.798542] PID: 62 has new mapping
[202250.798543] PID: 82 has new mapping
[202250.798543] PID: 83 has new mapping
[202250.798544] PID: 84 has new mapping
```