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. "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 vizualise (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
>>

>>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]