Subject: High Virtual Memory Usage when loading shared libraries
Posted by alamar on Sat, 12 Dec 2009 22:07:28 GMT
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Kernel:
Quote:Linux version 2.6.24 (root@gw) (gcc version 4.3.2 (Debian 4.3.2-1.1)) #4 SMP Thu Feb 19 04:36:29 CET 2009
Architecture: x86_64

(The program where I noticed this is inspire ircd (it uses lots of dynamically loaded modules) but I have the same issues with other programs that load lots of .so's as well. Also on a non-ovz system I don't see the problem described below)

Hi everybody,

I noticed a process using 300mb virtual memory looking at top in a container a while ago.
After doing a "pmap -x pid" it became apparent where the massive usage comes from.
The question/problem is that I can't understand why the size pmap shows is so big.

top:
Quote:28665 inspircd 20   0 314m 11m 8352 S   0 1.2   0:00.32 inspircd

314m of virtual memory is way to much on non-ovz systems usage is about ~12m

small extract of pmap -x 28665
Quote:[..]
00002b23d397a000   44   -   -   - r-x-- m_tline.so
00002b23d3985000   2044   -   -   - ----- m_tline.so
00002b23d3b84000   4   -   -   - rw--- m_tline.so
00002b23d3b85000   40   -   -   - r-x-- m_userip.so
00002b23d3b8f000   2044   -   -   - ----- m_userip.so
00002b23d3d8e000   4   -   -   - rw--- m_userip.so
[..]
---------------- ------ ------ ------ ------
total kB   321652   -   -   -

Now if I look for example at m_userip.so. On the harddisk the .so uses
Quote:64K   ./inspircd/modules/m_userip.so

00002b23d3b8f000   2044   -   -   - ----- m_userip.so

Where do the 2044k come from? And why are there no permissions?
This is the case with every .so file, and they don't dynamically (by using new/malloc) allocate this much memory.

About 300m of the 314m come from the 2044 or 2048 kb entries.

On non-ovz systems the line without the permissions is missing, I can't find any document explaining where this line would come from.
I thought maybe the 2044kb are the Virtual Page size but Virtual Page Size of the System is:
Quote: getconf PAGESIZE
4096

Greets,

Julian

PS:
Sorry, in the meantime I noticed that it's more an architecture related problem and not due to openvz. If anybody knows why this happens on 64bit systems I'd still be glad to learn about it

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Subject: Re: High Virtual Memory Usage when loading shared libraries
Posted by maratrus on Fri, 18 Dec 2009 15:47:19 GMT
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Hello,

Quote:
Sorry, in the meantime I noticed that it's more an architecture related problem and not due to openvz. If anybody knows why this happens on 64bit systems I'd still be glad to learn about it

do you mind to explain how you noticed that? This information may be helpful for other people.
Don't you think this behavior may depend on the kernel as well as the particular distributive (different distributives --> different shared libraries)?
You can have a try another kernel. I would recommend you using RHEL5 based one.
http://download.openvz.org/kernel/branches/rhel5-2.6.18/curr ent/
