
Subject: Re: OLS paper topics
Posted by [kir](#) on Fri, 25 Jan 2008 00:13:35 GMT
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Serge E. Hallyn wrote:

> Quoting Kir Kolyshkin (kir@openvz.org):

>

>> Serge E. Hallyn wrote:

>>

>>> Hi,

>>>

>>> here is a list of topics which I believe people are interested in
>>> writing papers on. I'm listing names of those who I think are
>>> interested in writing them. Sorry if I leave anyone off of a topic
>>> they're interested in. However it seems to me it would be best if we
>>> can agree on one person or two people to drive each topic, so everyone
>>> doesn't sit around expecting someone else to submit the abstract.

>>>

>>> Am I missing any?

>>>

>>> mini-summit:

>>> I will submit for a 1-day mini-summit. Some interesting
>>> remaining topics for the mini-summit would include device
>>> namespaces, ttys and syslog, and lots of checkpoint/restart.

>>>

>>>

>> That's right, obviously the title of the mini-summit would be something
>> like "Linux Kernel Containers".

>>

>

> Attached is what I currently had for a proposal to send to the OLS
> committee. (Please feel free to edit and add to the wiki)

>

Looks really good from the first glance.

I put it to wiki as

http://wiki.openvz.org/Containers/Mini-summit_2008/Proposal and hope we
will take a closer look tomorrow (as it's 3am here now:)).

> I just took guesses at moderator names because the OLS CFP asks for
> them. If someone else (Kir? Cedric?) wants to moderate the namespaces
> part that's fine with me.

>

>

>>> Does anyone think we don't need one of these at ols? Or that
>>> we do?

>>>

>>> Is anyone interested in organizing the summit - coming out
>>> with an agenda, sending out announcements, etc - either
>>> alone or with my help?
>>>
>>>
>> Guess I can help a bit with organizing this. To that effort, I have put
>> up a wiki page:
>> http://wiki.openvz.org/Containers/Mini-summit_2008
>>
>
> Cool, thanks.
>
>
>> We also need to have some kind of a list of attendees. So far I came
>> with 12 names listed on that page, please feel free to edit/add more.
>>
>>> pidns: (Pavel and Suka)
>>> I've heard it called a tutorial, though I think some of the
>>> technical details are interesting in and of themselves. Its
>>> also an important area to make sure other developers - i.e
>>> people working with flocks or kthreads - understand.
>>>
>>>
>> This is the proposal Pavel filed today, it is editable so we can improve
>> it, please send your suggestion/fixes.
>>
>>
>>> PID namespaces in the Linux kernel
>>>
>>> PID namespaces is a relatively new Linux kernel feature merged in
>>>
>
> Hmm... "PID namespaces are a relatively new Linux kernel feature"
> sounds more normal. Though I'm not sure which is more "correct"
>
Thanks! Fixed.
>
>>> 2.6.24 kernel. It is a "view" of a particular set of tasks on the
>>> system. PID namespaces work in a similar way to filesystem namespaces:
>>> a process can be accessed in multiple namespaces, but it may have a
>>> different name in each. It is one of the building blocks for
>>> containers virtualization, and a prerequisite for
>>> checkpointing/restart and live migration.
>>>
>>> The paper outlines some implementation details, explains user space
>>> constraints that may seem odd, and discusses the impact of the feature
>>> on the kernel APIs.
>>>

>>> In collaboration with Sukadev Bhattiprolu, IBM.

>>>

>

> Looks good to me.

>

Great, thanks!

>

>>

>>> netns: denis driving, daniel, benjamin

>>>

>>>

>> Right, Den Lunev, Daniel Lezcano, Pavel Emelyanov and Benjamin Thery.

>> Den already filed a proposal for a paper/talk, here is how it looks

>> like. Again, it is editable, so send your improvements.

>>

>>

>>> Network namespace for Linux

>>>

>>> The paper outlines the effort to implement a network virtualization in

>>> the Linux kernel. This is a part of on-going effort to bring the

>>> containers functionality into Linux. A container is an isolated

>>> user-space partition, which performs like a stand-alone server, with

>>> multiple containers co-existing on a single Linux box. Containers can

>>> be used for resource management, network security and in

>>> high-performance computing.

