

BOSC-E2014: Aflevering 3

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Contents

I	Rapport	2
1	Introduktion	3
1.1	Problemformulering	3
1.2	Metode	3
2	Implementation	4
3	Test	5
3.1	DFS listing	5
3.1.1	Setup	5
3.1.2	Sammenligning af output	5
4	Diskussion	7
5	Konklusion	8
II	Appendix	9
A	Resultater fra DFS listing	10
A.1	DFS	10
A.2	PS	16
B	Kildekode	24

Part I

Rapport

Chapter 1

Introduktion

1.1 Problemformulering

1.2 Metode

Chapter 2

Implementation

Chapter 3

Test

3.1 DFS listing

3.1.1 Setup

DFS kernemodulet er testet ved først at registrere det med følgende kommando:

```
sudo insmod dfslist.ko
```

Efter som at modulet skriver til kernel loggen ved registrering, er indholdet hentet ud ved at køre kommandoen:

```
sudo dmesg >dfs.txt
```

Endelig skal resultaterne sammenlignes med den indbyggede ps kommando. Til dette køres følgende kommando for at hente de kørende processer i en træstruktur:

```
ps axjf >ps.txt
```

Se appendix A for output fra konsollen.

3.1.2 Sammenligning af output

DFS er kendetegnet ved, at første barns børn og børns børn itereres før de resterende børn (og tilsvarende, deres børn og børns børn) fra hovedknuden. Med andre ord forventes det af implementationen, at den udskriver processerne, men inden for hver process itereres ned over processens børn rekursivt og disse udskrives. For eksempel, hvis proceslisten består af process 1 og 2, og disse har børnene 1.1, 1.1.1 og 2.1, skal disse udskrives i rækkefølgen 1, 1.1, 1.1.1, 2, 2.1.

Dette viser sig tydeligt at være tilfældet for implementationen, idet processen med process-ID 1053 observeres fra ps.txt:

```
1 1053 1053 1053 ? -1 SLsl 0 0:00 lightdm
1053 1142 1142 1142 tty? 1142 Rs+ 0 0:34 \_ /usr/bin/X -core :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten tcp vt7 -novtswitch
1053 1715 1053 1053 ? -1 Sl 0 0:00 \_ lightdm --session-child 12 19
1715 2730 2730 2730 ? -1 Ss 1000 0:00 \_ init --user
2730 2801 2801 2801 ? -1 Ss 1000 0:00 \_ ssh-agent -s
2730 2807 2807 2807 ? -1 Ss 1000 0:01 \_ dbus-daemon --fork --session --address=unix:abstract=/tmp/dbus-VLfuiwLSiq
2730 2815 2815 2815 ? -1 Ss 1000 0:00 \_ upstart-event-bridge
2730 2819 2819 2819 ? -1 Ss 1000 0:00 \_ /usr/lib/x86_64-linux-gnu/hud/window-stack-bridge
2730 2820 2820 2820 ? -1 Ssl 1000 0:04 \_ /usr/bin/ibus-daemon --daemonize --xim
2820 2851 2820 2820 ? -1 Sl 1000 0:00 | \_ /usr/lib/ibus/ibus-dconf
2820 2854 2820 2820 ? -1 Sl 1000 0:01 | \_ /usr/lib/ibus/ibus-ui-gtk3
2820 2914 2820 2820 ? -1 Sl 1000 0:00 | \_ /usr/lib/ibus/ibus-engine-simple
2730 2829 2828 2828 ? -1 S 1000 0:00 \_ upstart-file-bridge --daemon --user
2730 2835 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/gvfs/gvfsd
2730 2836 2836 2836 ? -1 Ssl 1000 0:00 \_ /usr/lib/unity-settings-daemon/unity-settings-daemon
2730 2842 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/gvfs/gvfsd-fuse /run/user/1000/gvfs -f -o big_writes
2730 2845 2845 2845 ? -1 Ssl 1000 0:01 \_ /usr/lib/x86_64-linux-gnu/hud/hud-service
2730 2849 2849 2849 ? -1 Ssl 1000 0:00 \_ /usr/lib/at-spi2-core/at-spi-bus-launcher --launch-immediately
2849 2862 2849 2849 ? -1 S 1000 0:00 | \_ /bin/dbus-daemon --config-file=/etc/at-spi2/accessibility.conf --nofork --print-address 3
```

Her ses det, at process 1053 har en række børn (som også har børn), og af implementationen forventes det derfor, at disse udskrives i rækkefølge. Dette sammenlignes med en del af outputtet fra implementationen:

```
[ 5664.686470] lightdm: State is 1 and process id is 1053
[ 5664.686471] Xorg: State is 1 and process id is 1142
[ 5664.686473] lightdm: State is 1 and process id is 1715
[ 5664.686475] init: State is 1 and process id is 2730
[ 5664.686476] ssh-agent: State is 1 and process id is 2801
[ 5664.686478] dbus-daemon: State is 1 and process id is 2807
[ 5664.686480] upstart-event-b: State is 1 and process id is 2815
[ 5664.686481] window-stack-br: State is 1 and process id is 2819
[ 5664.686483] ibus-daemon: State is 1 and process id is 2820
[ 5664.686484] ibus-dconf: State is 1 and process id is 2851
[ 5664.686486] ibus-ui-gtk3: State is 1 and process id is 2854
[ 5664.686487] ibus-engine-sim: State is 1 and process id is 2914
[ 5664.686489] upstart-file-br: State is 1 and process id is 2829
[ 5664.686491] unity-settings-: State is 1 and process id is 2836
[ 5664.686493] gvfsd: State is 1 and process id is 2835
[ 5664.686494] gvfsd-fuse: State is 1 and process id is 2842
[ 5664.686496] hud-service: State is 1 and process id is 2845
[ 5664.686497] at-spi-bus-laun: State is 1 and process id is 2849
[ 5664.686499] dbus-daemon: State is 1 and process id is 2862
```

På skærbilledet ses det, at processerne og deres børn udskrives i rækkefølge - som forventet.

