Subject: memory leak in 2.6.18 ovz kernels
Posted by Cliff Wells on Fri, 27 Jun 2008 17:33:08 GMT
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Hi,

I've been running 2.6.18 releases on two servers and both of them have suffered a slow but steady memory leak. The first server is a dual Athlon MP with 3GB of RAM, the second a quad Opteron 275 with 8GB of RAM. I first noticed the issue on the Opteron a few days ago when I realized it was using 7.6GB of RAM and had started using swap (it's only got about 2GB allocated to VE's). Today the Athlon died after exhausting memory. Both had been up for around 70 days.

When investigating the situation on the Opteron, I stopped all the VE's but no memory was reclaimed. Nothing in "top" showed any significant memory consumption. I wasn't able to investigate on the Athlon system as it was in an unusable state.

My immediate solution was to upgrade the Opteron system to 2.6.24 and boot the Athlon system into a stock kernel (I'm not currently using OpenVZ on it).

Anyway, my concern is that I've seen no mention of similar issues from anyone else (and in fact, until the Athlon server failed today, I was inclined to believe it was a configuration issue on the Opteron), so I have a fear that if there is a leak, it might still exist in newer kernels.

I'm going to babysit these machines to see if the problem reappears, but has anyone else noticed similar patterns of memory consumption and is there anything I can do to track this down?

Regards,
Cliff

Subject: Re: memory leak in 2.6.18 ovz kernels
Posted by kir on Mon, 30 Jun 2008 21:00:48 GMT
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First, I hope you know the difference between memory shortage and memory used for buffer/cache. In short: Linux tries to use all unused memory for cache -- and if more memory is needed cache is shrunk. This behavior is sometimes a source of confusion for some Linux users.

Second, can you give us more details regarding "Athlon died after exhausting memory"? If it was an oops -- we need its text.

Third, are you using x86_64 kernel? What is your exact kernel version?

Cliff Wells wrote:
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Subject: Re: memory leak in 2.6.18 ovz kernels
Posted by Cliff Wells on Tue, 01 Jul 2008 23:06:31 GMT
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On Tue, 2008-07-01 at 01:00 +0400, Kir Kolyshkin wrote:
> First, I hope you know the difference between memory shortage and memory
> used for buffer/cache. In short: Linux tries to use all unused memory
> for cache -- and if more memory is needed cache is shrunk.

Sure. But actually it never uses more than a couple hundred megs, even

if it's available (certainly not 6GB). Also in this case buffer/cache
was driven down to under 100K and the server was using a couple hundred
megs of swap (which is unexpected given it has 8GB of RAM and only using
~2GB under normal circumstances).

Mem: 8168892k total, 2161572k used, 6007320k free, 144216k buffers
Swap: 15631236k total, 0k used, 15631236k free, 1125972k cached

which is what I would expect. I don't have exact numbers now, but
"used" was over 7.6GB at the time.

> Second, can you give us more details regarding "Athlon died after
> exhausting memory"? If it was an oops -- we need its text.

No oops, just lots of processes killed by OOM, including sshd.

> Third, are you using x86_64 kernel? What is your exact kernel version?

Yes, x86_64, kernel version 2.6.18-028.049 (Gentoo).

Currently, running 2.6.24 seems to have fixed it (but I may have to give
it longer to see).

Regards,
Cliff

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