

BIOS zerofree

EFI A

EFI

1. Grub "Recovery Mode" e ro
recovery nomodeset rw single init=/bin/bash
2. /dev/sda1 umount /dev/sda1
3. zerofree -v /dev/sda1

Windows

EFI "0" VHD

EFI

Hyper-V

1. Hyper-V
2. "..."
3. D .vhdx
4. " "
 - " "
 - " " VHD
5. VHD

EFI

- " " Hyper-V
- D 43.4 GB " "

PowerShell

Windows PowerShell

```
# Optimize-VHD -Path "VHD" -Mode Full
Optimize-VHD -Path "D:\.vhdx" -Mode Full
```

D

" " 43.4GB

A C

1. `open-vm-tools` `hyperv-daemons` Kylin/Ubuntu
`sudo apt-get install linux-virtual-lts-xenial (hv_utils)`
`lsmod | grep hv_utils`

2. **“discard”** Ubuntu TRIM/Discard
`sudo fstrim -v /` `sudo fstrim -v /data`
“XXX bytes were trimmed” Hyper-V
“ ”

2. ????? (Windows ???)

Hyper-V

-
- Windows PowerShell CMD
-

```
Optimize-VHD -Path "D:\.vhd" -Mode Full
```

`.vhd` `.vhdx` `.vhd`
`vhdx`

????????????????????????????????

`Optimize-VHD` Fixed Size
Dynamic **D**

3T “ ” “ ” “ ” “ ”

????????????????????

- 100GB** D **50GB -**
Hyper-V
• ->
• 3T
• 100% 3T
“ ”
2. E

????

- Ubuntu `sudo fstrim -v /`
-