Chapter 4

Diskussion

Chapter 5

Konklusion

Part II

Appendix

Appendix A

Resultater fra DFS listing

A.1 DFS

```
[ 5647.241754] Removing Module
[ 5664.686377] Loading Module
[ 5664.686383] init: State is 1 and process id is 1
[ 5664.686386] upstart-udev-br: State is 1 and process id is 474
[ 5664.686388] systemd-udev: State is 0 and process id is 483
[ 5664.686390] upstart-file-br: State is 1 and process id is 617
[ 5664.686392] dbus-daemon: State is 1 and process id is 632
[ 5664.686394] rsyslogd: State is 1 and process id is 678
[ 5664.686395] bluetoothd: State is 1 and process id is 697
[ 5664.686442] systemd-logind: State is 1 and process id is 713
[ 5664.686445] avahi-daemon: State is 1 and process id is 786
[ 5664.686447] avahi-daemon: State is 1 and process id is 792
[ 5664.686449] ModemManager: State is 1 and process id is 819
[ 5664.686451] upstart-socket-: State is 1 and process id is 844
[ 5664.686452] NetworkManager: State is 1 and process id is 923
[ 5664.686454] dhclient: State is 1 and process id is 1000
[ 5664.686456] dnsmasq: State is 1 and process id is 1490
[ 5664.686458] getty: State is 1 and process id is 968
[ 5664.686460] polkitd: State is 1 and process id is 935
[ 5664.686461] getty: State is 1 and process id is 974
[ 5664.686463] getty: State is 1 and process id is 980
[ 5664.686465] getty: State is 1 and process id is 982
[ 5664.686466] getty: State is 1 and process id is 985
[ 5664.686468] kerneloops: State is 1 and process id is 1040
[ 5664.686470] lightdm: State is 1 and process id is 1053
[ 5664.686471] Xorg: State is 1 and process id is 1142
[ 5664.686473] lightdm: State is 1 and process id is 1715
[ 5664.686475] init: State is 1 and process id is 2730
[ 5664.686476] ssh-agent: State is 1 and process id is 2801
[ 5664.686478] dbus-daemon: State is 1 and process id is 2807
[ 5664.686480] upstart-event-b: State is 1 and process id is 2815
[ 5664.686481] window-stack-br: State is 1 and process id is 2819
[ 5664.686483] ibus-daemon: State is 1 and process id is 2820
[ 5664.686484] ibus-dconf: State is 1 and process id is 2851
[ 5664.686486] ibus-ui-gtk3: State is 1 and process id is 2854
[ 5664.686487] ibus-engine-sim: State is 1 and process id is 2914
[ 5664.686489] upstart-file-br: State is 1 and process id is 2829
[ 5664.686491] unity-settings -: State is 1 and process id is 2836
[ 5664.686493] gvfsd: State is 1 and process id is 2835
```

[5664.686494] gvfsd-fuse: State is 1 and process id is 2842
 [5664.686496] hud-service: State is 1 and process id is 2845
 [5664.686497] at-spi-bus-laun: State is 1 and process id is 2849
 [5664.686499] dbus-daemon: State is 1 and process id is 2862
 [5664.686501] gnome-session: State is 1 and process id is 2858
 [5664.686502] compiz: State is 0 and process id is 3039
 [5664.686504] nm-applet: State is 1 and process id is 3077
 [5664.686506] polkit-gnome-au: State is 1 and process id is 3078
 [5664.686507] nautilus: State is 1 and process id is 3080
 [5664.686509] unity-fallback -: State is 1 and process id is 3081
 [5664.686511] telepathy-indic: State is 1 and process id is 3294
 [5664.686512] zeitgeist-datah: State is 1 and process id is 3317
 [5664.686514] update-notifier: State is 1 and process id is 3374
 [5664.686515] deja-dup-monito: State is 1 and process id is 3426
 [5664.686517] unity-panel-ser: State is 1 and process id is 2864
 [5664.686519] ibus-x11: State is 1 and process id is 2865
 [5664.686536] upstart-dbus-br: State is 1 and process id is 2870
 [5664.686538] at-spi2-registr: State is 1 and process id is 2872
 [5664.686540] upstart-dbus-br: State is 1 and process id is 2892
 [5664.686542] bamfdaemon: State is 1 and process id is 2907
 [5664.686544] indicator-messa: State is 1 and process id is 2922
 [5664.686545] indicator-bluet: State is 1 and process id is 2924
 [5664.686547] indicator-power: State is 1 and process id is 2931
 [5664.686548] indicator-datet: State is 1 and process id is 2934
 [5664.686550] indicator-sound: State is 1 and process id is 2937
 [5664.686552] indicator-print: State is 1 and process id is 2946
 [5664.686553] indicator-sessi: State is 1 and process id is 2950
 [5664.686555] indicator-appli: State is 1 and process id is 2952
 [5664.686556] dconf-service: State is 1 and process id is 2958
 [5664.686558] pulseaudio: State is 1 and process id is 2997
 [5664.686560] evolution-sourc: State is 1 and process id is 2976
 [5664.686561] indicator-keybo: State is 1 and process id is 2921
 [5664.686563] vmttoolsd: State is 1 and process id is 3086
 [5664.686565] notify-osd: State is 1 and process id is 3032
 [5664.686592] evolution-calen: State is 1 and process id is 3049
 [5664.686595] gconfd-2: State is 1 and process id is 3193
 [5664.686597] gvfs-udisks2-vo: State is 1 and process id is 3145
 [5664.686598] gvfs-gphoto2-vo: State is 1 and process id is 3203
 [5664.686600] gvfs-afc-volume: State is 1 and process id is 3209
 [5664.686602] gvfs-mtp-volume: State is 1 and process id is 3214
 [5664.686603] gvfsd-trash: State is 1 and process id is 3231
 [5664.686605] gvfsd-burn: State is 1 and process id is 3261
 [5664.686607] gvfsd-metadata: State is 1 and process id is 3282
 [5664.686608] mission-control: State is 1 and process id is 3303
 [5664.686610] zeitgeist-daemo: State is 1 and process id is 3322
 [5664.686612] zeitgeist-fts: State is 1 and process id is 3328
 [5664.686613] cat: State is 1 and process id is 3332
 [5664.686615] unity-scope-hom: State is 1 and process id is 3524
 [5664.686616] unity-files-dae: State is 1 and process id is 3538
 [5664.686618] unity-music-dae: State is 1 and process id is 3565
 [5664.686620] unity-scope-loa: State is 1 and process id is 3539
 [5664.686622] gnome-terminal: State is 1 and process id is 3582
 [5664.686623] gnome-pty-helpe: State is 1 and process id is 3590
 [5664.686625] bash: State is 1 and process id is 3591
 [5664.686626] bash: State is 1 and process id is 3706
 [5664.686628] sudo: State is 1 and process id is 5713

