SD and MMC Block Device Attributes

These attributes are defined for the block devices associated with the SD or MMC device.

The following attributes are read/write.

force_ro	Enforce read-only access even if write protect switch is off.

SD and MMC Device Attributes

All attributes are read-only.

cid	Card Identification Register
csd	Card Specific Data Register
scr	SD Card Configuration Register (SD only)
date	Manufacturing Date (from CID Register)
fwrev	Firmware/Product Revision (from CID Register) (SD and MMCv1 only)
hwrev	Hardware/Product Revision (from CID Register) (SD and MMCv1 only)
manfid	Manufacturer ID (from CID Register)
name	Product Name (from CID Register)
oemid	OEM/Application ID (from CID Register)
prv	Product Revision (from CID Register) (SD and MMCv4 only)
serial	Product Serial Number (from CID Register)
erase_size	Erase group size
preferred_erase_size	Preferred erase size
raw_rpmb_size_mult	RPMB partition size
rel_sectors	Reliable write sector count
ocr	Operation Conditions Register
dsr	Driver Stage Register
cmdq_en	Command Queue enabled: 1 => enabled, 0 => not enabled

Note on Erase Size and Preferred Erase Size:

"erase_size" is the minimum size, in bytes, of an erase operation. For MMC, "erase_size" is the erase group size reported by the card. Note that "erase_size" does not apply to trim or secure trim operations where the minimum size is always one 512 byte sector. For SD, "erase_size" is 512 if the card is block-addressed, 0 otherwise.

SD/MMC cards can erase an arbitrarily large area up to and including the whole card. When erasing a large area it may be desirable to do it in smaller chunks for three reasons:

1. A single erase command will make all other I/O on the card wait. This is not a problem if the whole card is being erased, but erasing one partition will make I/O for another partition on the same card wait for the duration of the erase - which could be a several minutes.
2. To be able to inform the user of erase progress.
3. The erase timeout becomes too large to be very useful. Because the erase timeout contains a margin which is multiplied by the size of the erase area, the value can end up being several minutes for large areas.

"erase_size" is not the most efficient unit to erase (especially for SD where it is just one sector), hence "preferred_erase_size" provides a good chunk size for erasing large areas.

For MMC, "preferred_erase_size" is the high-capacity erase size if a card specifies one, otherwise it is based on the capacity of the card.

For SD, "preferred_erase_size" is the allocation unit size specified by the card.

"preferred_erase_size" is in bytes.

Note on raw_rpmb_size_mult:

"raw_rpmb_size_mult" is a multiple of 128kB block.

RPMB size in byte is calculated by using the following equation:

RPMB partition size = 128kB x raw_rpmb_size_mult