Subject: strange problem with nagios nrpe server
Posted by Steve Wray on Wed, 05 Dec 2007 20:19:41 GMT
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Hi there,
I just took some filesystems from servers which have been running under Xen for some time and converted them to openvz.

I've found a very strange issue.

We monitor our servers with Nagios and each server runs the Nagios nrpe server.

Our config system for Nagios involves several Nrpe config files in /etc/nagios/nrpd.d/ and a config directive in nrpe.cfg pointing to this directory with:

include_dir=/etc/nagios/nrpe.d

I have found that while this directive works under Xen this does not work under openvz.

I've tested this by taking the filesystem back and forth between Xen and Openvz and it is definitely only a problem in Openvz.

Also, our VMs are running Debian.

Debian Etch does not exhibit this problem; only Debian Sarge.

I'm at a loss to explain this... it seems really wierd.

/proc/user_beancounters shows no failcnt for anything.

Surely I am missing something here? Any advice on debugging this would be appreciated.

Thanks

Subject: Re: strange problem with nagios nrpe server
Posted by Gregor Mosheh on Wed, 05 Dec 2007 20:28:39 GMT
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The good news is that I use Nagios with our VPSs, and it works brilliantly.

> include_dir=/etc/nagios/nrpe.d

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I find that surprising. Are you sure that the permissions didn't get
mangled when you copied it over to ovz? That's the first thing I'd
check: making sure that /etc/nagios/nrpe.d is in fact a directory, and
that's readable by the user who runs nrpe (user nagios?).

--
Gregor Mosheh / Greg Allensworth
System Administrator, HostGIS cartographic development & hosting services
http://www.HostGIS.com/

"Remember that no one cares if you can back up,
only if you can restore." - AMANDA

Subject: Re: strange problem with nagios nrpe server
Posted by Steve Wray on Wed, 05 Dec 2007 20:58:38 GMT
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Gregor Mosheh wrote:
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Believe me, thats the first thing I checked.

I've run nrpd under strace and see nothing out of the ordinary; it finds
the correct number of files in the nrpd.d directory. Not much of a whizz
with strace tho so don't know where to go from here.

Subject: Re: strange problem with nagios nrpe server
Posted by Steve Wray on Wed, 05 Dec 2007 21:45:27 GMT
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Just one other possible data point.

I may have just dismissed these problems as some kind of creeping

senility but I've seen some other bizarre issues with VMs migrated into OpenVZ.

One of these is to do with Samba filesharing.

When the VM is migrated into OpenVZ from Xen, samba fileshares on the VM can be accessed from Windows *only* by FQDN not by bare hostname.

Note that this broke *existing* mapped network drives for Windows users.

Also note that this did *not* affect Linux nor OSX clients; only Windows.

Since I've verified that this wierdness is *only* apparent when the VM was running under OpenVZ not under Xen I'm not inclined to believe that I am going insane when I find that NRPE under Debian Sarge has a problem when running under OpenVZ and not under Xen.

It starts to seem that OpenVZ can produce all *kinds* of unpredictable behavior... either that or I really am going mad complete with hallucinations :-/ Not discounting that possibility out of hand...

Steve Wray wrote:
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>
>
>
>

Subject: Re: strange problem with nagios nrpe server
Posted by dev on Thu, 06 Dec 2007 08:35:44 GMT
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Steve Wray wrote:
> Gregor Mosheh wrote:
>
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> the correct number of files in the nrpd.d directory. Not much of a whizz
> with strace tho so don't know where to go from here.

Can you take
strace -f -o somefile <nrpe>
from both working (Xen) and non-working (OVZ) installations?

Is it possible to get a login with exact instructions how to reproduce the issue
on your box? this would help to resolve it ASAP and make sure it's not a black magic :@)

Thanks,
Kirill

Subject: Re: strange problem with nagios nrpe server
Posted by Kirill Korotaev on Thu, 06 Dec 2007 09:06:48 GMT
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Steve Wray wrote:
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>
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> senility but I've seen some other bizarre issues with VMs migrated into
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> Also note that this did *not* affect Linux nor OSX clients; only Windows.
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> behavior... either that or I really am going mad complete with
> hallucinations :-/ Not discounting that possibility out of hand...

Oh, don't say so. Everything should have a logical explanation.
And I guess I know the answer to this one.

First of all, plz check that you don't have any kind of firewall
rules in host system and VE with 'iptables -L'.

But the real suspect is broadcast network messages from NetBIOS protocol.
Working FQDN means that host can be found via DNS and by IP.
Non-working short hostnames mean that your hosts are not setup
in default domain in DNS and that name resolution via netbios failed.

You need to connect your VE to ethX adapter using veth (virtual ethernet)
adapter and Linux bridge. This will allow use of network broadcasts.
The default venet networking is a secure IP-level networking which filters
out broadcasts.

http://wiki.openvz.org/Virtual_Ethernet_device
http://wiki.openvz.org/Differences_between_venet_and_veth
http://forum.openvz.org/index.php?t=msg&goto=7295&&srch=samba#msg_7295
http://en.wikipedia.org/wiki/NetBIOS

Forseeing your question about why venet is used as default networking type:
1. venet is more secure (see wiki).
2. venet is more scalable up to hundrends and thousands of VEs,
   while veth/ethernet/bridge broadcasts/multicasts will simply kill (DoS) the node
   in case of many VEs.

