Subject: Re: [PATCH 4/16] Change data structures for pid namespaces
Posted by Cedric Le Goater on Mon, 09 Jul 2007 20:25:41 GMT
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Pavel Emelianov wrote:
> struct pid_namespace will have the kmem_cache to allocate
> the pids from, the parent, as they are hierarchical, and
> the level of nesting value.
>
> struct pid will have a variable length array of pid_number-s
> one for each namespace this pid lives in. The level value
> shows the level of the namespace this pid lives in and thus -
> the number of elements in the numbers array.
>
> Signed-off-by: Pavel Emelianov <xemul@openvz.org>
>
> ---
>
>  include/linux/init_task.h  |  6 ++++++
>  include/linux/pid.h  |  9 +++++++++
>  include/linux/pid_namespace.h |  3 +++
>  kernel/pid.c  |  3 ++-
>  4 files changed, 20 insertions(+), 1 deletion(-)
>
> diff -upr linux-2.6.22-rc4-mm2.orig/include/linux/pid.h linux-2.6.22-rc4-mm2-2/include/linux/pid.h
> --- linux-2.6.22-rc4-mm2.orig/include/linux/pid.h 2007-06-14 12:14:29.000000000 +0400
> +++ linux-2.6.22-rc4-mm2-2/include/linux/pid.h 2007-07-04 19:00:38.000000000 +0400
> @@ -40,6 +40,13 @@ enum pid_type
>  * processes.
>  */
>
> +struct pid_number {
> + /* Try to keep pid_chain in the same cacheline as nr for find_pid */
> + int nr;
> + struct pid_namespace *ns;
> + struct hlist_node pid_chain;
> +};
> +
>  struct pid
>  {
>  atomic_t count;
> @@ -40,6 +40,8 @@ enum pid_type
>  /* lists of tasks that use this pid */
>  struct hlist_head tasks[PIDTYPE_MAX];
>  struct rcu_head rcu;
> + int level;
> + struct pid_number numbers[1];
>  };

>
> extern struct pid init_struct_pid;
> diff -upr linux-2.6.22-rc4-mm2.orig/include/linux/pid_namespace.h
linux-2.6.22-rc4-mm2-2/include/linux/pid_namespace.h
> --- linux-2.6.22-rc4-mm2.orig/include/linux/pid_namespace.h 2007-06-14 12:14:29.000000000
+0400
> +++ linux-2.6.22-rc4-mm2-2/include/linux/pid_namespace.h 2007-07-04 19:00:39.000000000
+0400
> @@ -16,7 +15,10 @@ struct pidmap {
> struct kref kref;
> struct pidmap pidmap[PIDMAP_ENTRIES];
> int last_pid;
> + int level;
> struct task_struct *child_reaper;
> + struct kmem_cache *pid_cachep;

so, that looks like a good idea to have the cache in the pidmap. could you
push that independently to see how it all fits together ?

thanks,

C.

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