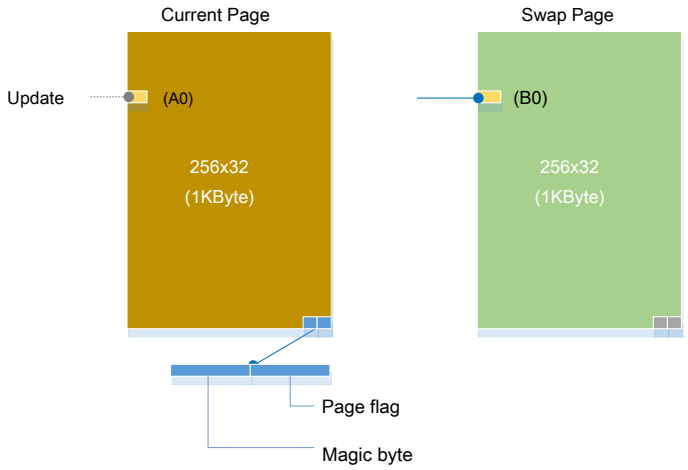
Using mutually exchanged alternately, Also increases simulation E2PROM Life space.

In terms of efficiency, E2PCTL The controller implements a continuous data update mode, the update data is reduced by repeated brought rewritable process.

In terms of realization, E2PCTL Managed separately for each page, and a page was last occupied 2 Bytes as an information page states. In use the user is greater than 1K of E2PROM When the simulation space, we need to pay attention to address cross 1K Special treatment space. Because each 1K The last space 2 Bytes reserved for E2PCTL Use, the user can not this 2 Bytes of space for proper read and write.

The figure below shows E2PCTL Based schematic page exchange algorithm:



as the picture shows, E2PCTL internal use 2 Pages simulate a page size E2PROM space. These two pages are marked as a current page, in addition to the exchange page. E2PCTL Use the last page 2 Bytes of memory page information. When we need to update one byte page, such as the image above A0 byte. First of all, we do not erase the current page, but the page erase exchange. Then the current page is divided into 3 A part of the operation. The first is A0 Before the data, this has become part of our space CP0 ,Afterwards A0 After the data, this part of space CP1 . E2PCTL Based on user configuration, CP0 Copying data corresponding to the address corresponding to the page switching, and then need to update the data written to the address corresponding to the page switching (B0) And finally copy CP1 To exchange data page.

After the completion of the operation, the data exchange has been completed, but does not update the page status. Therefore, if power failure occurs before or other abnormalities, because this update operation is not complete, and before the data is not destroyed, to ensure data integrity. If everything goes well, E2PCTL Will be at CP1 Finally, the updated page status page for exchanging data written information before the exchange of the page, to realize replace face to face page. Since then, the exchange page becomes the current page.

E2PCTL Page exchange process shown below (1-> 2-> 3-> 4) :