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[ 5664.686629] insmod: State is 0 and process id is 5714
[ 5664.686631] gvfsd-http: State is 1 and process id is 4373
[ 5664.686633] cron: State is 1 and process id is 1045
[ 5664.686634] irqbalance: State is 1 and process id is 1091
[ 5664.686636] cups-browsed: State is 1 and process id is 1191
[ 5664.686638] whoopsie: State is 1 and process id is 1198
[ 5664.686639] getty: State is 1 and process id is 1234
[ 5664.686641] accounts-daemon: State is 1 and process id is 1154
[ 5664.686642] acpid: State is 1 and process id is 1248
[ 5664.686644] vmware-vmblock-: State is 1 and process id is 1432
[ 5664.686645] vmttoolsd: State is 1 and process id is 1460
[ 5664.686647] upowerd: State is 1 and process id is 1738
[ 5664.686649] rtkit-daemon: State is 1 and process id is 1779
[ 5664.686650] colord: State is 1 and process id is 1982
[ 5664.686652] cupsd: State is 1 and process id is 2519
[ 5664.686653] tpmvmlp: State is 1 and process id is 2557
[ 5664.686655] gnome-keyring-d: State is 1 and process id is 2725
[ 5664.686656] udisksd: State is 1 and process id is 3155
[ 5664.686658] kthreadd: State is 1 and process id is 2
[ 5664.686659] ksoftirqd/0: State is 1 and process id is 3
[ 5664.686661] kworker/0:0H: State is 1 and process id is 5
[ 5664.686662] rcu_sched: State is 1 and process id is 7
[ 5664.686664] rcuos/0: State is 1 and process id is 8
[ 5664.686665] rcuos/1: State is 1 and process id is 9
[ 5664.686667] rcuos/2: State is 1 and process id is 10
[ 5664.686669] rcuos/3: State is 1 and process id is 11
[ 5664.686703] rcuos/4: State is 1 and process id is 12
[ 5664.686707] rcuos/5: State is 1 and process id is 13
[ 5664.686709] rcuos/6: State is 1 and process id is 14
[ 5664.686711] rcuos/7: State is 1 and process id is 15
[ 5664.686713] rcuos/8: State is 1 and process id is 16
[ 5664.686714] rcuos/9: State is 1 and process id is 17
[ 5664.686716] rcuos/10: State is 1 and process id is 18
[ 5664.686718] rcuos/11: State is 1 and process id is 19
[ 5664.686719] rcuos/12: State is 1 and process id is 20
[ 5664.686721] rcuos/13: State is 1 and process id is 21
[ 5664.686722] rcuos/14: State is 1 and process id is 22
[ 5664.686724] rcuos/15: State is 1 and process id is 23
[ 5664.686725] rcuos/16: State is 1 and process id is 24
[ 5664.686727] rcuos/17: State is 1 and process id is 25
[ 5664.686728] rcuos/18: State is 1 and process id is 26
[ 5664.686730] rcuos/19: State is 1 and process id is 27
[ 5664.686732] rcuos/20: State is 1 and process id is 28
[ 5664.686733] rcuos/21: State is 1 and process id is 29
[ 5664.686735] rcuos/22: State is 1 and process id is 30
[ 5664.686736] rcuos/23: State is 1 and process id is 31
[ 5664.686738] rcuos/24: State is 1 and process id is 32
[ 5664.686739] rcuos/25: State is 1 and process id is 33
[ 5664.686741] rcuos/26: State is 1 and process id is 34
[ 5664.686742] rcuos/27: State is 1 and process id is 35
[ 5664.686744] rcuos/28: State is 1 and process id is 36
[ 5664.686745] rcuos/29: State is 1 and process id is 37
[ 5664.686747] rcuos/30: State is 1 and process id is 38
[ 5664.686748] rcuos/31: State is 1 and process id is 39
[ 5664.686750] rcuos/32: State is 1 and process id is 40
[ 5664.686751] rcuos/33: State is 1 and process id is 41

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[ 5664.686753] rcuos/34: State is 1 and process id is 42
[ 5664.686754] rcuos/35: State is 1 and process id is 43
[ 5664.686756] rcuos/36: State is 1 and process id is 44
[ 5664.686757] rcuos/37: State is 1 and process id is 45
[ 5664.686759] rcuos/38: State is 1 and process id is 46
[ 5664.686760] rcuos/39: State is 1 and process id is 47
[ 5664.686762] rcuos/40: State is 1 and process id is 48
[ 5664.686763] rcuos/41: State is 1 and process id is 49
[ 5664.686765] rcuos/42: State is 1 and process id is 50
[ 5664.686766] rcuos/43: State is 1 and process id is 51
[ 5664.686768] rcuos/44: State is 1 and process id is 52
[ 5664.686769] rcuos/45: State is 1 and process id is 53
[ 5664.686771] rcuos/46: State is 1 and process id is 54
[ 5664.686772] rcuos/47: State is 1 and process id is 55
[ 5664.686774] rcuos/48: State is 1 and process id is 56
[ 5664.686775] rcuos/49: State is 1 and process id is 57
[ 5664.686776] rcuos/50: State is 1 and process id is 58
[ 5664.686778] rcuos/51: State is 1 and process id is 59
[ 5664.686779] rcuos/52: State is 1 and process id is 60
[ 5664.686781] rcuos/53: State is 1 and process id is 61
[ 5664.686782] rcuos/54: State is 1 and process id is 62
[ 5664.686784] rcuos/55: State is 1 and process id is 63
[ 5664.686785] rcuos/56: State is 1 and process id is 64
[ 5664.686787] rcuos/57: State is 1 and process id is 65
[ 5664.686788] rcuos/58: State is 1 and process id is 66
[ 5664.686790] rcuos/59: State is 1 and process id is 67
[ 5664.686791] rcuos/60: State is 1 and process id is 68
[ 5664.686793] rcuos/61: State is 1 and process id is 69
[ 5664.686794] rcuos/62: State is 1 and process id is 70
[ 5664.686796] rcuos/63: State is 1 and process id is 71
[ 5664.686797] rcu_bh: State is 1 and process id is 72
[ 5664.686799] rcuob/0: State is 1 and process id is 73
[ 5664.686800] rcuob/1: State is 1 and process id is 74
[ 5664.686802] rcuob/2: State is 1 and process id is 75
[ 5664.686803] rcuob/3: State is 1 and process id is 76
[ 5664.686805] rcuob/4: State is 1 and process id is 77
[ 5664.686806] rcuob/5: State is 1 and process id is 78
[ 5664.686808] rcuob/6: State is 1 and process id is 79
[ 5664.686809] rcuob/7: State is 1 and process id is 80
[ 5664.686811] rcuob/8: State is 1 and process id is 81
[ 5664.686812] rcuob/9: State is 1 and process id is 82
[ 5664.686814] rcuob/10: State is 1 and process id is 83
[ 5664.686815] rcuob/11: State is 1 and process id is 84
[ 5664.686824] rcuob/12: State is 1 and process id is 85
[ 5664.686826] rcuob/13: State is 1 and process id is 86
[ 5664.686827] rcuob/14: State is 1 and process id is 87
[ 5664.686829] rcuob/15: State is 1 and process id is 88
[ 5664.686830] rcuob/16: State is 1 and process id is 89
[ 5664.686831] rcuob/17: State is 1 and process id is 90
[ 5664.686833] rcuob/18: State is 1 and process id is 91
[ 5664.686834] rcuob/19: State is 1 and process id is 92
[ 5664.686836] rcuob/20: State is 1 and process id is 93
[ 5664.686837] rcuob/21: State is 1 and process id is 94
[ 5664.686839] rcuob/22: State is 1 and process id is 95
[ 5664.686840] rcuob/23: State is 1 and process id is 96
[ 5664.686842] rcuob/24: State is 1 and process id is 97

