

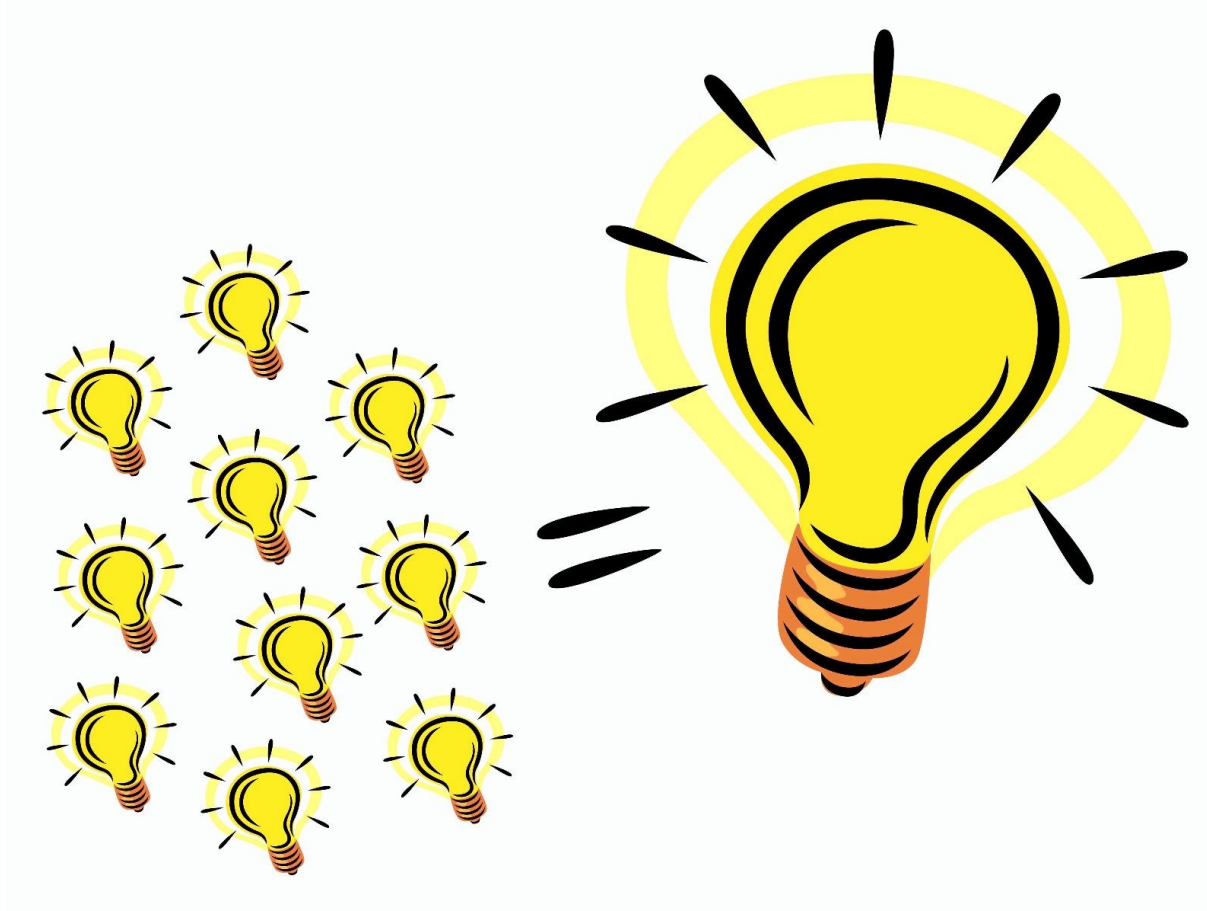
no more boot loader: please use the kernel instead

