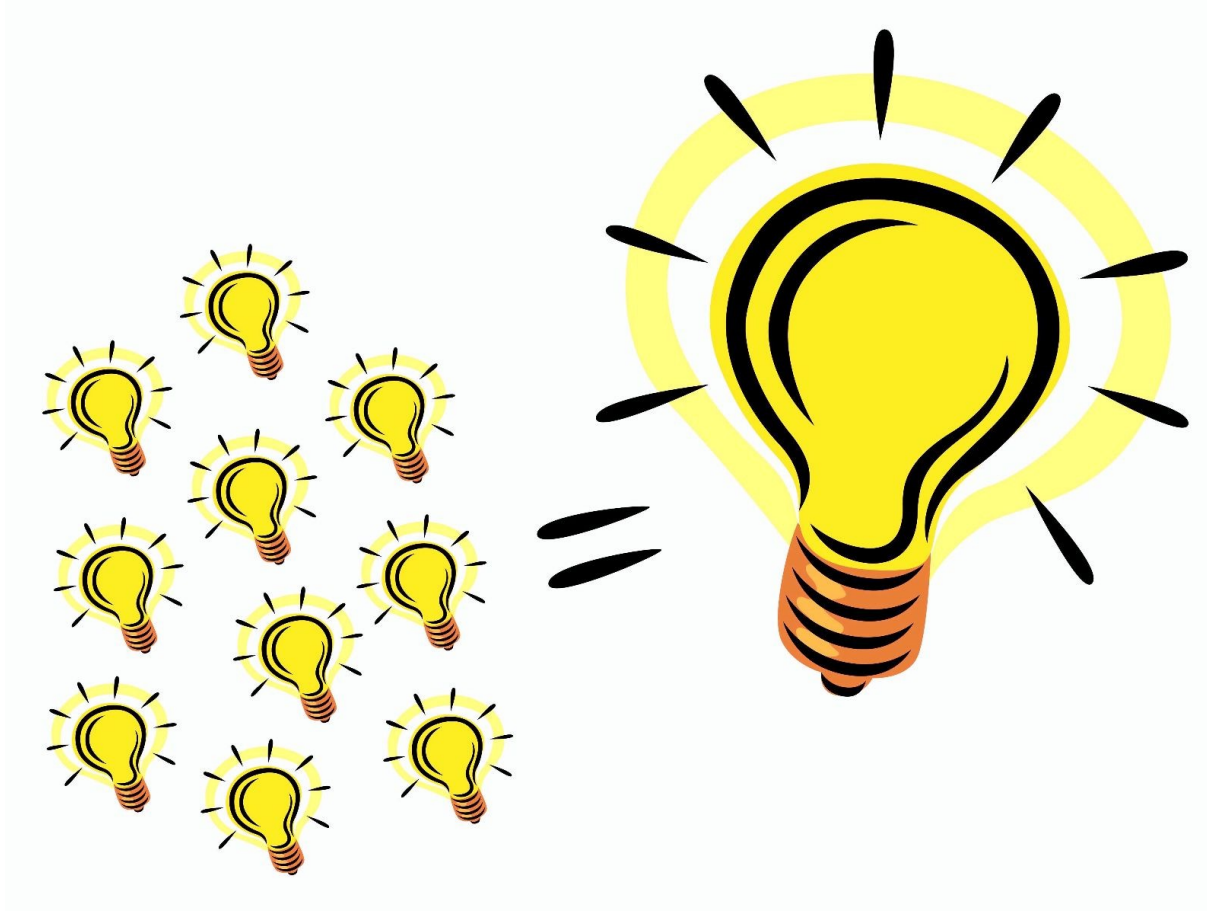
