Astra Linux EFISTUB (grub/grub2)

- Astra Linux UEFI
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- UEFI- grub2
- UEFI
- UEFI
  - Virtual Machine Manager
  - Oracle VirtualBox

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- Astra Linux Special Edition .10015-01 (1.6)
- Astra Linux Special Edition .10015-16 . 1
- Astra Linux Special Edition .10015-01 (1.5)
- Astra Linux Common Edition 2.12

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1. KVM, :
   "UEFI x84_64 /usr/share/OVMF/OVMF_CODE_4m.
   fd"

   "UEFI x84_64 /usr/share/OVMF/OVMF_CODE.fd";
2. VirtualBox " EFI (OC)". , .

SecureBoot . Astra Linux SecureBoot

Astra Linux UEFI

Astra Linux , UEFI, UEFI . :

- UEFI- /boot/efi;
- UEFI- grub2;
- /boot/efi/EFI/astralinuxse/grubx64.efi;

UEFI .

efibootmgr. UEFI-:

```
sudo efibootmgr
```

```
BootCurrent: 0004
Timeout: 0 seconds
BootOrder: 0004,0000,0001,0002,0003
Boot0000* UiApp
Boot0001* UEFI VBOX CD-ROM VB2-01700376
Boot0002* UEFI VBOX HARDDISK VBca27e834-16bf61c9
Boot0003* EFI Internal Shell
Boot0004* astralinuxse
```

UEFI- grub2

, grub2, (/vmlinuz /initrd.img) UEFI, . :

```
#!/bin/bash
sudo mkdir /boot/efi/EFI/astralinuxefi
sudo cp /vmlinuz /boot/efi/EFI/astralinuxefi
sudo cp /initrd.img /boot/efi/EFI/astralinuxefi
export UUID=$(sudo blkid -s UUID -o value /dev/sda2)
sudo efibootmgr -c -g -L "astralinuxefi" -l '\EFI\astralinuxefi\vmlinuz' -u "root=UUID=$UUID rw quiet
rootfstype=ext4 add_efi_memmap initrd=\\EFI\\astralinuxefi\\initrd.img"
```

, /dev/sda2. /boot/efi/EFI/astralinuxefi, , efibootmgr .
 , /dev/sda (, /dev/vda QEMU), -d:

```
sudo efibootmgr
```

```
sudo efibootmgr -d /dev/vda ...
```

efibootmgr (Boot0005):

```
sudo efibootmgr
```

```
BootCurrent: 0004
Timeout: 0 seconds
BootOrder: 0005,0004,0000,0001,0002,0003
Boot0000* UiApp
Boot0001* UEFI VBOX CD-ROM VB2-01700376
Boot0002* UEFI VBOX HARDDISK VBca27e834-16bf61c9
Boot0003* EFI Internal Shell
Boot0004* astralinuxse
Boot0005* astralinuxefi
```

(BootCurrent 0005):

```
sudo efibootmgr
```

```
BootCurrent: 0005
Timeout: 0 seconds
BootOrder: 0005,0004,0000,0001,0002,0003
Boot0000* UiApp
Boot0001* UEFI VBOX CD-ROM VB2-01700376
Boot0002* UEFI VBOX HARDDISK VBca27e834-16bf61c9
Boot0003* EFI Internal Shell
Boot0004* astralinuxse
Boot0005* astralinuxefi
```

:

```
sudo efibootmgr -B -b 4
```

UEFI

, , UEFI, efibootmgr, /sys/firmware/efi, UEFI. , :

```
ls -l /sys/firmware/efi
```

UEFI

UEFI efibootmgr ( ). man:

```
man efibootmgr
```

UEFI

Virtual Machine Manager

- " ", "".

"Firmware" UEFI-. , ".ms" "secureboot". "UEFI x84_64 /usr/share/OVMF/OVMF_CODE_4m.fd".

"" " ".

Oracle VirtualBox

Oracle VM VirtualBox : "" - "" - " " - - " EFI ( )".