Application Programming Notification

Appliance: VEGA5000 / VEGA5000S / VEGA3000

Main idea:
Avoid to use sync() frequently in application to protect the lifecycle of system nand-flash from being shortened.

Description:
When calling sync(), all data buffered in the RAM by the Linux system will be written to the system nand-flash. Frequently calling sync() will cause the life cycle of system nand-flash to be dramatically shortened, due to the fact that the life cycle of nand-flash is limited to number of write operation performed.

Normally, the scenario that application will use sync() is when application want to ensure the synchronization of the modified content of a specific file to the system nand-flash, so that all modified content of the file can be retrieved even after the system crashed or was rebooted. In this case, we strongly suggest to use fsync()due to that fsync() only write the modified content of the file referred to the file descriptor, instead of writing all system buffered data. Below is the comparison of the sync() and fsync().

sync()	Writes all data buffered in RAM to system nand flash.
fsync()	Writes modified content of the file referred to by the file descriptor *fd* to the system nand flash so that all modified content of the file can be retrieved even after the system crashed or was rebooted.

In conclusion, in order to maximize the life time of the system nand-flash, we would like to ask all application developer to check if there is un-necessary sync()/fsync() to be used in the application, and use the fsync() instead of sync() when the purpose is to synchronize the modified file content to the system nand-flash.

End