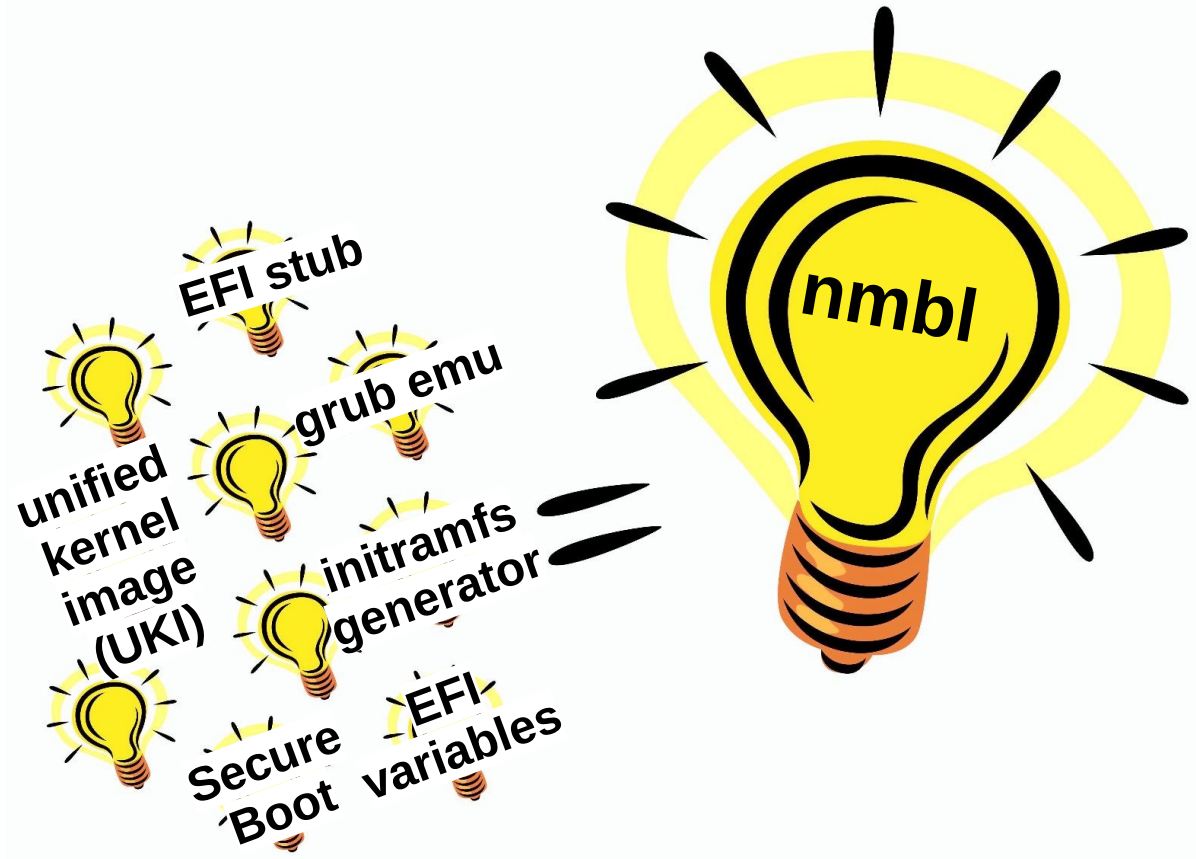


