



MMC overview



Contents

1. MMC overview	3
2. Main Page	3



The content format pdf is not supported by the content model wikitext.

[Return to Main Page](#)

Stable: 17.11.2021 - 10:46 / Revision: 17.11.2021 - 15:58

You do not have permission to edit this page, for the following reasons:

- The action you have requested is limited to users in one of the groups: **Administrators**, **Editors**, **Reviewers**, **Selected_editors**, **ST_editors**.
- The action "Read pages" for the draft version of this page is only available for the groups **ST_editors**, **ST_readers**, **Selected_editors**, **sysop**, **reviewer**

You can view and copy the source of this page.

The MMC (MultiMediaCard) / SD (secure digital) / SDIO (secure digital input/output) subsystem implements a standard Linux^{®} host driver to interface with MMC / SD memory cards or SDIO cards. == Framework purpose == The purpose of this article is to introduce the MMC Linux^{®} subsystem (MMC / SD) by: * providing general information * describing the main components/stakeholders The SDIO is addressed in the [[WLAN_overview|WLAN overview]]. ==System overview== [[File:MMC_overview.png|center|link=]] ==Component description== * User space applications handle "file I/O" management to view the card memory as a disk, whereas programs that perform "raw I/O" accesses see the memory as a block device<ref>https://en.wikipedia.org/wiki/Device_file#Block_devices</ref>. * ""VFS"" (Kernel space) Virtual File System. Please refer to the VFS documentation <ref>{{CodeSource | Linux kernel | Documentation/filesystems/vfs.txt | VFS}} </ref>. * ""MMC core/SD/MMC/SDIO"" (Kernel space) The ""MMC core"" ensures compliance with MultiMediaCard (""MMC"")<ref><https://www.jedec.org/standards-documents/technology-focus-areas/flash-memory-ssds-ufs-emmc/e-mmc> MultiMediaCard], embedded MultiMediaCard specification</ref> / secure digital (""SD"")<ref>[https://www.sdcard.org/ Secure Digital](https://www.sdcard.org/Secure%20Digital)], secure digital specification</ref> / secure digital input/output (""SDIO"")<ref>[https://www.sdcard.org/ Secure Digital Input Output](https://www.sdcard.org/Secure%20Digital%20Input%20Output)], Secure Digital Input Output specification</ref>. * ""SDMMC driver"" (Kernel space) / ""SDMMC"" (hardware) The ""SDMMC driver"" handles: * the registers, the clock, the interrupt and the IDMA control. * the communications over the bus based on command/response and data transfers. Please refer to the [[SDMMC internal peripheral]]. ==API description== The MMC core handles the file system read/write calls. ==Configuration == ==Kernel configuration== The MMC framework is activated by default in ST deliveries. If a specific configuration is needed, this section indicates how the MMC framework can be activated/inactivated in the kernel. The MMC framework can be activated in the kernel configuration via Linux^{®} Menuconfig tool: [[Menuconfig or how to configure kernel]] <pre> [*] Device Drivers [*] MMC/SD/SDIO card support <*> HW reset support for eMMC <*> Simple HW reset support for MMC <*> MMC block device driver (16) Number of minors per block device ... <*> ARM AMBA Multimedia Card Interface support [*] STMicroelectronics STM32 SDMMC Controller </pre> ==Device tree configuration== DT configuration can be done thanks to [[STM32CubeMX]]. Please refer to the [[SDMMC_device_tree_configuration|SDMMC device tree configuration]]. ==How to use the framework== A file system, which handles read/write/erase operations, can be used with the MMC framework. Please refer to the [[How to support EXT4 through MMC|EXT4 support through MMC]]. ==How to trace and debug the framework== ==How to monitor== The sysfs interface provides detailed information on each mmc device: <pre> root:~# cat /sys/kernel/debug/mmc0/ios clock: 50000000 Hz vdd: 21 (3.3 ~ 3.4 V) bus mode: 2 (push-pull) chip select: 0 (don't care) power mode: 2 (on) bus width: 2 (4 bits) timing spec: 2 (sd high-speed) signal voltage: 0 (3.30 V) driver type: 0 (driver type B) </pre> ==How to trace== For details on dynamic trace usage, refer to [[How to use the kernel dynamic debug]]. root:~# echo "file drivers/mmc/* +p" > /sys/kernel/debug/dynamic_debug/control ==Source code location== The MMC framework is available {{CodeSource | Linux kernel | drivers/mmc | here}}. ==References== Please refer to the following links for a full description of the MMC framework: <references /> <noinclude> {{ArticleBasedOnModel | Framework overview article model}} [[Category:Mass storage]] </noinclude>

Templates used on this page:

- [Template:Highlight \(view source\)](#)
- [Template:Info \(view source\)](#)
- [Template:STDarkBlue \(view source\)](#)

[Return to Main Page](#).