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Subject: Re: Dstat plugin for OpenVZ CPU statistics

Posted by [dev](#) on Tue, 17 Oct 2006 16:04:33 GMT

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Dag,

I think the following statistics are helpful for OpenVZ:

- per VE UBC fail counters (failcnt in /proc/user\_beancounters).  
I would draw a delta between 2 screen updates and if it is non-zero draw it in red.
- per VE memory limit (kmemsize + privvmpages) and current usage (kmemsize + oomguarpages). Same, if kmemsize or privvmpages failcnt is increasing, then it can be drawn in red.
- per VE CPU usage. This one can be calculated from /proc/fairsched2 here are some details on this:  
<http://forum.openvz.org/index.php?t=tree&th=479&mid=2771&&rev=&reveal=>
- per VE and global CPU and memory latency.
  
- per VE disk I/O stats (stats not available yet).
- per VE network stats (there is no generic stats yet).

Thanks,  
Kirill

> Dag,

>

> Thank you! I actually use dstat on my Gentoo note.

>

> Speaking of counters, /proc/user\_beancounters is of interest to any

> OpenVZ user. Format is described at

> [http://wiki.openvz.org/proc/user\\_beancounters](http://wiki.openvz.org/proc/user_beancounters). "held" and "failcnt"

> columns are most "dynamic". You can use the values either directly, or

> make some consolidated figures based of formulae in wiki.

>

> Other thing that might be of interest is /proc/fairsched{,2}. These

> files are from OpenVZ Fair CPU scheduler. The only problem is looks like

> the format is not documented (well, not counting the source code).

>

> Also, Kirill Korotaev will give us some suggestions...

>

> Dag Wieers wrote:

>

>>Hi,

>>

>>I've just written a small dstat plugin to monitor CPU usage per VE. You

>>can find the plugin in the dstat subversion repository linked from:

>>

```

>> http://dag.wieers.com/home-made/dstat/
>>
>>Dstat is much like vmstat, but modular and versatile. So you can extend it
>>with whatever counters you want to visualize, next to other counters. This
>>helps to relate counters and find/troubleshoot bottlenecks.
>>
>>This plugin can help to find the most consuming VE, or visualize how VE's
>>are matching up to each other (and the system CPU usage).
>>
>>I don't know whether the nice-value in /proc/vz/vestat is ever used (maybe
>>I shouldn't add it in the list of counters).
>>
>>I also don't know what other information in /proc/vz would be interesting
>>to visualize (over a timeframe). I'm willing to add more plugins in dstat
>>for openvz if I know how to make more sense of the current counters (and
>>their usefulness). Feedback from developers welcome :)
>>
>>Visually it looks like this (without colors though):
>>
>>[root@itmphys01 dstat]# ./dstat -M cpu,vz -f 5
>>Module dstat_vz is still experimental.
>>-----cpu0-usage-----cpu1-usage----- --ve-301-usage----ve-302-usage-
>>usr sys idl wai hiq siq:usr sys idl wai hiq siq|usr sys idl nic:usr sys idl nic
>> 0 0 99 0 0 0: 0 0 99 1 0 0| 0 0 100 0: 0 0 100 0
>> 25 15 50 10 0 0: 1 1 76 22 0 1| 26 15 60 0: 0 0 100 0
>> 31 18 12 40 0 0: 2 2 70 25 0 1| 33 19 49 0: 0 0 100 0
>> 16 14 35 35 0 0: 0 1 53 46 0 0| 16 14 70 0: 0 0 100 0
>> 5 5 59 30 0 0: 16 28 30 26 0 0| 20 32 47 0: 0 0 100 0
>> 0 0 100 0 0 0: 3 5 88 5 0 0| 2 5 93 0: 0 0 100 0
>> 0 0 98 1 0 0: 0 0 99 1 0 0| 0 0 100 0: 0 0 100 0
>> 0 0 100 0 0 0: 0 0 98 1 0 0| 0 0 100 0: 0 0 100 0
>> 0 0 96 4 0 0: 0 3 97 0 0 0| 0 0 100 0: 0 0 100 0
>>
>>[root@itmphys01 dstat]# ./dstat -M cpu,vz -C total -f 5
>>Module dstat_vz is still experimental.
>>----total-cpu-usage---- --ve-301-usage----ve-302-usage-
>>usr sys idl wai hiq siq|usr sys idl nic:usr sys idl nic
>> 0 0 99 1 0 0| 0 0 100 0: 0 0 100 0
>> 0 0 97 2 0 0| 0 0 100 0: 0 0 100 0
>> 19 12 61 8 0 0| 37 23 40 0: 0 0 100 0
>> 12 8 41 38 0 0| 25 15 61 0: 0 0 100 0
>> 14 14 35 37 0 0| 28 26 46 0: 0 0 100 0
>> 4 10 84 3 0 0| 7 20 73 0: 0 0 100 0
>> 0 0 99 1 0 0| 0 0 100 0: 0 0 100 0
>> 0 0 99 1 0 0| 0 0 100 0: 0 0 100 0
>> 0 0 99 1 0 0| 0 0 100 0: 0 0 100 0
>> 0 0 100 0 0 0| 0 0 100 0: 0 0 100 0
>>

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>>All feedback welcomed.

>>

>>Kind regards,

>>-- dag wieers, dag@wieers.com, http://dag.wieers.com/ --

>>[all I want is a warm bed and a kind word and unlimited power]

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