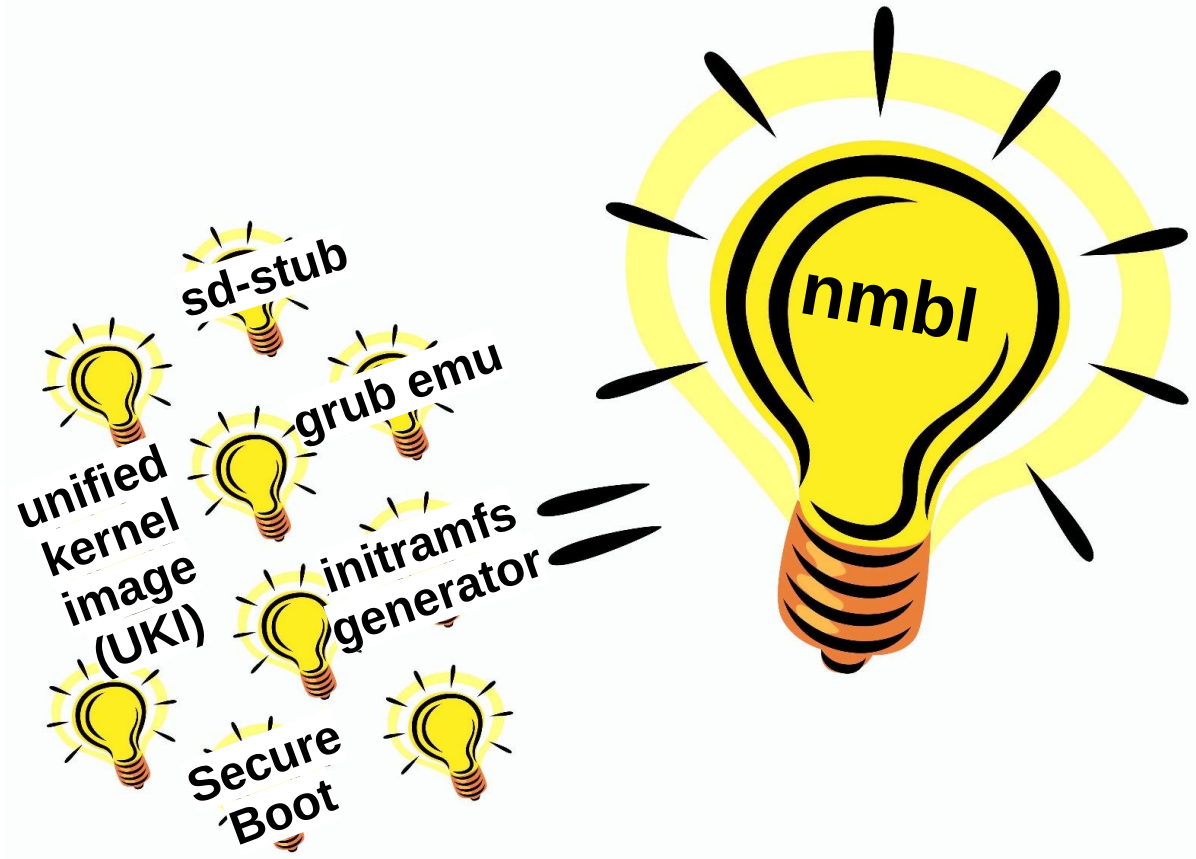
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what is nmb1?