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[5664.686843] rcuob/25: State is 1 and process id is 98
 [5664.686845] rcuob/26: State is 1 and process id is 99
 [5664.686881] rcuob/27: State is 1 and process id is 100
 [5664.686935] rcuob/28: State is 1 and process id is 101
 [5664.686937] rcuob/29: State is 1 and process id is 102
 [5664.686939] rcuob/30: State is 1 and process id is 103
 [5664.686940] rcuob/31: State is 1 and process id is 104
 [5664.686942] rcuob/32: State is 1 and process id is 105
 [5664.686943] rcuob/33: State is 1 and process id is 106
 [5664.686945] rcuob/34: State is 1 and process id is 107
 [5664.686946] rcuob/35: State is 1 and process id is 108
 [5664.686947] rcuob/36: State is 1 and process id is 109
 [5664.686949] rcuob/37: State is 1 and process id is 110
 [5664.686950] rcuob/38: State is 1 and process id is 111
 [5664.686952] rcuob/39: State is 1 and process id is 112
 [5664.686953] rcuob/40: State is 1 and process id is 113
 [5664.686955] rcuob/41: State is 1 and process id is 114
 [5664.686956] rcuob/42: State is 1 and process id is 115
 [5664.686958] rcuob/43: State is 1 and process id is 116
 [5664.686959] rcuob/44: State is 1 and process id is 117
 [5664.686960] rcuob/45: State is 1 and process id is 118
 [5664.686962] rcuob/46: State is 1 and process id is 119
 [5664.686963] rcuob/47: State is 1 and process id is 120
 [5664.686965] rcuob/48: State is 1 and process id is 121
 [5664.686966] rcuob/49: State is 1 and process id is 122
 [5664.686968] rcuob/50: State is 1 and process id is 123
 [5664.686969] rcuob/51: State is 1 and process id is 124
 [5664.686970] rcuob/52: State is 1 and process id is 125
 [5664.686972] rcuob/53: State is 1 and process id is 126
 [5664.686973] rcuob/54: State is 1 and process id is 127
 [5664.686975] rcuob/55: State is 1 and process id is 128
 [5664.686976] rcuob/56: State is 1 and process id is 129
 [5664.686978] rcuob/57: State is 1 and process id is 130
 [5664.686979] rcuob/58: State is 1 and process id is 131
 [5664.686981] rcuob/59: State is 1 and process id is 132
 [5664.686982] rcuob/60: State is 1 and process id is 133
 [5664.686984] rcuob/61: State is 1 and process id is 134
 [5664.686985] rcuob/62: State is 1 and process id is 135
 [5664.686987] rcuob/63: State is 1 and process id is 136
 [5664.686988] migration/0: State is 1 and process id is 137
 [5664.686990] watchdog/0: State is 1 and process id is 138
 [5664.686991] watchdog/1: State is 1 and process id is 139
 [5664.686993] migration/1: State is 1 and process id is 140
 [5664.686994] ksoftirqd/1: State is 1 and process id is 141
 [5664.686996] kworker/1:0: State is 1 and process id is 142
 [5664.686998] kworker/1:0H: State is 1 and process id is 143
 [5664.686999] khelper: State is 1 and process id is 144
 [5664.687001] kdevtmpfs: State is 1 and process id is 145
 [5664.687003] netns: State is 1 and process id is 146
 [5664.687004] writeback: State is 1 and process id is 147
 [5664.687006] kintegrityd: State is 1 and process id is 148
 [5664.687007] bioset: State is 1 and process id is 149
 [5664.687009] kworker/u129:0: State is 1 and process id is 150
 [5664.687010] kblockd: State is 1 and process id is 151
 [5664.687012] ata_sff: State is 1 and process id is 152
 [5664.687014] khubd: State is 1 and process id is 153

[5664.687015] md: State is 1 and process id is 154
 [5664.687017] devfreq_wq: State is 1 and process id is 155
 [5664.687018] kworker/0:1: State is 1 and process id is 157
 [5664.687020] khungtaskd: State is 1 and process id is 159
 [5664.687022] kswapd0: State is 1 and process id is 160
 [5664.687023] ksm: State is 1 and process id is 161
 [5664.687025] khugepaged: State is 1 and process id is 162
 [5664.687026] fsnotify_mark: State is 1 and process id is 163
 [5664.687028] ecryptfs-kthrea: State is 1 and process id is 164
 [5664.687030] crypto: State is 1 and process id is 165
 [5664.687031] kthrotld: State is 1 and process id is 177
 [5664.687033] scsi_eh_0: State is 1 and process id is 179
 [5664.687034] scsi_eh_1: State is 1 and process id is 180
 [5664.687036] deferwq: State is 1 and process id is 201
 [5664.687064] charger_manager: State is 1 and process id is 202
 [5664.687067] kworker/1:2: State is 1 and process id is 203
 [5664.687068] mpt_poll_0: State is 1 and process id is 255
 [5664.687070] mpt/0: State is 1 and process id is 257
 [5664.687071] scsi_eh_2: State is 1 and process id is 258
 [5664.687073] kpsmouse: State is 1 and process id is 259
 [5664.687075] scsi_eh_3: State is 1 and process id is 260
 [5664.687076] scsi_eh_4: State is 1 and process id is 261
 [5664.687078] scsi_eh_5: State is 1 and process id is 262
 [5664.687079] scsi_eh_6: State is 1 and process id is 263
 [5664.687080] scsi_eh_7: State is 1 and process id is 264
 [5664.687082] scsi_eh_8: State is 1 and process id is 265
 [5664.687084] scsi_eh_9: State is 1 and process id is 266
 [5664.687085] scsi_eh_10: State is 1 and process id is 267
 [5664.687087] scsi_eh_11: State is 1 and process id is 268
 [5664.687088] scsi_eh_12: State is 1 and process id is 269
 [5664.687090] scsi_eh_13: State is 1 and process id is 270
 [5664.687092] scsi_eh_14: State is 1 and process id is 271
 [5664.687093] scsi_eh_15: State is 1 and process id is 272
 [5664.687095] scsi_eh_16: State is 1 and process id is 273
 [5664.687096] scsi_eh_17: State is 1 and process id is 274
 [5664.687098] scsi_eh_18: State is 1 and process id is 275
 [5664.687099] scsi_eh_19: State is 1 and process id is 276
 [5664.687101] scsi_eh_20: State is 1 and process id is 277
 [5664.687103] scsi_eh_21: State is 1 and process id is 278
 [5664.687104] scsi_eh_22: State is 1 and process id is 279
 [5664.687105] scsi_eh_23: State is 1 and process id is 280
 [5664.687107] scsi_eh_24: State is 1 and process id is 281
 [5664.687109] scsi_eh_25: State is 1 and process id is 282
 [5664.687110] scsi_eh_26: State is 1 and process id is 283
 [5664.687111] scsi_eh_27: State is 1 and process id is 284
 [5664.687113] scsi_eh_28: State is 1 and process id is 285
 [5664.687115] scsi_eh_29: State is 1 and process id is 286
 [5664.687116] scsi_eh_30: State is 1 and process id is 287
 [5664.687118] scsi_eh_31: State is 1 and process id is 288
 [5664.687119] scsi_eh_32: State is 1 and process id is 317
 [5664.687121] kworker/0:2: State is 1 and process id is 318
 [5664.687122] jbd2/sda1-8: State is 1 and process id is 332
 [5664.687124] ext4-rsv-conver: State is 1 and process id is 333
 [5664.687126] ttm_swap: State is 1 and process id is 560
 [5664.687127] krfcomm: State is 1 and process id is 734
 [5664.687129] kauditd: State is 1 and process id is 1440


```
[ 5664.687131] kworker/u128:3: State is 1 and process id is 3925
[ 5664.687133] kworker/u128:2: State is 1 and process id is 5416
[ 5664.687134] kworker/u128:1: State is 1 and process id is 5626
[ 5664.687136] kworker/u128:0: State is 1 and process id is 5658
```

