



SSD201 DDR&FLASH 使用评估介绍



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REVISION HISTORY

Revision No.	Description	Date
0.1	<ul style="list-style-type: none">Initial release	06/27/2019
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1. NOR FLASH 使用大小统计

1.1. 查看分区使用情况

```
/customer # cat /proc/mtd
dev:   size  erasesize  name
mtd0: 0005e000 00010000 "BOOT"
mtd1: 00200000 00010000 "KERNEL"
mtd2: 00210000 00010000 "rootfs"
mtd3: 00290000 00010000 "nvrservice"
mtd4: 007f0000 00010000 "customer"
mtd5: 000f0000 00010000 "appconfigs"
/customer # █
```

Size 就是各分区总的 size。

已经使用的大小就是各分区 image 的 size, 可以到 `project/image/output/images` 查看:

```
aaron.feng@sigmastar:~/Code/P2/Release_SDK/release/release_1123/sourcecode/project/image/output/images$ du *
960  appconfigs.jffs2
4   auto_update.txt
48  boot/fastboot
20  boot/tool
332 boot
4   customer.sqfs
1940 kernel
2376 nvrservice.sqfs
2084 rootfs.sqfs
40  scripts
```

Total 减去各分区 image 的 size 就是剩余可用的分区大小。

2. DDR 使用大小统计

目前我们 DDR 分两部分组成：一部分在原生的 linux，一部分单独分出来给 SDK 使用 (MMA)。

2.1. Linux memory 统计

统计之前先 dropcache:

```

/ # echo 3 > /proc/sys/vm/drop_caches
sh (597): drop_caches: 3
/ # echo 3 > /proc/sys/vm/drop_caches
sh (597): drop_caches: 3
/ # echo 3 > /proc/sys/vm/drop_caches
sh (597): drop_caches: 3
/ #
  
```

然后 cat /proc/meminfo 即可, MemFree 即是剩余的 memory。

```

/ # echo 3 > /proc/sys/vm/drop_caches
sh (597): drop_caches: 3
/ # cat /proc/meminfo
MemTotal:      43172 kB
MemFree:       28436 kB
MemAvailable:  28732 kB
Buffers:       296 kB
Cached:        2028 kB
SwapCached:    0 kB
Active:        2164 kB
Inactive:      372 kB
Active(anon):  276 kB
Inactive(anon): 0 kB
Active(file):  1888 kB
Inactive(file): 372 kB
  
```

2.2. Mma memory 统计

Mma 使用情况直接用 cat /proc/mi_modules/mi_sys_mma/mma_heap_name0 统计就可以了:

```

/ # cat /proc/mi_modules/mi_sys_mma/mma_heap_name0
mma_heap_name      heap_base_cpu_bus_addr      length      chunk_mgr_avail
mma_heap_name0    22f00000                    1000000    bff000
chunk_mgr info:
  offset          length          avail
  0                1000000        bff000
each chunk info:
  offset          length          used_flag    task_name
  0                1000           1            sys-logConfig
  1000            400000         1            fb_device
  401000          bff000         0            NA
  
```

Length 就是 total 大小, chunk_mgr_avail 就是剩余的大小。

2.3. 配置 mma 大小的方法

在 project\configs\nvr\i2m\8.2.1\nor.glibc-squashfs.011a.64 中更改大小即可，

```
CHIP = i2m
BOARD = 011A
BOARD_NAME = SSC011A-S01A
PRODUCT = nvr
TOOLCHAIN = glibc
TOOLCHAIN_VERSION = 8.2.1
KERNEL_VERSION = 4.9.84
LIBC = libc-2.28
BUSYBOX = busybox-1.20.2-arm-linux-gnueabi-hf-glibc-8.2.1-dynamic
KERNEL_CONFIG = glibc
IMAGE_CONFIG = nor.squashfs.hfglibc.p2.mma
CUSTOMER_OPTIONS = 011a.201_options.mk
CUSTOMER_TAILOR = nvr_i2m_display_glibc_tailor.mk
MMAP = MMAP_I2M_64M.h
BOOTLOGO_FILE = sigmastar1024_600.jpg
#BOOTLOGO_ADDR = E_LX_FB
LOGO_ADDR = 0x3D00000
BOOTLOGO_BUFSIZE = 0x200000
PANEL_NAME = SAT070CP50
PANEL_WIDTH = 1024
PANEL_HEIGHT = 600
EXBOOTARGS =
KERNEL_BOOT_ENV = LX_MEM=$(KERNEL_MEMLEN) mma_heap=mma_heap_name0,miu=0,sz=0x1000000 mma_memblock_remove=1
TOOLCHAIN_REL = arm-linux-gnueabi-hf-
```

注意 mma 的大小改大了，对应 linux 的内存就减少了。