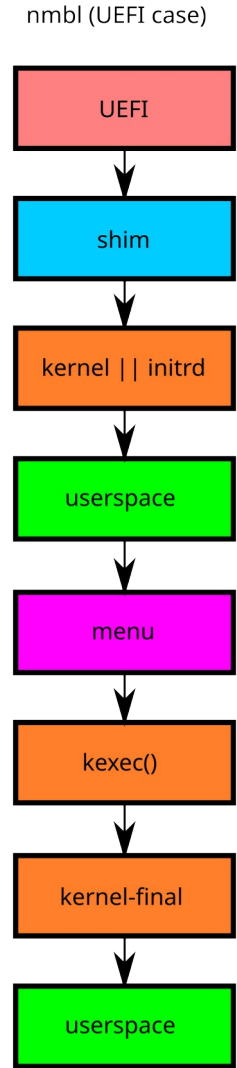
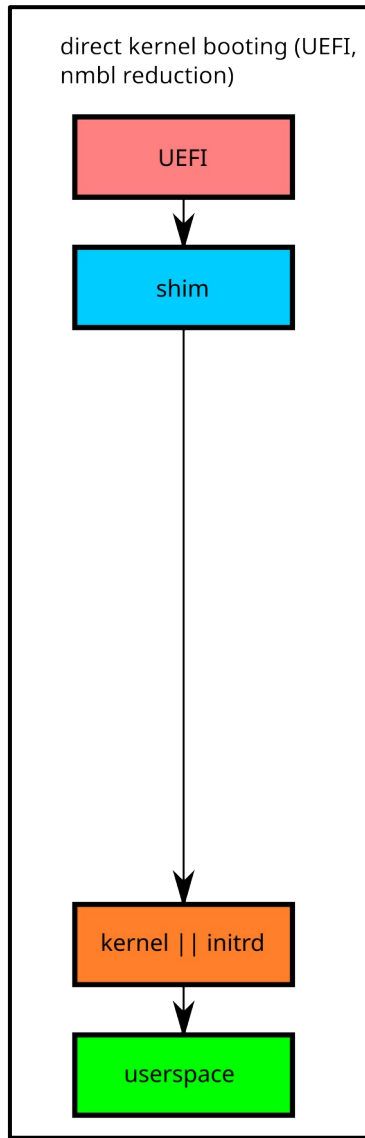
kernel
kernel command line
initramfs
efi stub +

unified kernel image



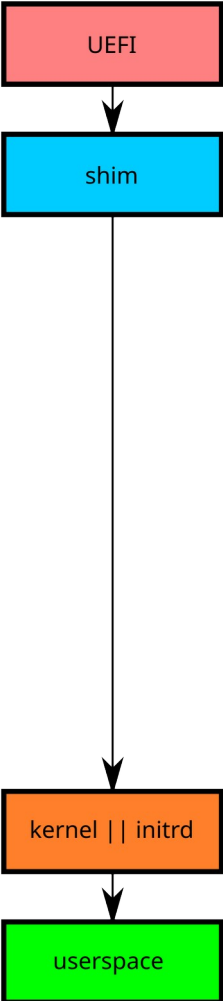


switch root

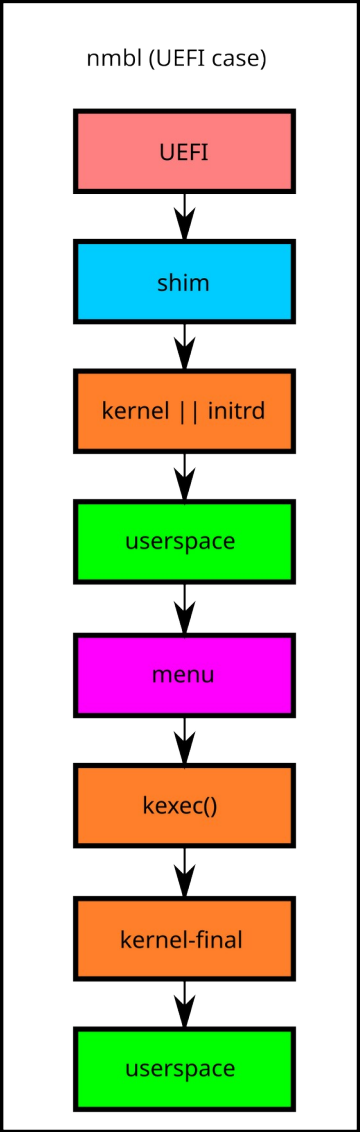


kexec

direct kernel booting (UEFI, nmb1 reduction)



nmb1 (UEFI case)



why are we doing this?

→ **replace GRUB**

→ replace GRUB

→ **deliver features more quickly & decrease maintenance burden**

→ replace GRUB

→ deliver features more quickly & decrease maintenance burden

→ **increase security & security scrutiny**

→ replace GRUB

→ deliver features more quickly & decrease maintenance burden

→ increase security & security scrutiny

→ **decrease boot time**

what about the command line?

shim hive



shim hive

key1

value1

key2

value2



Boot0001

switch-root

HD(1,GPT,...)/
File(\EFI\fedora\
shimx64.efi)

