Subject: Re: [RFC][only for review] memory controller bacground reclaim [0/5] (Does anyone have an idea abo
Posted by Balbir Singh on Thu, 29 Nov 2007 14:42:51 GMT
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KAMEZAWA Hiroyuki wrote:
> On Wed, 28 Nov 2007 17:49:23 +0900
> KAMEZAWA Hiroyuki <kamezawa.hiroyu@jp.fujitsu.com> wrote:
>
>> Hi, this set is for memory controller background reclaim.
>>
>> Merged YAMAMOTO-san's version onto 2.6.23-rc3-mm1 + my NUMA patch.
>> And splitted to several sets.
>>
>> Major changes from his one is
>> - use kthread instead of work_queue
>> - adjust high/low watermark when limit changes automatically
>>   and set default value. (a user can specify his own later.)
>>
> FYI rather than RFC.
>
> I wrote attached patch and run kernbench on 8CPU/2Node NUMA/ia64.
> It does make -j 32.
>
> Memory limitation was 800M. Low/High watermark here was 750M/780M.
>
> == These numbers are stable to some extent.==
> 2.6.24-rc3-mm2: (Limit: 800M)
> Average Optimal -j 32 Load Run:
> Elapsed Time 358.933----------(*)
> User Time 1069.63
> System Time 140.667
> Percent CPU 337.333
> Context Switches 220821
> Sleeps 196912
>
> 2.6.24-rc3-mm2 + throttle (Limit:800M)
> Average Optimal -j 32 Load Run:
> Elapsed Time 266.697----------(*)
> User Time 1105.39
> System Time 124.423
> Percent CPU 471.667
> Context Switches 251797
> Sleeps 231038
>
> 2.6.24-rc3-mm2 + throttle + High/Low watermark.
> (low:750M High:780M Limit:800M)
> Average Optimal -j 32 Load Run:

> Elapsed Time 266.844----------(*)
> User Time 1112.9
> System Time 112.273
> Percent CPU 473.667
> Context Switches 251795
> Sleeps 220339
> ==
>

Looks good to me, was there any impact on memory.failcnt?

> Seems throttling reclaim has some good effect (for kernbench).
> Does anyone have an idea for throttling reclaiming of memory controller ?
>

In the past I've run workloads of apache+geronimo+open trade, I've run
linear sequential memory access tests, kernbench, lmbench, database
benchmarks (DOTS, pgbench, etc). I think Lee Schermerhorn has a very
interesting setup (that I need to learn to replicate).

> Thanks,
> -Kame
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Warm Regards,
Balbir Singh
Linux Technology Center
IBM, ISTL

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