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Subject: [RFC][PATCH 0/15] Pid namespaces

Posted by [Pavel Emelianov](#) on Thu, 26 Jul 2007 14:45:15 GMT

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(Comment is taken from Sukadev's patchset-v3)

A pid namespace is a "view" of a particular set of tasks on the system. They work in a similar way to filesystem namespaces. A file (or a process) can be accessed in multiple namespaces, but it may have a different name in each. In a filesystem, this name might be /etc/passwd in one namespace, but /chroot/etc/passwd in another.

For processes, a process may have pid 1234 in one namespace, but be pid 1 in another. This allows new pid namespaces to have basically arbitrary pids, and not have to worry about what pids exist in other namespaces. This is essential for checkpoint/restart where a restarted process's pid might collide with an existing process on the system's pid.

In this particular implementation, pid namespaces have a parent-child relationship, just like processes. A process in a pid namespace may see all of the processes in the same namespace, as well as all of the processes in all of the namespaces which are children of its namespace. Processes may not, however, see others which are in their parent's namespace, but not in their own. The same goes for sibling namespaces.

This set is based on my patches, I sent before, but it includes some comments and patches that I received from Sukadev. Sukadev, please, add your Acked-by, Signed-off-by or From, to patches you want (everybody is also welcome :) ).

The set is based on 2.6.23-rc1-mm1, which already has some preparation patches for pid namespaces. After the review and fixing all the comments, this set will be benchmarked and sent to Andrew for inclusion in -mm tree.

Signed-off-by: Pavel Emelyanov <xemul@openvz.org>

Signed-off-by: Sukadev Bhattiprolu <sukadev@us.ibm.com>

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