# SDInterface Development

Figure 4-8 shows the primary domain the SD card operates within using the SDInterface. On bootup, the uCOM will put any supported SD card into Transfer State, ready for future reads or write operations.

**There is no reason why the READ function should re-initialise the SD card every time a read is performed, although that is currently the case. There is a clear opportunity here for optimisation.**

## SD MBR Contents

|  |  |  |
| --- | --- | --- |
| Offset (hex) | Size | Content |
| 1FE | 2 | If 0x55 AA – Boot Sector |
| 0 | 1 | If EB or E9 – Is DBR |
| 1C6 | 4 | DBR Sector No. (reverse order / LSB first) |
| B | 2 | Bytes per Sector (LSB first) |
| D | 1 | Sectors per Cluster |
| E | 2 | Reserved Sectors (LSB first) |
| 10 | 1 | FAT version |
| 11 | 2 | Root dir item count (LSB first) |
| 16 | 2 | Sectors per FAT (LSB first)  > 0 – **FAT16**  = 0 and offset 56 = 32 – **FAT32**  Otherwise – **Unknown Filesystem**  If FAT32:  Sectors\_per\_FAT = 27, 26, 25, 24  Root\_Cluster = 2F, 2E, 2D, 2C |
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