在3.18.7 kernel中，PCI IO space被mapping到的virtual address是固定的。

in arch/arm/mm/ioremap.c

```
int pci_ioremap_io(unsigned int offset, phys_addr_t phys_addr)
{
        BUG_ON(offset + SZ_64K > IO_SPACE_LIMIT);

        return ioremap_page_range(PCI_IO_VIRT_BASE + offset,
                                  PCI_IO_VIRT_BASE + offset + SZ_64K,
                                  phys_addr,
                                  __pgprot(get_mem_type(pci_ioremap_mem_type)->pr
ot_pte));
}
EXPORT_SYMBOL_GPL(pci_ioremap_io);
```

/* PCI fixed i/o mapping */

#define PCI_IO_VIRT_BASE 0xfee00000

#define PCI_IOBASE   ((void __iomem *)PCI_IO_VIRT_BASE)

in arch/arm/mm/mmu.c

```
#if defined(CONFIG_PCI) && !defined(CONFIG_NEED_MACH_IO_H)
static void __init pci_reserve_io(void)
{
        struct static_vm *svm;

        svm = find_static_vm_vaddr((void *)PCI_IO_VIRT_BASE);
        if (svm)
                return;

        vm_reserve_area_early(PCI_IO_VIRT_BASE, SZ_2M, pci_reserve_io);
}
#else
#define pci_reserve_io() do { } while (0)
#endif
```

从code看，给PCI device留出的virtual io space从 0xfee00000 到0xff000000。

[0xfee00000, 0xff000000)

root@granite2:~# cat /proc/vmallocinfo

.....

0xf9800000-0xf98c0000 786432 iotable_init+0x0/0xc phys=f9800000 ioremap

0xfe030000-0xfe031000   4096 iotable_init+0x0/0xc phys=d4030000 ioremap

0xfedec000-0xfee00000   81920 pcpu_get_vm_areas+0x0/0x598 vmalloc

0xfee00000-0xff000000 2097152 pci_reserve_io+0x0/0x30 ioremap