Subject: Re: [RFC][PATCH 0/4] Object creation with a specified id

Posted by Oren Laadan on Thu, 13 Mar 2008 23:16:07 GMT

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Nadia.Derbey@bull.net wrote:
> A couple of weeks ago, a discussion has started after Pierre's proposal for
> a new syscall to change an ipc id (see thread
> http://lkml.org/lkml/2008/1/29/209).
>
>
> Oren's suggestion was to force an object's id during its creation, rather
> than 1. create it, 2. change its id.
>
> So here is an implementation of what Oren has suggested.
>
> 2 new files are defined under /proc/self:
>   . next_ipcid --> next id to use for ipc object creation
>   . next_pids --> next upid nr(s) to use for next task to be forked
>   (see patch #2 for more details).

Generally looks good. One meta-comment, though:

I wonder why you use separate files for separate resources, and why you'd
want to write multiple identifiers in one go; it seems to complicate the
code and interface with minimal gain.
In practice, a process will only do either one or the other, so a single
file is enough (e.g. "next_id").
Also, writing a single value at a time followed by the syscall is enough;
it's definitely not a performance issue to have multiple calls.
We assume the user/caller knows what she's doing, so no need to classify
the identifier (that is, tell the kernel it's a pid, or an ipc id) ahead
of time. The caller simply writes a value and then calls the relevant
syscall, or otherwise the results may not be what she expected...
If such context is expected to be required (although I don't see any at
the moment), we can require that the user write "TYPE VALUE" pair to
the "next_id" file.

>
> When one of these files (or both of them) is filled, a structure pointed to
> by the calling task struct is filled with these ids.
>
> Then, when the object is created, the id(s) present in that structure are
> used, instead of the default ones.
>
> The patches are against 2.6.25-rc3-mm1, in the following order:
>
> [PATCH 1/4] adds the procfs facility for next ipc to be created.
> [PATCH 2/4] adds the procfs facility for next task to be forked.

> [PATCH 3/4] makes use of the specified id (if any) to allocate the new IPC
>   object (changes the ipc_addid() path).
> [PATCH 4/4] uses the specified id(s) (if any) to set the upid nr(s) for a newly
>   allocated process (changes the alloc_pid()/alloc_pidmap() paths).
>
> Any comment and/or suggestions are welcome.
>
> Cc-ing Pavel and Sukadev, since they are the pid namespace authors.
>
> Regards,
> Nadia
>
> --
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> --

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