A.2 PS

PPID	PID	PGID	SID	TTY	TPGID	STAT	UID	TIME	COMMAND
0	2	0	0	?	-1	S	0	0:00	[kthreadd]
2	3	0	0	?	-1	S	0	0:00	\- [ksoftirqd/0]
2	5	0	0	?	-1	S<	0	0:00	\- [kworker/0:0H]
2	7	0	0	?	-1	S	0	0:01	\- [rcu_sched]
2	8	0	0	?	-1	S	0	0:00	\- [rcuos/0]
2	9	0	0	?	-1	S	0	0:00	\- [rcuos/1]
2	10	0	0	?	-1	S	0	0:00	\- [rcuos/2]
2	11	0	0	?	-1	S	0	0:00	\- [rcuos/3]
2	12	0	0	?	-1	S	0	0:00	\- [rcuos/4]
2	13	0	0	?	-1	S	0	0:00	\- [rcuos/5]
2	14	0	0	?	-1	S	0	0:00	\- [rcuos/6]
2	15	0	0	?	-1	S	0	0:00	\- [rcuos/7]
2	16	0	0	?	-1	S	0	0:00	\- [rcuos/8]
2	17	0	0	?	-1	S	0	0:00	\- [rcuos/9]
2	18	0	0	?	-1	S	0	0:00	\- [rcuos/10]
2	19	0	0	?	-1	S	0	0:00	\- [rcuos/11]
2	20	0	0	?	-1	S	0	0:00	\- [rcuos/12]
2	21	0	0	?	-1	S	0	0:00	\- [rcuos/13]
2	22	0	0	?	-1	S	0	0:00	\- [rcuos/14]
2	23	0	0	?	-1	S	0	0:00	\- [rcuos/15]
2	24	0	0	?	-1	S	0	0:00	\- [rcuos/16]
2	25	0	0	?	-1	S	0	0:00	\- [rcuos/17]
2	26	0	0	?	-1	S	0	0:00	\- [rcuos/18]
2	27	0	0	?	-1	S	0	0:00	\- [rcuos/19]
2	28	0	0	?	-1	S	0	0:00	\- [rcuos/20]
2	29	0	0	?	-1	S	0	0:00	\- [rcuos/21]
2	30	0	0	?	-1	S	0	0:00	\- [rcuos/22]
2	31	0	0	?	-1	S	0	0:00	\- [rcuos/23]
2	32	0	0	?	-1	S	0	0:00	\- [rcuos/24]
2	33	0	0	?	-1	S	0	0:00	\- [rcuos/25]
2	34	0	0	?	-1	S	0	0:00	\- [rcuos/26]
2	35	0	0	?	-1	S	0	0:00	\- [rcuos/27]
2	36	0	0	?	-1	S	0	0:00	\- [rcuos/28]
2	37	0	0	?	-1	S	0	0:00	\- [rcuos/29]
2	38	0	0	?	-1	S	0	0:00	\- [rcuos/30]
2	39	0	0	?	-1	S	0	0:00	\- [rcuos/31]
2	40	0	0	?	-1	S	0	0:00	\- [rcuos/32]
2	41	0	0	?	-1	S	0	0:00	\- [rcuos/33]
2	42	0	0	?	-1	S	0	0:00	\- [rcuos/34]
2	43	0	0	?	-1	S	0	0:00	\- [rcuos/35]
2	44	0	0	?	-1	S	0	0:00	\- [rcuos/36]
2	45	0	0	?	-1	S	0	0:00	\- [rcuos/37]
2	46	0	0	?	-1	S	0	0:00	\- [rcuos/38]
2	47	0	0	?	-1	S	0	0:00	\- [rcuos/39]
2	48	0	0	?	-1	S	0	0:00	\- [rcuos/40]
2	49	0	0	?	-1	S	0	0:00	\- [rcuos/41]
2	50	0	0	?	-1	S	0	0:00	\- [rcuos/42]
2	51	0	0	?	-1	S	0	0:00	\- [rcuos/43]

2	52	0	0 ?	-1 S	0	0:00	\-	[rcuos/44]
2	53	0	0 ?	-1 S	0	0:00	\-	[rcuos/45]
2	54	0	0 ?	-1 S	0	0:00	\-	[rcuos/46]
2	55	0	0 ?	-1 S	0	0:00	\-	[rcuos/47]
2	56	0	0 ?	-1 S	0	0:00	\-	[rcuos/48]
2	57	0	0 ?	-1 S	0	0:00	\-	[rcuos/49]
2	58	0	0 ?	-1 S	0	0:00	\-	[rcuos/50]
2	59	0	0 ?	-1 S	0	0:00	\-	[rcuos/51]
2	60	0	0 ?	-1 S	0	0:00	\-	[rcuos/52]
2	61	0	0 ?	-1 S	0	0:00	\-	[rcuos/53]
2	62	0	0 ?	-1 S	0	0:00	\-	[rcuos/54]
2	63	0	0 ?	-1 S	0	0:00	\-	[rcuos/55]
2	64	0	0 ?	-1 S	0	0:00	\-	[rcuos/56]
2	65	0	0 ?	-1 S	0	0:00	\-	[rcuos/57]
2	66	0	0 ?	-1 S	0	0:00	\-	[rcuos/58]
2	67	0	0 ?	-1 S	0	0:00	\-	[rcuos/59]
2	68	0	0 ?	-1 S	0	0:00	\-	[rcuos/60]
2	69	0	0 ?	-1 S	0	0:00	\-	[rcuos/61]
2	70	0	0 ?	-1 S	0	0:00	\-	[rcuos/62]
2	71	0	0 ?	-1 S	0	0:00	\-	[rcuos/63]
2	72	0	0 ?	-1 S	0	0:00	\-	[rcu_bh]
2	73	0	0 ?	-1 S	0	0:00	\-	[rcuob/0]
2	74	0	0 ?	-1 S	0	0:00	\-	[rcuob/1]
2	75	0	0 ?	-1 S	0	0:00	\-	[rcuob/2]
2	76	0	0 ?	-1 S	0	0:00	\-	[rcuob/3]
2	77	0	0 ?	-1 S	0	0:00	\-	[rcuob/4]
2	78	0	0 ?	-1 S	0	0:00	\-	[rcuob/5]
2	79	0	0 ?	-1 S	0	0:00	\-	[rcuob/6]
2	80	0	0 ?	-1 S	0	0:00	\-	[rcuob/7]
2	81	0	0 ?	-1 S	0	0:00	\-	[rcuob/8]
2	82	0	0 ?	-1 S	0	0:00	\-	[rcuob/9]
2	83	0	0 ?	-1 S	0	0:00	\-	[rcuob/10]
2	84	0	0 ?	-1 S	0	0:00	\-	[rcuob/11]
2	85	0	0 ?	-1 S	0	0:00	\-	[rcuob/12]
2	86	0	0 ?	-1 S	0	0:00	\-	[rcuob/13]
2	87	0	0 ?	-1 S	0	0:00	\-	[rcuob/14]
2	88	0	0 ?	-1 S	0	0:00	\-	[rcuob/15]
2	89	0	0 ?	-1 S	0	0:00	\-	[rcuob/16]
2	90	0	0 ?	-1 S	0	0:00	\-	[rcuob/17]
2	91	0	0 ?	-1 S	0	0:00	\-	[rcuob/18]
2	92	0	0 ?	-1 S	0	0:00	\-	[rcuob/19]
2	93	0	0 ?	-1 S	0	0:00	\-	[rcuob/20]
2	94	0	0 ?	-1 S	0	0:00	\-	[rcuob/21]
2	95	0	0 ?	-1 S	0	0:00	\-	[rcuob/22]
2	96	0	0 ?	-1 S	0	0:00	\-	[rcuob/23]
2	97	0	0 ?	-1 S	0	0:00	\-	[rcuob/24]
2	98	0	0 ?	-1 S	0	0:00	\-	[rcuob/25]
2	99	0	0 ?	-1 S	0	0:00	\-	[rcuob/26]
2	100	0	0 ?	-1 S	0	0:00	\-	[rcuob/27]
2	101	0	0 ?	-1 S	0	0:00	\-	[rcuob/28]
2	102	0	0 ?	-1 S	0	0:00	\-	[rcuob/29]
2	103	0	0 ?	-1 S	0	0:00	\-	[rcuob/30]
2	104	0	0 ?	-1 S	0	0:00	\-	[rcuob/31]
2	105	0	0 ?	-1 S	0	0:00	\-	[rcuob/32]
2	106	0	0 ?	-1 S	0	0:00	\-	[rcuob/33]
2	107	0	0 ?	-1 S	0	0:00	\-	[rcuob/34]

