
Subject: [RFC][mm] [2/2] Simple stats for memory resource controller

Posted by [Balaji Rao](#) on Wed, 26 Mar 2008 18:18:59 GMT

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This patch implements trivial statistics for the memory resource controller.

Signed-off-by: Balaji Rao <balajirao@gmail.com>

CC: Balbir Singh <balbir@linux.vnet.ibm.com>

CC: Dhaval Giani <dhaval@linux.vnet.ibm.com>

```
diff --git a/mm/memcontrol.c b/mm/memcontrol.c
index eb681a6..84f3fe5 100644
--- a/mm/memcontrol.c
+++ b/mm/memcontrol.c
@@ -45,6 +45,8 @@ enum mem_cgroup_stat_index {
    */
    MEM_CGROUP_STAT_CACHE, /* # of pages charged as cache */
    MEM_CGROUP_STAT_RSS, /* # of pages charged as rss */
+ MEM_CGROUP_STAT_PGIN_COUNT, /* # of pages paged in */
+ MEM_CGROUP_STAT_PGOUT_COUNT, /* # of pages paged out */

    MEM_CGROUP_STAT_NSTATS,
};
@@ -196,6 +198,13 @@ static void mem_cgroup_charge_statistics(struct mem_cgroup *mem,
int flags,
    __mem_cgroup_stat_add_safe(stat, MEM_CGROUP_STAT_CACHE, val);
    else
    __mem_cgroup_stat_add_safe(stat, MEM_CGROUP_STAT_RSS, val);
+
+ if (charge)
+ __mem_cgroup_stat_add_safe(stat,
+ MEM_CGROUP_STAT_PGIN_COUNT, 1);
+ else
+ __mem_cgroup_stat_add_safe(stat,
+ MEM_CGROUP_STAT_PGOUT_COUNT, 1);
}

static struct mem_cgroup_per_zone *
@@ -886,6 +895,8 @@ static const struct mem_cgroup_stat_desc {
} mem_cgroup_stat_desc[] = {
    [MEM_CGROUP_STAT_CACHE] = { "cache", PAGE_SIZE, },
    [MEM_CGROUP_STAT_RSS] = { "rss", PAGE_SIZE, },
+ [MEM_CGROUP_STAT_PGIN_COUNT] = { "page_in_count", 1, },
+ [MEM_CGROUP_STAT_PGOUT_COUNT] = { "page_out_count", 1, },
};

static int mem_control_stat_show(struct cgroup *cont, struct cftype *cft,
```

Containers mailing list
Containers@lists.linux-foundation.org
<https://lists.linux-foundation.org/mailman/listinfo/containers>

Subject: Re: [RFC][-mm] [2/2] Simple stats for memory resource controller
Posted by [Paul Menage](#) on Wed, 26 Mar 2008 18:52:21 GMT
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On Wed, Mar 26, 2008 at 11:18 AM, Balaji Rao <balajirao@gmail.com> wrote:

```
> [MEM_CGROUP_STAT_RSS] = { "rss", PAGE_SIZE, },  
> + [MEM_CGROUP_STAT_PGIN_COUNT] = {"page_in_count", 1, },  
> + [MEM_CGROUP_STAT_PGOUT_COUNT] = {"page_out_count", 1, },  
> };  
>
```

Should these be called "pgpgin" and "pgpgout" for consistency with /proc/vmstat?

Paul

Containers mailing list
Containers@lists.linux-foundation.org
<https://lists.linux-foundation.org/mailman/listinfo/containers>

Subject: Re: [RFC][-mm] [2/2] Simple stats for memory resource controller
Posted by [Balbir Singh](#) on Wed, 26 Mar 2008 18:53:36 GMT
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Paul Menage wrote:

> On Wed, Mar 26, 2008 at 11:18 AM, Balaji Rao <balajirao@gmail.com> wrote:

```
>> [MEM_CGROUP_STAT_RSS] = { "rss", PAGE_SIZE, },  
>> + [MEM_CGROUP_STAT_PGIN_COUNT] = {"page_in_count", 1, },  
>> + [MEM_CGROUP_STAT_PGOUT_COUNT] = {"page_out_count", 1, },  
>> };  
>>
```

> Should these be called "pgpgin" and "pgpgout" for consistency with /proc/vmstat?

>
> Paul

Yes, that is a good name. We also want to instantaneous metrics like
page_in_count per second and page_out_count per second to help the administrator
monitor what is going on within the tasks in the cgroup w.r.t. memory.

--

Warm Regards,
Balbir Singh
Linux Technology Center
IBM, ISTL

Containers mailing list
Containers@lists.linux-foundation.org
<https://lists.linux-foundation.org/mailman/listinfo/containers>

Subject: Re: [RFC][mm] [2/2] Simple stats for memory resource controller
Posted by [Balbir Singh](#) on Wed, 26 Mar 2008 18:54:42 GMT
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Balaji Rao wrote:

```
> This patch implements trivial statistics for the memory resource controller.
>
> Signed-off-by: Balaji Rao <balajirao@gmail.com>
> CC: Balbir Singh <balbir@linux.vnet.ibm.com>
> CC: Dhaval Giani <dhaval@linux.vnet.ibm.com>
>
>
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>
>  MEM_CGROUP_STAT_NSTATS,
> };
> @@ -196,6 +198,13 @@ static void mem_cgroup_charge_statistics(struct mem_cgroup *mem,
int flags,
>  __mem_cgroup_stat_add_safe(stat, MEM_CGROUP_STAT_CACHE, val);
>  else
>  __mem_cgroup_stat_add_safe(stat, MEM_CGROUP_STAT_RSS, val);
> +
> + if (charge)
> +  __mem_cgroup_stat_add_safe(stat,
> +  MEM_CGROUP_STAT_PGIN_COUNT, 1);
> + else
> +  __mem_cgroup_stat_add_safe(stat,
> +  MEM_CGROUP_STAT_PGOUT_COUNT, 1);
```

```
> }  
>  
> static struct mem_cgroup_per_zone *  
> @@ -886,6 +895,8 @@ static const struct mem_cgroup_stat_desc {  
> } mem_cgroup_stat_desc[] = {  
> [MEM_CGROUP_STAT_CACHE] = { "cache", PAGE_SIZE, },  
> [MEM_CGROUP_STAT_RSS] = { "rss", PAGE_SIZE, },  
> + [MEM_CGROUP_STAT_PGIN_COUNT] = {"page_in_count", 1, },  
> + [MEM_CGROUP_STAT_PGOUT_COUNT] = {"page_out_count", 1, },  
> };  
>  
> static int mem_control_stat_show(struct cgroup *cont, struct cftype *cft,
```

Looks simple and nice. Please see Paul's mail on the suggested name change as well

Acked-by: Balbir Singh <balbir@linux.vnet.ibm.com>

--

Warm Regards,
Balbir Singh
Linux Technology Center
IBM, ISTL

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