
Subject: vzsplrit question

Posted by [Dietmar Maurer](#) on Tue, 04 Dec 2007 17:34:08 GMT

[View Forum Message](#) <> [Reply to Message](#)

Hi All,

I am confused about the values written by vzsplrit.

> vzsplrit -n 35

```
# Configuration file generated by vzsplrit for 35 VEs
# on HN with total amount of physical mem 1011 Mb
# low memory 883 Mb, swap size 4095 Mb, Max treads 8000
# Resourse commit level 0:
# Free resource distribution. Any parameters may be increased
# Primary parameters
NUMPROC="228:228"
AVNUMPROC="64:64"
NUMTCPSOCK="228:228"
NUMOTHERSOCK="228:228"
VMGUARPAGES="155312:2147483647"
...
```

Note: VMGUARPAGES=606MB (606MB * 35 = 21GB guaranteed RAM?!)

but for n=36 I get resaonable results:

> vzsplrit -n 36

```
...
# Primary parameters
NUMPROC="333:333"
AVNUMPROC="94:94"
NUMTCPSOCK="333:333"
NUMOTHERSOCK="333:333"
VMGUARPAGES="32947:2147483647"
..
```

Note: VMGUARPAGES=128MB (128MB * 36 = 4.5GB guaranteed RAM)

So whats wrong here?

- Dietmar

Version: vzctl version 3.0.18-1dso1 on Debian 4, kernel 2.6.22

Subject: Re: vzsplrit question
Posted by [vaverin](#) on Tue, 04 Dec 2007 19:33:43 GMT
[View Forum Message](#) <> [Reply to Message](#)

Hi Dietmar,

I would note that vmguarpages is not physical RAM guarantee, it limits virtual memory (i.e RAM + swap).

However your results really looks strange, and I'm going to investigate this issue tomorrow.

thank you,
Vasily Averin

Subject: AW: Re: vzsplrit question
Posted by [Dietmar Maurer](#) on Wed, 05 Dec 2007 05:24:27 GMT
[View Forum Message](#) <> [Reply to Message](#)

> I would note that vmguarpages is not physical RAM guarantee,
> it limits virtual memory (i.e RAM + swap).

yes, RAM + swap - but that is 5GB, not 21GB im my case!

> However your results really looks strange, and I'm going to
> investigate this issue tomorrow.

I also do not understand the value for CPUUNITS, which changes with the number of VMs. I though assigning a constant value would be enough - for example 1000.

- Dietmar

Subject: Re: AW: Re: vzsplrit question
Posted by [vaverin](#) on Wed, 05 Dec 2007 06:26:31 GMT
[View Forum Message](#) <> [Reply to Message](#)

Could you please send me (probably via PM) config example generated by vzsplrit -n 35?

btw, you can look at vzsplrit sources here:

<http://git.openvz.org/?p=vzctl;a=blob;f=src/vzsplrit.c;h=6d752023e3266d6eb72edf83357caa86267ee236;hb=HEAD>

CPULIMITS values is used to calculate VE's CPU guarantee, i.e fair share of CPU time. By using fair CPU scheduler OpenVZ kernel is able to guarantee that VE always get its share of CPU time. However if nobody uses CPU, VE can get more than guaranteed.

For example if you have 3 active VEs with equal CPUUNITS each of them should get 1/3 of CPU

power.

If one of VEs is idle not uses CPU, other ones will get 1/2 CPU per VE.

If only one VE eats CPU it can get up to 100% CPU power.

But if one of the sleeping VE will awake and will request CPU -- it will be sure that it will get its share of CPU power back.

Thank you,
Vasily Averin

Subject: AW: Re: AW: Re: vzsplrit question

Posted by [Dietmar Maurer](#) on Wed, 05 Dec 2007 06:37:57 GMT

[View Forum Message](#) <> [Reply to Message](#)

> Could you please send me (probably via PM) config example
> generated by vzsplrit -n 35?
>

done with PM

> btw, you can look at vzsplrit sources here:
> [http://git.openvz.org/?p=vzctl](http://git.openvz.org/?p=vzctl;a=blob;f=src/vzsplrit.c;h=6d752023e3266d6eb72edf83357caa86267ee236;hb=HEAD)
> ;a=blob;f=src/vzsplrit.c;h=6d752023e3266d6eb72edf83357caa8626
> 7ee236;hb=HEAD
>
> CPULIMITS values is used to calculate VE's CPU guarantee, i.e
> fair share of CPU time. By using fair CPU scheduler OpenVZ
> kernel is able to guarantee that VE always get its share of
> CPU time. However if nobody uses CPU, VE can get more than guaranteed.
> For example if you have 3 active VEs with equal CPUUNITS each
> of them should get 1/3 of CPU power.

Sure, so it is enough to assign all VEs the same value, for example:

CPUUNITS=1000

but vzsplrit generate value depending on 'n' - why ?

- Dietmar

Subject: Re: AW: Re: vzsplrit question

Posted by [vaverin](#) on Wed, 05 Dec 2007 06:38:39 GMT

[View Forum Message](#) <> [Reply to Message](#)

it looks like problem is here:

```
390     privvm = guarpg * k_privvm[sl];
391     if (privvm > PRIVVM_PVE * mem_total) {
392         privvm = PRIVVM_PVE * mem_total;
393         guarpg = privvm;
394     }
```

it is not recommended to assign privvm for VE more than 60% RAM.
But I do not understand why this limit should increase guarpages.
At least it looks incorrect.

Thank you for bugreport,
Vasily Averin

Subject: Re: AW: Re: AW: Re: vzsplit question
Posted by [vaverin](#) on Wed, 05 Dec 2007 08:05:05 GMT
[View Forum Message](#) <> [Reply to Message](#)

Dietmar Maurer wrote on Wed, 05 December 2007 09:37: Sure, so it is enough to assign all VEs the same value, for example:

CPUUNITS=1000

but vzsplit generate value depending on 'n' - why ?

If the node is not overcommitted CPULIMITS can be recalculated to MHz. Some users prefer to see CPU guarantee in MHz rather in abstract "shares of node's CPU".

You can find this formula in vzsplit sources.

thank you,
Vasily Averin
