

# Re: Shutdown and HORM

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*Source:*

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.embedded/2007-02/msg00296.html>

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Michael,

HORM (Hibernate) and Shutdown are different animals.

Hibernating goes by a different route and actually involves a substitute disk driver (dumpdisk driver). It typically brings the system to Standby mode first (put all the drivers in S1/S3 state) and then dumps the RAM to disk. Dumping the RAM content also involves some compression so it is a bit slower than just DMA'ing bits from memory to disk. But still this process is very faster, although depends on how much RAM you've got on the target.

There are quite a few things XP system does when shutting down. From flushing out disk cache to closing network connections.

How do you protect your boot drive? If it is EWF what overlay do you use? RAM overlay would work faster. In either case, EWF doesn't really speed up the OS shutdown process. OS is still flushing whatever buffers it needs to flush out before it turns the power off. It is just that the disk writes will be redirected to the overlay.

If you don't care about flushing data to the disk (e.g., you flush and unmount your data partition before going to shutdown manually), you can call NtShutdownSystem API won't flush system changes on disk. Probably the faster way to do a soft shutdown on NT/XP.

Make sure you get enough privileges [adjust to shutdown privilege] to the token of the process that will call the API (you can grab the code from here <http://forum.ishodniki.ru/index.php?topic=7599.msg31360>, just replace the "reboot" by "shutdown" logic. Or search Google for the API name and find lots of other samples or utilities.)

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Regards,  
KM

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Normal XPe shutdown, even when using HORM, takes about 20 seconds on our system.

What is the OS doing? The C: drive is write-protected, so it can't be saving anything.

We do have an un-write-protected USB thumb drive, but that should not take long to flush out.

Is there some way to speed this up? Note that we are using an ATX power supply: The user pushes the powerw off button. This is intercepted by our application which closes down (including closing the file on the USB thumb drive), then signals the OS to proceed to shut down. Our application takes only a second or two to shut down. Most of the 20 second shutdown is spent with the Windows shutdown screen.