## *E2PROM Read/Write Access (Cont.)*

The MemCon always manages each Page of EFLASH separately. When working in the emulated E2PROM mode, the last 2 bytes of each page are reserved for storing information about the status of the page. These two Bytes are the Page Flag and Magic Byte pictued below. Normally the user can not read or write to these last two Bytes. If the user selects an emulated E2PROM partition larger than one Page, the user must account for these two special Bytes in software.

Figure 10. E2PROM Page Based Exchange
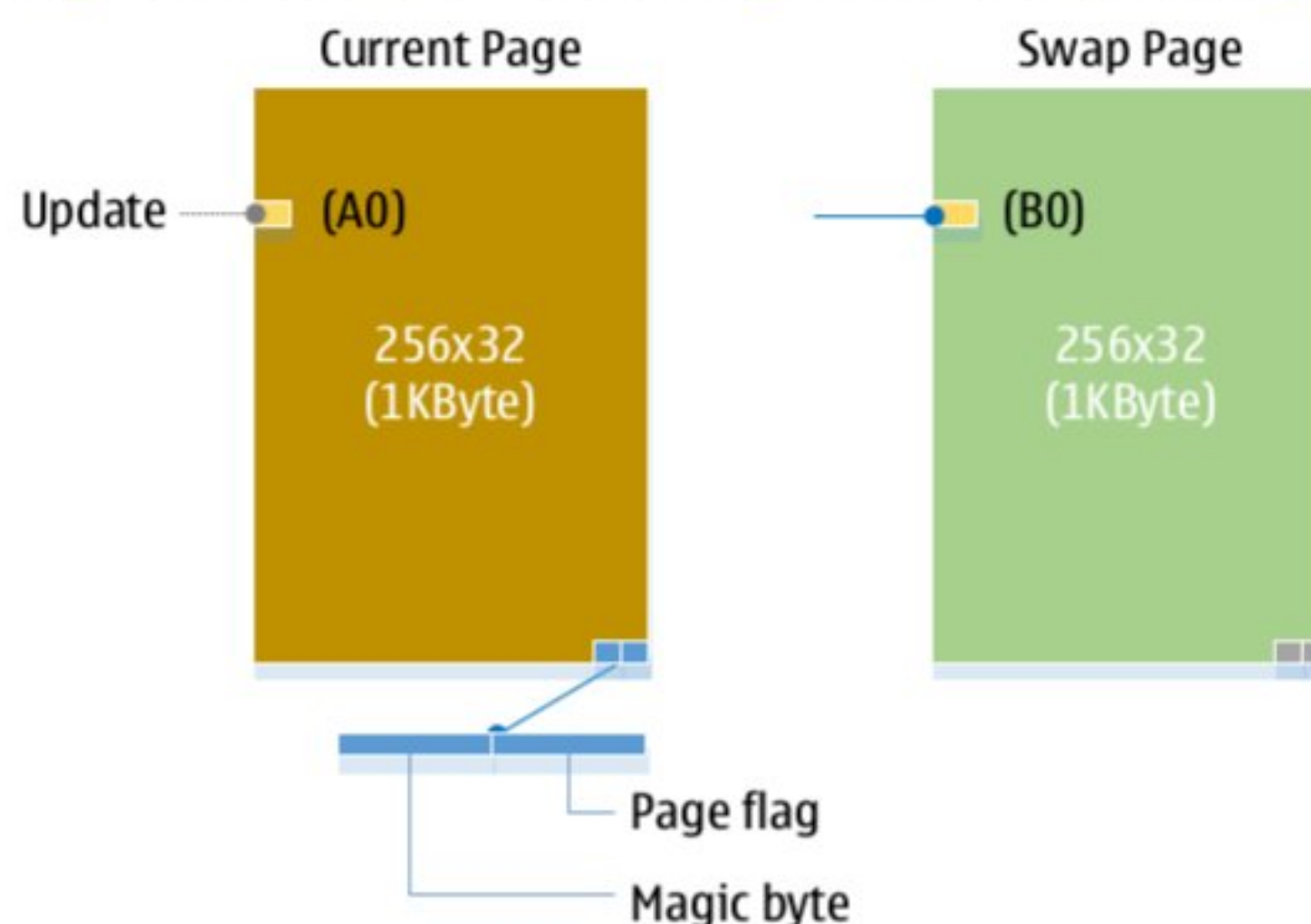
As pictured above, the MemCon requires two 1024-Byte (aka 256-Word) Pages of EFLASH to emulate each Page of E2PROM Memory. One of these two pages is always set as the Current Page, and the other is set as the Swap Page. The MemCon uses the last 2 bytes of each Page to store Page information like the Current and Swap Page status.

When it is time to update the Page, such as the A0 Byte in the illustration above, there are several steps involved. First, the Swap Page is erased. Next, the Current Page's data addresses from before and after the changing data are defined as CP0 and CP1 respectively. After this, the MemCon will copy the data from CP0 on the Current Page into the corresponding addresses of the Swap Page. Once this is complete the Memcon writes the changed data that triggered the entire process (A0 in the illustration). This is written to the Swap Page at the designated corresponding address of the data on the Current Page. The last step is to begin copying CP1 from the Current page to the Swap Page.

At this point in the operation the Current Page is completely unchanged. If a power failure occurs, the old data's integrity is secure. The last step of the emulated E2PROM data operation is triggered when the MemCon controller reaches the very end of CP1 on the Swap Page. This final trigger sets the Swap Page as the Current Page.