When the emulated E2PROM is configured as greater than 1K, the E2PCTL (MemCon) still operates within the E2PROM partition with the Page as the minimum unit. For example, if the user configures a 2K E2PROM partition, the MemCon requires 4 pages (4K) of space to operate. Two pages are always required for implementing each block of emulated E2PROM memory that the user configures as E2PROM.
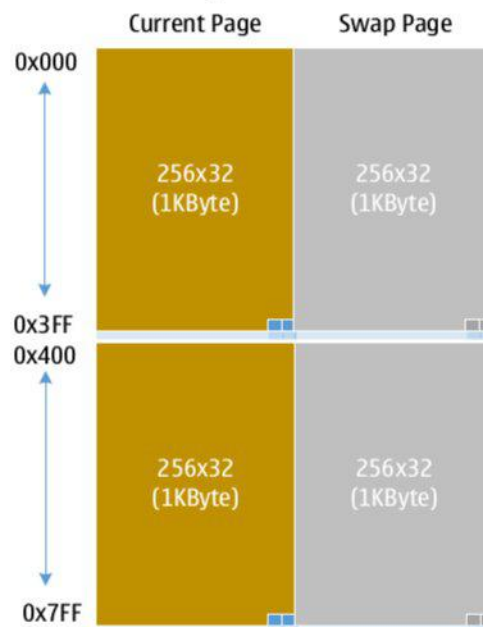
It should be noted that the 2K byte E2PROM space configured by the user is not continuous, because the last 2 bytes of each page will be used to save the Page status information.

E2PROM Continuous Programming Mode

Since the E2PROM update will cause page swapping, the old Current Page will be erased during the swap. Page erasure is not only time consuming, but it also effects the cycle life of the FLASH. Therefore the MemCon includes a Continuous Write Mode. In the Continuous Write Mode, the user can continuously update the emulated E2PROM. The page update and exchange operation is only performed at the end of continuous addressing. For applications that need to write several bytes of data, the continuous mode is more efficient.

Continuous Programming Mode is set by enabling the MemCon's SWM bit in the ECCR control register. After this mode is enabled, the subsequent write operations will directly write data to the Swap Page at the corresponding address of the Current Page. In SWM mode, the write operation will not perform the CP0/1 data copy operation. Before writing the last byte, the software disables the SWM/continuous mode bit that triggers the final CP0/1 routine which triggers the page swap.