

Alexander SPK NetWare Best Practices

SWITCH SETTINGS

- Restart server after capturing hard crash
- Compress crash file and/or core dump
- Orderly shutdown of server before restart
- Soft crash if possible
- Novell core dump image output
- Edna format crash file output
- Automatically repair volumes if needed
- Load CONFIG.NLM automatically
- Bring up COMP.MON automatically
- Include Cache in core dumps

NOTE: Remember that a HARD CRASH means that the failure is so serious that the OS must be restarted to reduce the likelihood of additional problems. A SOFT CRASH means that the OS can continue to operate safely but a problematic module (with NetWare this would be an NLM) must be suspended.

SINGLE SERVERS:

ON Restart server after capturing hard crash

Leaving the RESTART switch ON reduces the likelihood that someone will have to go into the offices on a Sunday to recover a downed server. This works well because about 95% of system crashes are software-related issues. A hardware crash will likely require someone to visit the box.

OFF Compress crash file and/or core dump

This can normally be left OFF. However, if the DOS partition space is too small, then this switch should be turned on. Note that during a SOFT CRASH, the crash data is saved to SYS:\Edna while in a HARD CRASH, the data is first saved to the DOS partition. Then, when the system is restarted and Edna loads, she moves the data into the regular SYS:Edna directory. So it is during a hard crash that DOS partition space is important, and therefore when the compression switch can become an issue. This applies, in most cases, to core dumps because of their size. Unless the partition is quite small, the SPK's crash report, the EDNA.ECF file, is not likely to be a problem because it will likely be no larger than 25MB.

The reason that I do not normally set the Compression switch on, even though it would seem harmless, is that when a crash occurs, I take the minimal steps necessary to get the staff through the day without [getting them frustrated]. So, while the compression code has been exceedingly well proven over the near decade since we invoked it, it remains that it is one more thing to do. So, if it is not necessary, I don't use it.

ON Orderly shutdown of server before restart

LEAVE THIS ON! It attempts to protect your system from damage when a hard crash occurs. It tries to turn a hard crash into an orderly down (or at least as best as can be done!) It will dismount volumes to protect them, etc.

ON Soft crash if possible

LEAVE THIS ON (except for Cluster Servers -- see below). This replaces NetWare's call to handle abends and suspend the faulting thread. When NetWare does this you are left without the services of that thread until restarting the server. In contrast, the SPK will intercept NetWare's management of the abend and then "owns" the OS during the event, all the while trying to protect it from having to actually hard crash and identifying the cause. It will also offer for you to unload the suspended module from a special "Edna" prompt. If you do, Edna will release all resources assigned to the module by the OS, thus doing a clean unload. If, for instance, the module had suffered memory corruption, then reloading it would mean that its code would no longer be corrupted and its services can be again used -- without interrupting users by having to restart the server.

OFF Novell core dump image output

Because the EDNA.ECF file is so effective, a core dump is rarely needed. Leave it off and save the space. However, should you ever need a core dump, setting this switch to ON means that it will be done automatically for you. In contrast, without the SPK you would have to be there to do it manually.

ON Edna format crash file output

ALWAYS ON. This file enables network administrators as well as support personnel to resolve the cause of a crash in a few minutes. Use this instead of the Core Dump.

OFF Automatically repair volumes if needed

Leave this OFF because this is only used for legacy NetWare 3.x systems.

ON Load CONFIG.NLM automatically

This is handy. Leave it on. The reason this is helpful is that when running CONFIG.NLM, a static .TXT file is created. This is important to consider because following its creation, whenever a module is loaded or unloaded, the file becomes invalid because that change is not included. Then when a crash event occurs, one key question to always ask is "What has changed?" By telling the SPK to automatically run CONFIG.NLM every time a module loads or unloads, the file remains current. This is very handy for subsequent analysis.

ON Bring up COMP.MON automatically

Good idea. COMP.MON enables you to monitor compression and decompression events. More importantly it allows you to invoke a scan of a volume or drive searching for damaged compressed files. These files are difficult to find without COMPMON, yet both corrupted code and corrupted data files can destabilize a server. When COMPMON finds corrupted files, let us or Midnight Technologies know. They have a tool called FixCFile that will attempt to repair the damaged files.

OFF Include Cache in core dumps

OFF. ALWAYS OFF. There is not ever likely to be any data of value in the cache and it makes the core dump the size of RAM. Eliminating the cache will cut the file down to about one third of cache.

CLUSTER SERVERS:

OFF Soft crash if possible

NOTE: While it may seem unusual to suggest that the automated crash prevention option provided in the Alexander SPK be turned OFF for a cluster server, it is true. Here is why: When a node in a cluster experiences a SOFT CRASH whereby a service (NLM) fails and is suspended but the OS and the other services continue to run, that node will not provide full services until it is restarted. By telling Edna to let the server node Hard Crash, Edna will still work to protect the system, diagnose the cause, generate alerts, and restart the node thus returning full services so that the full cluster is back. Without the SPK this would not be possible.

DIRECTORIES AND PATH NAMES

SAVE CRASH IMAGE FILE TO DOS PARTITION IN DIRECTORY:

c:

This is where, during a Hard Crash, the files will be saved. Normally this will be an EDNA.ECF file. If a core dump is saved, it will be placed here too. Then when the system is restarted and Edna reloads, she will automatically move all files to SYS:\EDNA\.

There are two key cases where this path setting is extremely helpful. First, when low on DOS Partition space, grab another drive (ANY drive) and connect it to the server box, calling it D:\. Now you have a whole new DOS Partition. The drive letter here can be changed in seconds.

Secondly, when the server is having hard drive problems such as a hard drive controller failure, it can become impossible to save crash data to the drive. By adding another drive and redirecting Edna to write to it, you will be able to bypass the problems and get your complete data.