2	108	0	0 ?	-1 S	0	0:00	\-	[rcuob/35]
2	109	0	0 ?	-1 S	0	0:00	\-	[rcuob/36]
2	110	0	0 ?	-1 S	0	0:00	\-	[rcuob/37]
2	111	0	0 ?	-1 S	0	0:00	\-	[rcuob/38]
2	112	0	0 ?	-1 S	0	0:00	\-	[rcuob/39]
2	113	0	0 ?	-1 S	0	0:00	\-	[rcuob/40]
2	114	0	0 ?	-1 S	0	0:00	\-	[rcuob/41]
2	115	0	0 ?	-1 S	0	0:00	\-	[rcuob/42]
2	116	0	0 ?	-1 S	0	0:00	\-	[rcuob/43]
2	117	0	0 ?	-1 S	0	0:00	\-	[rcuob/44]
2	118	0	0 ?	-1 S	0	0:00	\-	[rcuob/45]
2	119	0	0 ?	-1 S	0	0:00	\-	[rcuob/46]
2	120	0	0 ?	-1 S	0	0:00	\-	[rcuob/47]
2	121	0	0 ?	-1 S	0	0:00	\-	[rcuob/48]
2	122	0	0 ?	-1 S	0	0:00	\-	[rcuob/49]
2	123	0	0 ?	-1 S	0	0:00	\-	[rcuob/50]
2	124	0	0 ?	-1 S	0	0:00	\-	[rcuob/51]
2	125	0	0 ?	-1 S	0	0:00	\-	[rcuob/52]
2	126	0	0 ?	-1 S	0	0:00	\-	[rcuob/53]
2	127	0	0 ?	-1 S	0	0:00	\-	[rcuob/54]
2	128	0	0 ?	-1 S	0	0:00	\-	[rcuob/55]
2	129	0	0 ?	-1 S	0	0:00	\-	[rcuob/56]
2	130	0	0 ?	-1 S	0	0:00	\-	[rcuob/57]
2	131	0	0 ?	-1 S	0	0:00	\-	[rcuob/58]
2	132	0	0 ?	-1 S	0	0:00	\-	[rcuob/59]
2	133	0	0 ?	-1 S	0	0:00	\-	[rcuob/60]
2	134	0	0 ?	-1 S	0	0:00	\-	[rcuob/61]
2	135	0	0 ?	-1 S	0	0:00	\-	[rcuob/62]
2	136	0	0 ?	-1 S	0	0:00	\-	[rcuob/63]
2	137	0	0 ?	-1 S	0	0:00	\-	[migration/0]
2	138	0	0 ?	-1 S	0	0:00	\-	[watchdog/0]
2	139	0	0 ?	-1 S	0	0:00	\-	[watchdog/1]
2	140	0	0 ?	-1 S	0	0:00	\-	[migration/1]
2	141	0	0 ?	-1 S	0	0:00	\-	[ksoftirqd/1]
2	142	0	0 ?	-1 S	0	0:00	\-	[kworker/1:0]
2	143	0	0 ?	-1 S<	0	0:00	\-	[kworker/1:0H]
2	144	0	0 ?	-1 S<	0	0:00	\-	[khelper]
2	145	0	0 ?	-1 S	0	0:00	\-	[kdevtmpfs]
2	146	0	0 ?	-1 S<	0	0:00	\-	[netns]
2	147	0	0 ?	-1 S<	0	0:00	\-	[writeback]
2	148	0	0 ?	-1 S<	0	0:00	\-	[kintegrityd]
2	149	0	0 ?	-1 S<	0	0:00	\-	[bioset]
2	150	0	0 ?	-1 S<	0	0:00	\-	[kworker/u129:0]
2	151	0	0 ?	-1 S<	0	0:00	\-	[kblockd]
2	152	0	0 ?	-1 S<	0	0:00	\-	[ata_sff]
2	153	0	0 ?	-1 S	0	0:00	\-	[khubd]
2	154	0	0 ?	-1 S<	0	0:00	\-	[md]
2	155	0	0 ?	-1 S<	0	0:00	\-	[devfreq-wq]
2	157	0	0 ?	-1 S	0	0:02	\-	[kworker/0:1]
2	159	0	0 ?	-1 S	0	0:00	\-	[khungtaskd]
2	160	0	0 ?	-1 S	0	0:00	\-	[kswapd0]
2	161	0	0 ?	-1 SN	0	0:00	\-	[ksmd]
2	162	0	0 ?	-1 SN	0	0:00	\-	[khugepaged]
2	163	0	0 ?	-1 S	0	0:00	\-	[fsnotify-mark]
2	164	0	0 ?	-1 S	0	0:00	\-	[ecryptfs-kthrea]
2	165	0	0 ?	-1 S<	0	0:00	\-	[crypto]

