Subject: Re: [PATCH v7 09/10] IPC: message queue copy feature introduced Posted by Stanislav Kinsbursky on Thu, 18 Oct 2012 11:02:32 GMT

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- > On Thu, Oct 18, 2012 at 12:23 PM, Stanislav Kinsbursky
- > <skinsbursky@parallels.com> wrote:
- >> This patch is required for checkpoint/restore in userspace.
- >> IOW, c/r requires some way to get all pending IPC messages without deleting
- >> them from the queue (checkpoint can fail and in this case tasks will be resumed,
- >> so queue have to be valid).
- >> To achive this, new operation flag MSG_COPY for sys_msgrcv() system call was
- >> introduced. If this flag was specified, then mtype is interpreted as number of
- >> the message to copy.
- >> If MSG_COPY is set, then kernel will allocate dummy message with passed size,
- >> and then use new copy_msg() helper function to copy desired message (instead of
- >> unlinking it from the gueue).

>>

- >> Notes:
- >> 1) Return -ENOSYS if MSG_COPY is specified, but CONFIG_CHECKPOINT_RESTORE is
- >> not set.

>

> Stanislav,

- > A naive question, because I have not followed C/R closely. How do you
- > deal with the case that other processes may be reading from the queue?
- > (Or is that disabled during checkpointing?)

To be honest, in this case behaviour in user-space is unpredictable.

I.e. if you have, for example, 5 messages in gueue and going to peek them all, and another process is reading the queue in the same time, then, most probably, you won't peek all the 5 and receive ENOMSG.

But this case can be easily handled by user-space application (number of messages in queue can be discovered before peeking).

Note, that in CRIU IPC resources will be collected when all processes to migrate are frozen.

> Thanks,

>

> Michael

Best regards,

Stanislav Kinsbursky