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Subject: Re: [PATCH 0/9] namespaces: Introduction  
Posted by [ebiederm](#) on Sun, 21 May 2006 00:48:25 GMT  
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Dave Hansen <haveblue@us.ibm.com> writes:

> On Fri, 2006-05-19 at 08:13 -0700, Andrew Morton wrote:  
>> snapshot/restart/migration worry me. If they require complete  
>> serialisation of complex kernel data structures then we have a problem,  
>> because it means that any time anyone changes such a structure they need to  
>> update (and test) the serialisation.  
>  
> The idea of actually serializing kernel data structures keeps me up at  
> night. This is especially true when we already have some method of  
> exporting these structures to userspace.

Serialization of kernel data structures is a thorny issue, that we are far enough away from that we don't need to tackle just yet. I do consider it a failure to export/import things properly if you need to use the same kernel version.

For the short term all that is interesting from a checkpoint/restart/migration perspective is that you can have multiple instances of global identifiers, pids, sysvipc ids, etc.

> However, the proc-maps/mmap approach would require new interfaces to be  
> implemented. There are plenty of attributes not currently readily  
> visible to userspace like VM\_NONLINEAR, or resources which are normally  
> inaccessible to userspace like deleted files. Those would need extended  
> user/kernel interfaces.

Deleted files are accessible through /proc/<pid>/fd.

Eric

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