# no more boot loader: boot using the Linux kernel

Marta Lewandowska, Red Hat  
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**what is nmb1?**



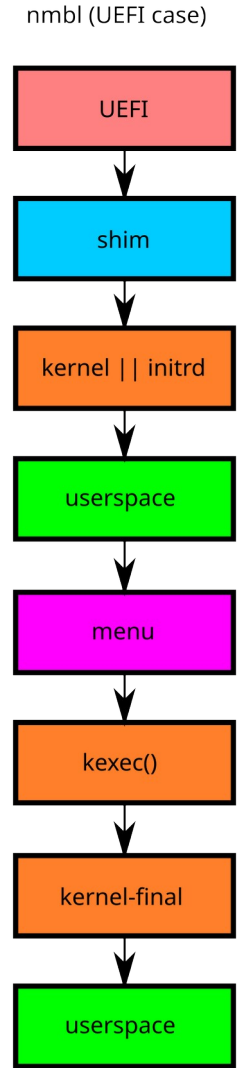
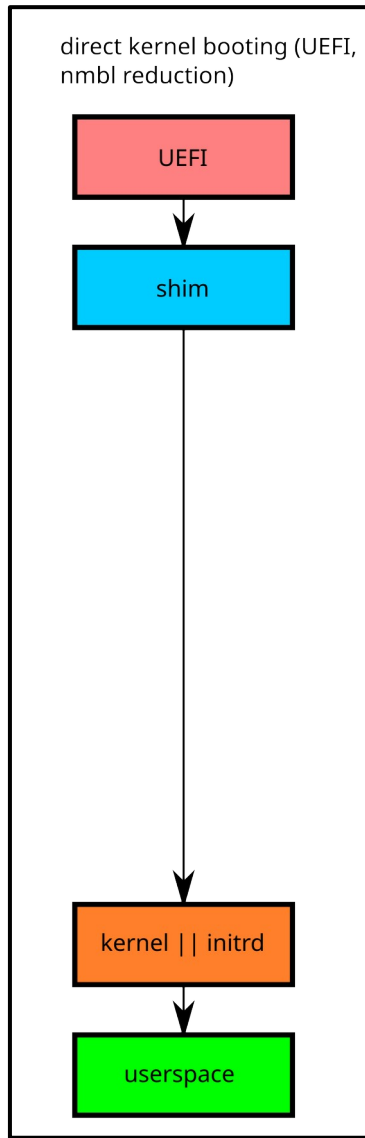


kernel  
kernel command line  
initramfs  
efi stub +  

---

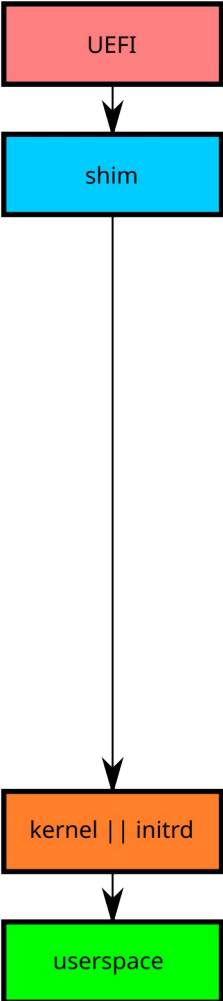
unified kernel image

switch root

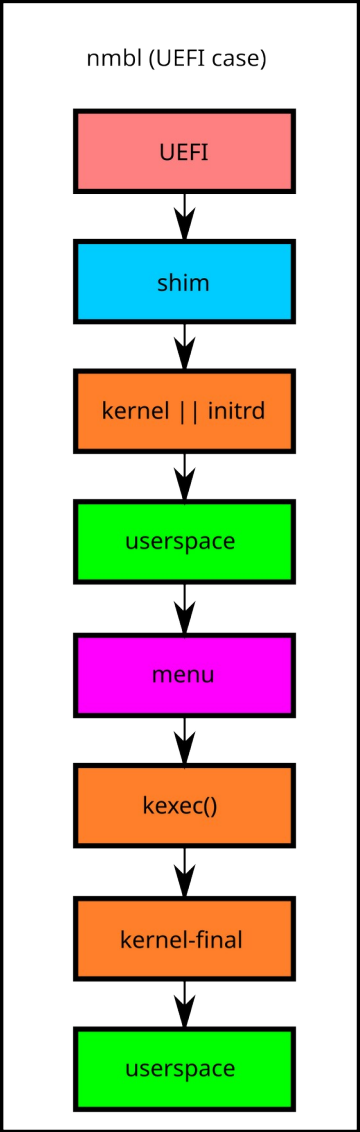


kexec

direct kernel booting (UEFI, nmb1 reduction)



nmb1 (UEFI case)



**why are we doing this?**



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

- deliver features more quickly & decrease maintenance burden
- **increase security & security scrutiny**

- **deliver features more quickly & decrease maintenance burden**
- **increase security & security scrutiny**
- **decrease boot time**