2	177	0	0 ?	-1 S<	0	0:00	\-	[kthrotld]
2	179	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_0]
2	180	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_1]
2	201	0	0 ?	-1 S<	0	0:00	\-	[deferwq]
2	202	0	0 ?	-1 S<	0	0:00	\-	[charger_manager]
2	203	0	0 ?	-1 S	0	0:00	\-	[kworker/1:2]
2	255	0	0 ?	-1 S<	0	0:00	\-	[mpt_poll_0]
2	257	0	0 ?	-1 S<	0	0:00	\-	[mpt/0]
2	258	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_2]
2	259	0	0 ?	-1 S<	0	0:00	\-	[kpsmouse]
2	260	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_3]
2	261	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_4]
2	262	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_5]
2	263	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_6]
2	264	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_7]
2	265	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_8]
2	266	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_9]
2	267	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_10]
2	268	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_11]
2	269	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_12]
2	270	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_13]
2	271	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_14]
2	272	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_15]
2	273	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_16]
2	274	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_17]
2	275	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_18]
2	276	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_19]
2	277	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_20]
2	278	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_21]
2	279	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_22]
2	280	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_23]
2	281	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_24]
2	282	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_25]
2	283	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_26]
2	284	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_27]
2	285	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_28]
2	286	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_29]
2	287	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_30]
2	288	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_31]
2	317	0	0 ?	-1 S	0	0:00	\-	[scsi_eh_32]
2	318	0	0 ?	-1 S	0	0:00	\-	[kworker/0:2]
2	332	0	0 ?	-1 S	0	0:00	\-	[jbd2/sda1-8]
2	333	0	0 ?	-1 S<	0	0:00	\-	[ext4-rsv-conver]
2	560	0	0 ?	-1 S<	0	0:00	\-	[ttm_swap]
2	734	0	0 ?	-1 S<	0	0:00	\-	[krfcomm]
2	1440	0	0 ?	-1 S	0	0:00	\-	[kauditd]
2	3925	0	0 ?	-1 S	0	0:00	\-	[kworker/u128:3]
2	5416	0	0 ?	-1 S	0	0:00	\-	[kworker/u128:2]
2	5626	0	0 ?	-1 S	0	0:00	\-	[kworker/u128:1]
2	5658	0	0 ?	-1 S	0	0:00	\-	[kworker/u128:0]
0	1	1	1 ?	-1 Ss	0	0:01	/sbin/init	
1	474	472	472 ?	-1 S	0	0:00	upstart-udev-bridge	
---daemon								
1	483	483	483 ?	-1 Ss	0	0:00	/lib/systemd/systemd-	
udev ---daemon								
1	617	615	615 ?	-1 S	0	0:00	upstart-file-bridge	

```

    —daemon
1    632    632    632 ?                -1 Ss      102    0:00 dbus-daemon —system
    —fork
1    678    678    678 ?                -1 Ssl     101    0:00 rsyslogd
1    697    697    697 ?                -1 Ss      0      0:00 /usr/sbin/bluetoothd
1    713    713    713 ?                -1 Ss      0      0:00 /lib/systemd/systemd-
    logind
1    786    778    778 ?                -1 S       111    0:00 avahi-daemon: running
    [ubuntu.local]
786   792    778    778 ?                -1 S       111    0:00 \_ avahi-daemon:
    chroot helper
1    819    819    819 ?                -1 Ssl     0      0:00 /usr/sbin/
    ModemManager
1    844    843    843 ?                -1 S       0      0:00 upstart-socket-bridge
    —daemon
1    923    923    923 ?                -1 Ssl     0      0:00 NetworkManager
923   1000   1000   923 ?                -1 S       0      0:00 \_ /sbin/dhclient -d
    -sf /usr/lib/NetworkManager/nm-dhcp-client.action -pf /run/sendsigs.
    omit.d/network-manager.dhclient-eth0.pid -lf /var/lib/NetworkManager/
    dhclient-0b6e09d1-e573-4c09-8537-a1ee394209a9-eth0.lease -cf /var/lib/
    NetworkManager/dhclient-eth0.conf eth0
923   1490   1490   923 ?                -1 S      65534   0:00 \_ /usr/sbin/dnsmasq
    —no-resolv —keep-in-foreground —no-hosts —bind-interfaces —pid-
    file=/run/sendsigs.omit.d/network-manager.dnsmasq.pid —listen-address
    =127.0.1.1 —conf-file=/var/run/NetworkManager/dnsmasq.conf —cache-size
    =0 —proxy-dnssec —enable-dbus=org.freedesktop.NetworkManager.dnsmasq
    —conf-dir=/etc/NetworkManager/dnsmasq.d
1    935    632    632 ?                -1 Sl      0      0:00 /usr/lib/policykit-1/
    polkitd —no-debug
1    968    968    968 tty4          968 Ss+    0      0:00 /sbin/getty -8 38400
    tty4
1    974    974    974 tty5          974 Ss+    0      0:00 /sbin/getty -8 38400
    tty5
1    980    980    980 tty2          980 Ss+    0      0:00 /sbin/getty -8 38400
    tty2
1    982    982    982 tty3          982 Ss+    0      0:00 /sbin/getty -8 38400
    tty3
1    985    985    985 tty6          985 Ss+    0      0:00 /sbin/getty -8 38400
    tty6
1   1040   1040   1040 ?                -1 Ss     106    0:00 /usr/sbin/kerneloops
1   1045   1045   1045 ?                -1 Ss      0      0:00 cron
1   1053   1053   1053 ?                -1 SLsl    0      0:00 lightdm
1053  1142   1142   1142 tty7          1142 Rs+    0      0:34 \_ /usr/bin/X -core
    :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten tcp vt7 -
    novtswitch
1053  1715   1053   1053 ?                -1 Sl      0      0:00 \_ lightdm —session
    -child 12 19
1715  2730   2730   2730 ?                -1 Ss     1000    0:00 \_ init —user
2730  2801   2801   2801 ?                -1 Ss     1000    0:00 \_ ssh-agent
    -s
2730  2807   2807   2807 ?                -1 Ss     1000    0:01 \_ dbus-
    daemon —fork —session —address=unix:abstract=/tmp/dbus-VLfuIwL5iq
2730  2815   2815   2815 ?                -1 Ss     1000    0:00 \_ upstart-
    event-bridge
2730  2819   2819   2819 ?                -1 Ss     1000    0:00 \_ /usr/lib/
    x86_64-linux-gnu/hud/window-stack-bridge

