in arch/arm/include/asm/cputype.h

```
#define read_cpuid(reg)                                                 \
        ({                                                              \
                unsigned int __val;                                     \
                asm("mrc        p15, 0, %0, c0, c0, " __stringify(reg)  \
                    : "=r" (__val)                                      \
                    :                                                   \
                    : "cc");                                            \
                __val;                                                  \
        })
```

mrc p15, 0, **register**, c0, c0, **X**

从CP15的c0中读取 X 编号的register到ARM 主 register中(R0-R15)

```
#define CPUID_ID        0
#define CPUID_CACHETYPE 1
#define CPUID_TCM       2
#define CPUID_TLBTYPE   3
#define CPUID_MPUIR     4
#define CPUID_MPIDR     5
#define CPUID_REVIDR    6

static inline unsigned int __attribute_const__ read_cpuid_id(void)
{
        return read_cpuid(CPUID_ID);
}

static inline unsigned int __attribute_const__ read_cpuid_cachetype(void)
{
        return read_cpuid(CPUID_CACHETYPE);
}

static inline unsigned int __attribute_const__ read_cpuid_tcmstatus(void)
{
        return read_cpuid(CPUID_TCM);
}

static inline unsigned int __attribute_const__ read_cpuid_mpidr(void)
{
        return read_cpuid(CPUID_MPIDR);
}
```

比如CPUID_MPIDR(5)是Multiprocessor Affinity Register.

mrc p15, 0, <Rt>, c0, c0, 5 ; Read Multiprocessor Affinity Register