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Subject: Re: [RFC][-mm] Simple stats for cpu resource controller v4

Posted by [Li Zefan](#) on Mon, 12 May 2008 02:54:45 GMT

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Balaji Rao wrote:

```
> /*
> @@ -3892,8 +3923,17 @@ void account_system_time(struct task_struct *p, int hardirq_offset,
>   cpustat->irq = cputime64_add(cpustat->irq, tmp);
>   else if (softirq_count())
>   cpustat->softirq = cputime64_add(cpustat->softirq, tmp);
> - else if (p != rq->idle)
> + else if (p != rq->idle) {
>   cpustat->system = cputime64_add(cpustat->system, tmp);
> + #ifdef CONFIG_CGROUP_SCHED
> + {
> +   struct task_group *tg;
> +   tg = task_group(p);
> +   __cpu_cgroup_stat_add(tg->stat, CPU_CGROUP_STAT_STIME,
> +   cputime_to_msecs(cputime));
> + }
> + }
```

You should put this '}' after '#endif'

```
> + #endif
>   else if (atomic_read(&rq->nr_iowait) > 0)
>   cpustat->iowait = cputime64_add(cpustat->iowait, tmp);
>   else
> @@ -8179,10 +8219,26 @@ static inline struct task_group *cgroup_tg(struct cgroup *cgrp)
>   struct task_group, css);
> }
>
> + static void cpu_cgroup_initialize(int early)
> + {
> +   int i;
> +   struct cpu_cgroup_stat *stat;
> +
> +   if (!early) {
> +     stat = kmalloc(sizeof(struct cpu_cgroup_stat)
> +     , GFP_KERNEL);
> +     for (i = 0; i < CPU_CGROUP_STAT_NSTATS; i++)
> +       percpu_counter_init(
> +       &stat->cpustat[i], 0);
> +     init_task_group.stat = stat;
> +   }
> + }
> +
>   static struct cgroup_subsys_state *
```

```

> cpu_cgroup_create(struct cgroup_subsys *ss, struct cgroup *cgrp)
> {
>   struct task_group *tg;
>   + int i;
>
>   if (!cgrp->parent) {
>     /* This is early initialization for the top cgroup */
>     @@ -8198,6 +8254,10 @@ cpu_cgroup_create(struct cgroup_subsys *ss, struct cgroup *cgrp)
>     if (IS_ERR(tg))
>       return ERR_PTR(-ENOMEM);
>
>   + tg->stat = kmalloc(sizeof(struct cpu_cgroup_stat), GFP_KERNEL);
>   + for (i = 0; i < CPU_CGROUP_STAT_NSTATS; i++)
>     percpu_counter_init(&tg->stat->cpustat[i], 0);
>   +

```

I guess you forgot to free those things in `cpu_cgroup_destroy()`.

```

> /* Bind the cgroup to task_group object we just created */
> tg->css.cgroup = cgrp;
>
> @@ -8251,6 +8311,38 @@ static u64 cpu_shares_read_u64(struct cgroup *cgrp, struct cftype
> *cft)
> }
> #endif
>
> +static s64 cpu_cgroup_read_stat(struct cpu_cgroup_stat *stat,
> + enum cpu_cgroup_stat_index idx)
> +{
>   + if (stat)
>     return percpu_counter_read(&stat->cpustat[idx]);
>   +
>   + return 0;
>   +}
>   +
>   +static const struct cpu_cgroup_stat_desc {
>   + const char *msg;
>   + u64 unit;
>   +} cpu_cgroup_stat_desc[] = {
>   + [CPU_CGROUP_STAT_UTIME] = { "utime", 1, },
>   + [CPU_CGROUP_STAT_STIME] = { "stime", 1, },
>   +};
>   +
>   +static int cpu_cgroup_stats_show(struct cgroup *cgrp, struct cftype *cft,
>   + struct cgroup_map_cb *cb)
>   +{
>   + struct task_group *tg = cgroup_tg(cgrp);
>   + struct cpu_cgroup_stat *stat = tg->stat;

```

```

> + int i;
> + for (i = 0; i < CPU_CGROUP_STAT_NSTATS; i++) {
> +     s64 val;
> +     val = cpu_cgroup_read_stat(stat, i);
> +     val *= cpu_cgroup_stat_desc[i].unit;
> +     cb->fill(cb, cpu_cgroup_stat_desc[i].msg, val);
> + }
> + return 0;
> +}
> +
> #ifdef CONFIG_RT_GROUP_SCHED
> static ssize_t cpu_rt_runtime_write(struct cgroup *cgrp, struct cftype *cft,
>     s64 val)
> @@ -8295,6 +8387,10 @@ static struct cftype cpu_files[] = {
>     .write_u64 = cpu_rt_period_write_uint,
> },
> #endif
> +{
> +     .name = "stat",
> +     .read_map = cpu_cgroup_stats_show,
> + },
> };
>
> static int cpu_cgroup_populate(struct cgroup_subsys *ss, struct cgroup *cont)
> @@ -8304,6 +8400,7 @@ static int cpu_cgroup_populate(struct cgroup_subsys *ss, struct
cgroup *cont)
>
> struct cgroup_subsys cpu_cgroup_subsys = {
>     .name = "cpu",
> + .initialize = cpu_cgroup_initialize,
>     .create = cpu_cgroup_create,
>     .destroy = cpu_cgroup_destroy,
>     .can_attach = cpu_cgroup_can_attach,
> --

```

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