>>>

>>> Making several instances of the Linux network stack, based on the

>>> namespace concept, is a big challenge, but it is required to build a

>>> full featured container. We will show how to configure and use a new

>>> instance of the network stack, how the feature is architected and

>>> implemented, and what is the current state of the art.

>>>

>>> In collaboration with Daniel Lezcano, IBM, Benjamin Thery, Bull, and

>>> Pavel Emelyanov, OpenVZ.

>>>

>>>>

>>>>

>>> namespaces status: Pavel and Cedric

>>> There was no ns status update last year it may be of

>>> interest. Instead of a separate pidns paper, pidns could

>>> also be mentioned here.

>>>

>>>

>> What if we organise a BoF, outlining the current status and future

>> directions. Something like "Linux Kernel Containers development status"

>> or some better title. I'd say "Containers" here instead of "Namespaces"

>> (or use "Containers/Namespace") because containers is easier term from
>> my PoV.
>>
>
> That has a different effect. A BoF would also be good, but if there are
> parts about the direction with namespaces about which we want some
> guidance from the community (which I think there are - sysfs, namespace
> entering, checkpoint/restart in general) then we may get more people at
> a paper talk than a bof. A Bof will basically get people particularly
> interested in either using or developing the feature.
>

Makes sense indeed.

My primary concern about talk vs. BoF was/is -- do we have enough
quality material/content to write a "minimum of 6 pages and a maximum of
15 pages (properly formatted)" paper which is required for a talk (but
not for a BoF). Well, a lot has happened since last year, maybe enough
for a paper.

>
>>> namespace entering: Cedric and serge?
>>> This *probably* isn't enough for a full paper. So it could
>>> go under namespace status paper. But there is quite a bit
>>> to say just by listing the existing proposed solutions (at
>>> least 4 I can think of offhand) and their shortcomings.
>>>
>>> memory c/r: Dave Hansen, serge interested
>>> I suspect many people on this list have their own ideas on
>>> how to go about the checkpoint and restart. I suppose they
>>> could each write their own paper, or work together on a single
>>> combined paper laying out the possibilities
>>>
>> Actually we already followed that way -- Andrey Mirkin has filed a
>> paper/talk proposal today, titled "Containers checkpointing and live
>> migration". Guess Dave (and/or Oren Laadan, and/or Cedric, maybe
>> somebody else as well) could come with their own talks/papers as well.
>>
>> Still can't make up my mind if we need a BoF on the subject or not.
>>
>
> I figure at least a third of the mini-summit will be c/r. Separate
> papers may actually be the way to go, so long as each paper presents a
> different approach. OLS could put them all together in one block. Then
> at a BoF or a beer bof, after all have been presented and everyone has
> heard all the arguments, we can discuss the way to go forward.
>

Sounds like a plan, especially the beer part ;)

>

>>> user namespace approaches: serge

>>>

>>> cgroups and containers: Paul Menage driving?, Balbir?

>>> A cgroups update could either be its own paper or joined

>>> with the namespaces status paper.

>>>

>>> Paul were you considering a separate paper to discuss

>>> the cgroups and namespace management as laid out in

>>> your Sep 03 2007 email "Thoughts on Namespace / Subsystem

>>> unification"?

>>>

>>>

>> Not too much stuff about resource management, i.e. user memory

>> controller, kernel memory controller, other per-namespace limits etc. Or

>> is it all covered by cgroups? Or it's not what we are currently targeting?

>>

>

> I was figuring that each of those cgroups wouldn't have enough material

> for a paper and yes i figured one cgroup paper would be about the

> various cgroups. But I'm pretty far out of touch with that work so

> could be completely off base. The 'ns/cgroup

> unification'/administration topic is the one that interests me the most

> out of that block :)

>

> thanks,

> -serge

>

Containers mailing list

Containers@lists.linux-foundation.org

<https://lists.linux-foundation.org/mailman/listinfo/containers>
