

How to isolate causes of system hang on Unix/OSX

Asked 15 years, 9 months ago Modified 13 years, 9 months ago

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7



I am on OSX, and my system is becoming unresponsive for a few seconds roughly every 10 minutes. (It gives me the spinning beach ball of death). I was wondering if there was any way I could isolate the problem (I have plenty of RAM, and there are no pageouts/thrashing). Any Unix/OSX tools that could help me monitor and isolate the cause of this behaviour?

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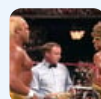
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asked Mar 16, 2009 at 3:18



[mt3](#)

2,784 ● 4 ● 26 ● 29

i was suspecting something along those lines :P – [mt3](#) Mar 19, 2009 at 0:08

8 Answers

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4



Activity Monitor (`cmd+space` , type, `activity monitor`), should give you an intuitive overview of what's happening on your system. If as you say it is there are no processes clogging CPU, please do take a look at the disk/IO activity. Perhaps your disk is going south.



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[ayaz](#)

10.5k ● 6 ● 36 ● 49



3



I have been having problems continually over the years with system hangs. It seems that generally they are a result of filesystem errors, however Apple does not do enough to take care of this issue. System reliability should be a 100% focus and I am certainly sick of these issues. I have started to move a lot of files and all backups over to a ZFS volume on a FreeBSD server and this is helping a bit as it has started to both ease my mind and allow me to recover more quickly from issues. Additionally I've placed my system volume on a large SSD (240GB as I have a lot of support files and am trying to keep things from being too divided up with symlinks)



and my Users folders on another drive. This too has helped add to reliability.

Having said this, you should try to explore `spindump` and `stackshot` to see if you can catch frozen processes before the system freezes up entirely. It is very likely that you have an app or two that is attempting to access bad blocks and it just hangs the system or you have a process blocking all others for some reason with a system call that's halting io.

Apple has used stackshot a few times with me over the last couple years to hunt some nasty buggers down and the following link can shed some light on how to perhaps better hunt this goblin down: <http://www.stormacq.com/?p=346>

Also try: `top -l2 -S > top_output.txt` and examine the results for hangs / zombie processes.

The deeper you go into this, you may find it useful to subscribe to the kernel developer list (`darwin-kernel@lists.apple.com`) as there are some very, very sharp cookies on here that can shed light on some of the most obscure issues and help to understand precisely what panic's are saying.

Additionally, you may want to uninstall any VMs you have installed. There is a particular developer who, I've heard from very reliable sources, has very faulty hypervisor issues and it would be wise to look into that if you have

any installed. It may be time to clean up your kexts altogether as well.

But, all-in-all, we really quite desperately need a better filesystem and proactive mechanisms therein to watch for bad blocks. I praised the day and shouted for joy when I thought that we were getting ZFS officially. I am doubtful Lion is that much better on the HFS+ front sadly and I certainly am considering ZFS for my Users volume + other storage on the workstation due to it's ability to scrub for bad blocks and to eliminate issues like these.

They are the bane of our existence on Apple hardware and having worked in this field for 20 years and thousands of clients, hard drive failure should be considered inexcusable at this point. Even if the actual mfgs can't and won't fix it, the onus falls upon OS developers to handle exceptions better and to guard against such failures in order to hold off silent data loss and nightmares such as these.

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answered Mar 25, 2011 at 2:32

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ylluminate

12.3k ● 17 ● 82 ● 160



I'd run a mixture of 'top' as well as tail -f /var/log/messages (or wherever your main log file is).

2



Chances are right before/after the hang, some error message will come out. From there you can start to weed out your problems.



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Eddie Parker

4,888 ● 4 ● 37 ● 45



2



Activity Monitor is the GUI version of top, and with Leopard you can use the 'Sample Process' function to watch what your culprit tasks are spending most of their time doing. Also in Utilities you'll find Console aka tail -f /var/log/messages.



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edited Mar 16, 2009 at 13:05



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answered Mar 16, 2009 at 4:07



HUAGHAGUAH

1,846 ● 10 ● 7

I think you meant Activity Monitor? – [mt3](#) Mar 16, 2009 at 4:44



1



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answered Mar 16, 2009 at 3:23

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chaos

124k ● 34 ● 306 ● 310





yes, top is open (as is activity monitor), but there isn't any heavy CPU load being shown. – [mt3](#) Mar 16, 2009 at 3:36



1



If the other answers aren't getting you anywhere, I'd run **watch uptime** and keep notes on the times and uptimes when it locks up. Locking up *about* every 10 minutes is very different from locking up *exactly* every 10 minutes; the latter suggests looking in **crontab -l** for jobs starting with `*/10`.



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124k ● 34 ● 306 ● 310

Yes, it isn't exactly 10 mins, just approximately 10 mins. Thnx for the suggest nonetheless. – [mt3](#) Mar 16, 2009 at 4:45



1



Use Apple's Instruments. Honestly, it's helped immensely in finding hangs like these.

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[Rev316](#)

1,941 ● 2 ● 19 ● 24



1 any further advice on using instruments for this purpose? i imagine this is the most powerful approach. – [mt3](#) Oct 20, 2010 at 20:55



1



Periodic unresponsiveness is often the case when swapping is happening. Do you have sufficient memory in your system? Examine the disk io to see if there are peaks.

EDIT:



I have seen similar behaviour on my Mac lately which was caused by the filesystem being broken so OS X tried to access non-existing blocks on the disk and even trying to repair it with Disk Manger told me to reformat and reinstall. Doing that and reestablishing with Time Machine helped!

If you do this, then double check that Journalling is enabled on the HFS on the harddisk. This helps quite a bit avoiding it happening again.

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edited Feb 20, 2010 at 9:42

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answered Mar 18, 2009 at 18:25



[Thorbjørn Ravn Andersen](#)

75.3k ● 34 ● 199 ● 352