Thanks,
Kirill

Subject: Re: strange problem with nagios nrpe server
Posted by Kirill Korotaev on Thu, 06 Dec 2007 09:34:42 GMT
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BTW,

Do you use/have WINS server? it is usually used for names resolution
and can be used w/o broadcasts, so it should work even with your current
configuration.

http://www.oreilly.com/catalog/samba/chapter/book/ch07_03.html

Thanks,
Kirill

Kirill Korotaev wrote:
> Steve Wray wrote:
>
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>>
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>>senility but I've seen some other bizarre issues with VMs migrated into
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>
> Thanks,
> Kirill
>
>

Subject: Re: strange problem with nagios nrpe server
Posted by dev on Wed, 12 Dec 2007 08:57:05 GMT
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Just for the history/other users the resolution of the problem Steve had:

OpenVZ was installed on XFS, while Xen used ext3 file system.
XFS doesn't support filetype feature (d_type field returned by readdir()/getdents64()),
so d_type is always reported as DT_UNKNOWN.

nrpe application from Debian Sarge repository has a bug
(fixed in Etch?), so it didn't handle files with unknown types and thus
didn't saw config files.

Steve switched to ext3 file system and the problem has gone.

Thanks,
Kirill

Steve Wray wrote:
> Hi there,
> I just took some filesystems from servers which have been running under
> Xen for some time and converted them to openvz.
>
> I've found a very strange issue.
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> We monitor our servers with Nagios and each server runs the Nagios nrpe
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> Surely I am missing something here? Any advice on debugging this would
> be appreciated.
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> Thanks

Subject: Re: strange problem with nagios nrpe server
Posted by Gregor Mosheh on Wed, 12 Dec 2007 16:30:27 GMT
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Kirill Korotaev wrote:
> Just for the history/other users the resolution of the problem Steve had:
> OpenVZ was installed on XFS

WOW, good work Kirill. That must have been a gnarly one to figure out, I never even thought of the filesystem type combined with a bug in NRPE.

Hopefully, now Steve can join the ranks of us highly satisfied OpenVZ users.)

--
Gregor Mosheh / Greg Allensworth
System Administrator, HostGIS cartographic development & hosting services
http://www.HostGIS.com/

"Remember that no one cares if you can back up,
only if you can restore." - AMANDA

Subject: Re: strange problem with nagios nrpe server
Posted by lst_hoe01 on Wed, 12 Dec 2007 16:59:13 GMT
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Zitat von Gregor Mosheh <gregor@hostgis.com>:

> Kirill Korotaev wrote:
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> WOW, good work Kirill. That must have been a gnarly one to figure out,
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Sorry, have not listen close enough to this. Why is it a problem with XFS. The filesystem should not matter for applications running so it would be a XFS bug?

Regards

Andreas

Subject: Re: strange problem with nagios nrpe server
Posted by Steve Wray on Wed, 12 Dec 2007 20:38:03 GMT
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Listaccount wrote:
> Zitat von Gregor Mosheh <gregor@hostgis.com>:
>
>> Kirill Korotaev wrote:
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> Sorry, have not listen close enough to this. Why is it a problem with
> XFS. The filesystem should not matter for applications running so it
> would be a XFS bug?

I'd say it was an NRPE bug as NRPE (as in Debian Sarge) wasn't handling the value returned by the filesystem.

Hence, the NRPE option to read conf files from a directory didn't work; the directory listing returned no entries. So far as NRPE was concerned, the directory was empty.

Since later versions of NRPE appear to do so, I'd say it was a bug in NRPE.

When I was diagnosing the issue and comparing the Xen instances with VZ I forgot that the important part of the VZ system (where the 'private' and 'root' directories are) was under an XFS mount point rather than ext3.

Hence all my testing was, unwittingly, comparing OpenVZ VMs residing on XFS against Xen VMs residing on ext3.

This made my diagnosis somewhat less than useful until I created a whole new OpenVZ Debian Sarge VM in a fresh partition which was formatted with ext3.

When this one worked fine I started to look more closely and realised my blunder.

I have to say, I've used both Nagios and XFS for many many years and never has something like this occured.

Had I realised that the important directories were XFS I may have found this:

http://osdir.com/ml/network.nagios.devel/2004-05/msg00044.html

From 2004!!! Amazing this wasn't fixed in Debian Sarge really.

:(

Sorry to have wasted anyones time...

Subject: Re: strange problem with nagios nrpe server
Posted by porridge on Wed, 12 Dec 2007 21:56:50 GMT
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On Wed, Dec 12, 2007 at 05:59:13PM +0100, Listaccount wrote:
> Zitat von Gregor Mosheh <gregor@hostgis.com>:
>
> >Kirill Korotaev wrote:
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> XFS. The filesystem should not matter for applications running so it
> would be a XFS bug?

The application (nrpe) uses a non-portable feature of some filesystems
without paying attention whether a particualar filesystem actually
supported this feature. In this case, XFS happened not to support it,
which resulted in invalid behavior of the application.

To summarize: it's a bug in the application, but can be worked around by
using ext3.

--
Marcin Owsiany <marcin@owsiany.pl> http://marcin.owsiany.pl/
GnuPG: 1024D/60F41216 FE67 DA2D 0ACA FC5E 3F75 D6F6 3A0D 8AA0 60F4 1216

"Every program in development at MIT expands until it can read mail."
-- Unknown