```

2730	2820	2820	2820	?	-1	Ssl	1000	0:04	_ /usr/bin/
	ibus-daemon --daemonize --xim								
2820	2851	2820	2820	?	-1	S1	1000	0:00	_ /usr/
	lib/ibus/ibus-dconf								
2820	2854	2820	2820	?	-1	S1	1000	0:01	_ /usr/
	lib/ibus/ibus-ui-gtk3								
2820	2914	2820	2820	?	-1	S1	1000	0:00	_ /usr/
	lib/ibus/ibus-engine-simple								
2730	2829	2828	2828	?	-1	S	1000	0:00	_ upstart-
	file-bridge --daemon --user								
2730	2835	2807	2807	?	-1	S1	1000	0:00	_ /usr/lib/
	gvfs/gvfsd								
2730	2836	2836	2836	?	-1	Ssl	1000	0:00	_ /usr/lib/
	unity-settings-daemon/unity-settings-daemon								
2730	2842	2807	2807	?	-1	S1	1000	0:00	_ /usr/lib/
	gvfs/gvfsd-fuse /run/user/1000/gvfs -f -o big-writes								
2730	2845	2845	2845	?	-1	Ssl	1000	0:01	_ /usr/lib/
	x86_64-linux-gnu/hud/hud-service								
2730	2849	2849	2849	?	-1	Ssl	1000	0:00	_ /usr/lib/
	at-spi2-core/at-spi-bus-launcher --launch-immediately								
2849	2862	2849	2849	?	-1	S	1000	0:00	_ /bin/
	dbus-daemon --config-file=/etc/at-spi2/accessibility.conf --nofork --								
	print-address 3								
2730	2858	2858	2858	?	-1	Ssl	1000	0:00	_ gnome-
	session --session=ubuntu								
2858	3039	2858	2858	?	-1	S1	1000	0:29	_
	compiz								
2858	3077	2858	2858	?	-1	S1	1000	0:00	_ nm-
	applet								
2858	3078	2858	2858	?	-1	S1	1000	0:00	_ /usr/
	lib/policykit-1-gnome/polkit-gnome-authentication-agent-1								
2858	3080	2858	2858	?	-1	S1	1000	0:08	_
	nautilus -n								
2858	3081	2858	2858	?	-1	S1	1000	0:00	_ /usr/
	lib/unity-settings-daemon/unity-fallback-mount-helper								
2858	3294	2858	2858	?	-1	S1	1000	0:00	_
	telepathy-indicator								
2858	3317	2858	2858	?	-1	S1	1000	0:00	_
	zeitgeist-datahub								
2858	3374	2858	2858	?	-1	S1	1000	0:00	_
	update-notifier								
2858	3426	2858	2858	?	-1	S1	1000	0:00	_ /usr/
	lib/x86_64-linux-gnu/deja-dup/deja-dup-monitor								
2730	2864	2864	2864	?	-1	Ssl	1000	0:01	_ /usr/lib/
	unity/unity-panel-service								
2730	2865	2820	2820	?	-1	S1	1000	0:00	_ /usr/lib/
	ibus/ibus-x11 --kill-daemon								
2730	2870	2868	2868	?	-1	S	1000	0:00	_ upstart-
	dbus-bridge --daemon --session --user --bus-name session								
2730	2872	2849	2849	?	-1	S1	1000	0:00	_ /usr/lib/
	at-spi2-core/at-spi2-registryd --use-gnome-session								
2730	2892	2891	2891	?	-1	S	1000	0:00	_ upstart-
	dbus-bridge --daemon --system --user --bus-name system								
2730	2907	2807	2807	?	-1	S1	1000	0:01	_ /usr/lib/
	x86_64-linux-gnu/bamf/bamfdaemon								
2730	2921	2807	2807	?	-1	S1	1000	0:00	_ /usr/lib/

```

x86_64-linux-gnu/indicator-keyboard-service --use-gtk
2730 2922 2922 2922 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-messages/indicator-messages-service
2730 2924 2924 2924 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-bluetooth/indicator-bluetooth-service
2730 2931 2931 2931 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-power/indicator-power-service
2730 2934 2934 2934 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-datetime/indicator-datetime-service
2730 2937 2937 2937 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-sound/indicator-sound-service
2730 2946 2946 2946 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-printers/indicator-printers-service
2730 2950 2950 2950 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-session/indicator-session-service
2730 2952 2952 2952 ? -1 Ssl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/indicator-application/indicator-application-service
2730 2958 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
dconf/dconf-service
2730 2976 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
evolution/evolution-source-registry
2730 2997 2996 2996 ? -1 S<l 1000 0:00 \_ /usr/bin/
pulseaudio --start --log-target=syslog
2730 3032 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/notify-osd
2730 3049 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
evolution/evolution-calendar-factory
2730 3086 2858 2858 ? -1 Sl 1000 0:04 \_ /usr/lib/
vmware-tools/sbin64/vmtoolsd -n vmusr --blockFd 3
2730 3145 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfs-udisks2-volume-monitor
2730 3193 2807 2807 ? -1 S 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/gconf/gconfd-2
2730 3203 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfs-gphoto2-volume-monitor
2730 3209 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfs-afc-volume-monitor
2730 3214 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfs-mtp-volume-monitor
2730 3231 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfds-trash --spawner :1.3 /org/gtk/gvfs/exec_spaw/0
2730 3261 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfds-burn --spawner :1.3 /org/gtk/gvfs/exec_spaw/1
2730 3282 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfds-metadata
2730 3303 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
telepathy/mission-control-5
2730 3322 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/bin/
zeitgeist-daemon
2730 3328 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/zeitgeist-fts
3328 3332 2807 2807 ? -1 S 1000 0:00 | \_ /bin/
cat
2730 3524 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/unity-scope-home/unity-scope-home
2730 3538 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/

```

```

x86_64-linux-gnu/unity-lens-files/unity-files-daemon
2730 3539 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/bin/
unity-scope-loader applications/applications.scope applications/scopes.
scope commands.scope
2730 3565 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
x86_64-linux-gnu/unity-lens-music/unity-music-daemon
2730 3582 2858 2858 ? -1 Sl 1000 0:08 \_ gnome-
terminal
3582 3590 2858 2858 ? -1 S 1000 0:00 | \_ gnome
-pty-helper
3582 3591 3591 3591 pts/0 5710 Ss 1000 0:00 | \_ bash
3591 5710 5710 3591 pts/0 5710 R+ 1000 0:00 | | \_
ps axjf
3582 3706 3706 3706 pts/6 3706 Ss+ 1000 0:00 | \_ bash
2730 4373 2807 2807 ? -1 Sl 1000 0:00 \_ /usr/lib/
gvfs/gvfsd-http --spawner :1.3 /org/gtk/gvfs/exec_spaw/2
1 1091 1091 1091 ? -1 Ss 0 0:03 /usr/sbin/irqbalance
1 1154 632 632 ? -1 Sl 0 0:00 /usr/lib/
accountsservice/accounts-daemon
1 1191 1191 1191 ? -1 Ss 0 0:00 /usr/sbin/cups-
browsed
1 1198 1198 1198 ? -1 Ssl 109 0:00 whoopsie
1 1234 1234 1234 tty1 1234 Ss+ 0 0:00 /sbin/getty -8 38400
tty1
1 1248 1248 1248 ? -1 Ss 0 0:00 acpid -c /etc/acpi/
events -s /var/run/acpid.socket
1 1432 1432 1432 ? -1 Ssl 0 0:00 /usr/sbin/vmware-
vmblock-fuse -o subtype=vmware-vmblock,default_permissions,allow_other
/var/run/vmblock-fuse
1 1460 1459 1459 ? -1 Sl 0 0:05 /usr/sbin/vmtoolsd
1 1738 632 632 ? -1 Sl 0 0:00 /usr/lib/upower/
upowerd
1 1779 632 632 ? -1 SNl 107 0:00 /usr/lib/rtkit/rtkit-
daemon
1 1982 632 632 ? -1 Sl 113 0:00 /usr/lib/colord/
colord
1 2519 2519 2519 ? -1 Ss 0 0:00 /usr/sbin/cupsd -f
1 2557 2557 2557 ? -1 Ss 0 0:00 tpmvlpd2
1 2725 2724 2724 ? -1 Sl 1000 0:00 /usr/bin/gnome-
keyring-daemon --daemonize --login
1 3155 632 632 ? -1 Sl 0 0:00 /usr/lib/udisks2/
udisksd --no-debug

```


Appendix B

Kildekode