Subject: [RFC][PATCH 0/4] Container Freezer
Posted by Cedric Le Goater on Wed, 20 Jun 2007 15:07:59 GMT
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This patchset is a prototype using the container infrastructure and
the swsusp freezer to freeze a group of tasks.

2 files are defined by the freezer subsystem in the container
filesystem :

* "freezer.freeze"

  writing 1 will freeze all tasks and 0 unfreeze
  reading will return the status of the freezer

* "freezer.kill"

  writing <n> will send signal number <n> to all tasks

* Usage :

```
# mkdir /containers/freezer
# mount -t container -ofreezer freezer  /containers/freezer
# mkdir /containers/freezer/0
# echo $some_pid > /containers/freezer/0/tasks
```

to get status of the freezer subsystem :

```
# cat /containers/freezer/0/freezer.freeze
RUNNING
```

to freeze all tasks in the container :

```
# echo 1 > /containers/freezer/0/freezer.freeze
# cat /containers/freezer/0/freezer.freeze
FREEZING
# cat /containers/freezer/0/freezer.freeze
FROZEN
```

to unfreeze all tasks in the container :

```
# echo 1 > /containers/freezer/0/freezer.freeze
# cat /containers/freezer/0/freezer.freeze
RUNNING
```

to kill all tasks in the container :

```
# echo 9 > /containers/freezer/0/freezer.kill
```

* Caveats:

- the FROZEN status is calculated and changed when the container file "freezer.freeze" is read.
- frozen containers will be unfreeze when a system is resumed after a suspend. This is addressed by the last patch.

* Series

The first patches make the freezer available to all architectures before implementing the freezer subsystem.

- add the TIF_FREEZE flag to all archs
- make refrigerator() available to all archs
- implement freezer subsystem
- do not unfreeze a frozen container when the system is resumed

Comments are welcome.

Thanks,

C.

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