- deliver features more quickly & decrease maintenance burden
- increase security & security scrutiny
- decrease boot time
- **replace GRUB**

**what about the command line?**

# shim hive



# shim hive

key1

value1

key2

value2



Boot0001

*switch-root*

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

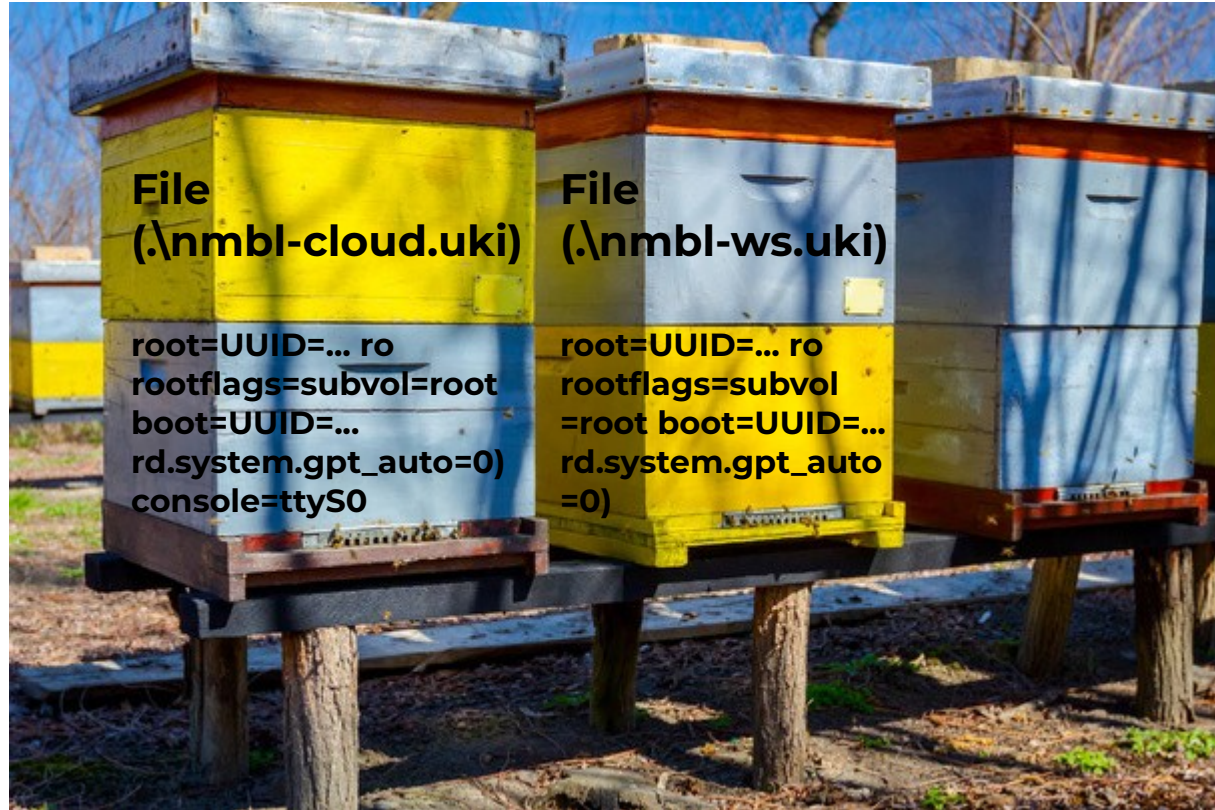
Boot0002

*kexec*

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

path:

cmdline:





**what about fallback?**

## **do some update**

BootNext: 0002

←-- updated entry

BootCurrent: 0001

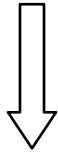
←-- last known "good"

BootOrder: 0001,0002,0000

BootNext: 0002

BootCurrent: 0001

BootOrder: 0001,0002,0000



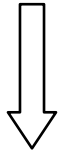
BootCurrent: 0002

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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Mike Boisvert

Jared Dominguez

Robbie Harwood

Javier Martinez Canillas

Jan Hlavač

**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/>***