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Subject: Re: [PATCH 5/6 mm] memcggroup: fix zone isolation OOM

Posted by [Balbir Singh](#) on Mon, 12 Nov 2007 06:42:57 GMT

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Hugh Dickins wrote:

> mem\_cgroun\_charge\_common shows a tendency to OOM without good reason,  
> when a memhog goes well beyond its rss limit but with plenty of swap  
> available. Seen on x86 but not on PowerPC; seen when the next patch  
> omits swapcache from memcggroup, but we presume it can happen without.  
>  
> mem\_cgroun\_isolate\_pages is not quite satisfying reclaim's criteria  
> for OOM avoidance. Already it has to scan beyond the nr\_to\_scan limit  
> when it finds a !LRU page or an active page when handling inactive or  
> an inactive page when handling active. It needs to do exactly the same  
> when it finds a page from the wrong zone (the x86 tests had two zones,  
> the PowerPC tests had only one).  
>  
> Don't increment scan and then decrement it in these cases, just move  
> the incrementation down. Fix recent off-by-one when checking against  
> nr\_to\_scan. Cut out "Check if the meta page went away from under us",  
> presumably left over from early debugging: no amount of such checks  
> could save us if this list really were being updated without locking.  
>

It's a spill over from the old code, we do all operations under  
the mem\_cont's lru\_lock.

> This change does make the unlimited scan while holding two spinlocks  
> even worse - bad for latency and bad for containment; but that's a  
> separate issue which is better left to be fixed a little later.  
>  
> Signed-off-by: Hugh Dickins <[hugh@veritas.com](mailto:hugh@veritas.com)>

For the swapout test case scenario sent by Hugh

Tested-by: Balbir Singh <[balbir@linux.vnet.ibm.com](mailto:balbir@linux.vnet.ibm.com)>

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Warm Regards,  
Balbir Singh  
Linux Technology Center  
IBM, ISTL

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