# Namespaces in Linux

Another tool in the toolbox



#### Default state

Only one namespace for everything:

- networking (devices, routing ..)
- processes (pids)
- filesystems



### It slices, it dices!

A new namespace is born with a new process. clone() systemcall.

Splitting the default namespace



# It slices, it dices, it chops!

A new namespace is born with a new process. clone() systemcall.

pid 27634 clone(CLONE\_NEWPID) => pid 1 (pid 27635)



Creating a new pid namespace.

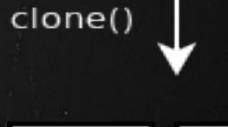


# It slices, it dices, it chops -- but wait, there's more!

A new namespace is born with a new process. clone() systemcall.

pid 27634 clone(CLONE\_NEWNET) => pid 1 (pid 27635)





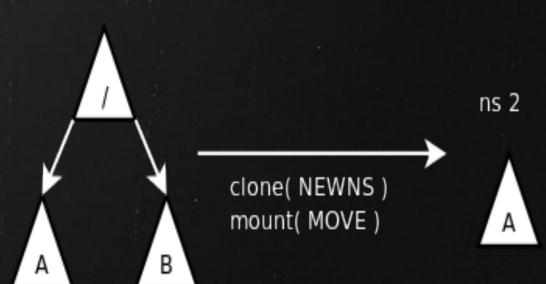


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### It slices, it dices!

A new namespace is born with a new process. clone() systemcall.

pid 27634 clone(CLONE\_NEWNS) => pid 27635

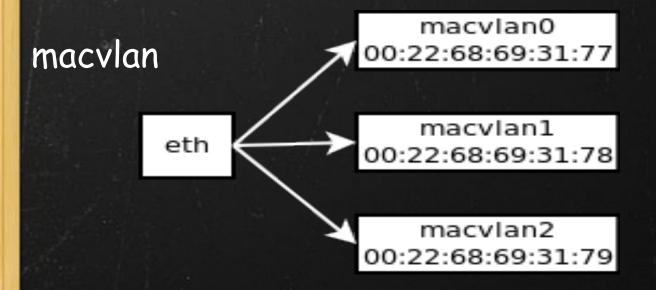


ns 1

### Special devices

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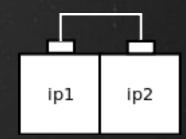




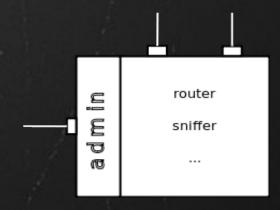
### What is it good for?

Testing.

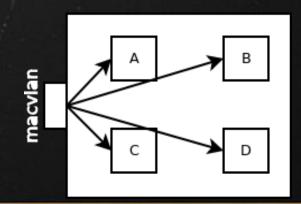
• Isolation.



Separate administrative part from operations part.



Containers.



# What is it good for?

- Intricate problems.
  When your usual tools don't suffice.
- Resource control.
  control groups etc
- Education."virtual" router.
- Shared hardware, separate routing domains.