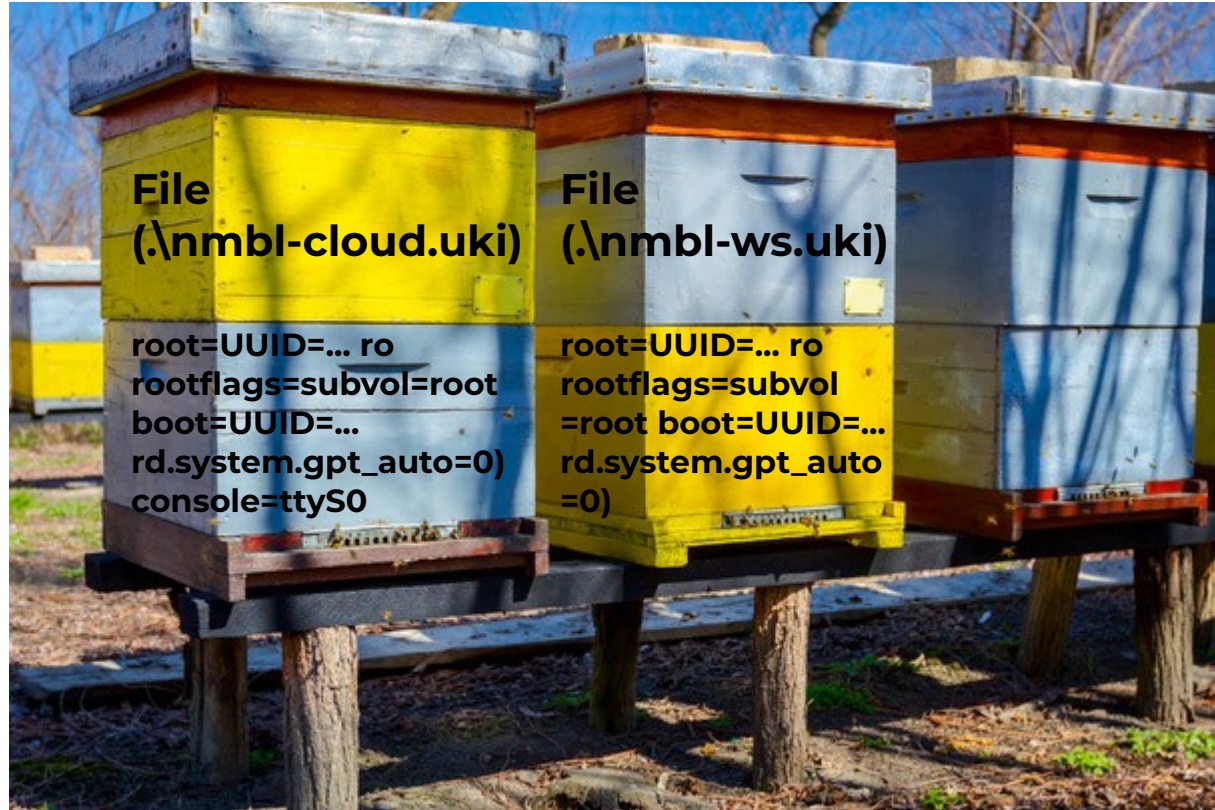
Boot0002

kexec

HD(1,GPT,...)/
File(\EFI\fedora\
shimx64.efi)

path to next
boot loader:

command line:



what about fallback?

do some update

BootNext: 0002

←-- updated entry

BootCurrent: 0001

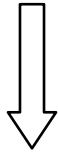
←-- last known "good"

BootOrder: 0001,0002,0000

BootNext: 0002

BootCurrent: 0001

BootOrder: 0001,0002,0000



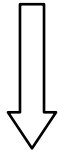
BootCurrent: 0002

BootOrder: 0002,0001,0000

BootNext: 0002

BootCurrent: 0001

BootOrder: 0001,0002,0000



BootCurrent: 0001

BootOrder: 0001,0002,0000

bootloader-eng-team past + present

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thank you for your time and attention :)

more information:

<https://github.com/rhboot/nmb1-poc/>

<https://github.com/fwupd/fwupd/tree/hughsie/ShimHive>

<https://mlewando.fedorapeople.org/>