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1.Przebieg procesu kompilacji dla metody starej.

Kopiowanie starej konfiguracji.

```
root@slack32:/usr/src# cd linux-5.12.1
root@slack32:/usr/src/linux-5.12.1# zcat /proc/config.gz > .config
root@slack32:/usr/src/linux-5.12.1#
```

Utworzenie .config - we wszystkich opcjach wybrane są domyślne wartości.

```
root@slack32:/usr/src/linux-5.12.1# make localmodconfig
*
* KUnit - Enable support for unit tests
*
KUnit - Enable support for unit tests (KUNIT) [N/m/y/?] (NEW)
*
* Runtime Testing
*
Runtime Testing (RUNTIME_TESTING_MENU) [Y/n/?] (NEW)
  Linux Kernel Dump Test Tool Module (LKDTM) [N/m/y/?] n
  Linked list sorting test (TEST_LIST_SORT) [N/m/y/?] n
  Min heap test (TEST_MIN_HEAP) [N/m/y/?] (NEW)
  Array-based sort test (TEST_SORT) [N/m/y/?] (NEW)
  Self test for the backtrace code (BACKTRACE_SELF_TEST) [N/m/y/?] n
  Red-Black tree test (RBTREE_TEST) [N/m/y/?] n
  Reed-Solomon library test (REED_SOLOMON_TEST) [N/m/y/?] (NEW)
  Interval tree test (INTERVAL_TREE_TEST) [N/m/y/?] n
  Per cpu operations test (PERCPU_TEST) [N/m/?] n
  Perform an atomic64_t self-test (ATOMIC64_SELFTEST) [Y/n/m/?] y
  Self test for hardware accelerated raid6 recovery (ASYNC_RAID6_TEST) [N/m/y/?] n
  Test functions located in the hexdump module at runtime (TEST_HEXDUMP) [N/m/y/?] n
  Test functions located in the string_helpers module at runtime (TEST_STRING_HELPERS) [N/m/y/?] n
  Test strscpy*() family of functions at runtime (TEST_STRSCPY) [N/m/y/?] (NEW)
  Test kstrto*() family of functions at runtime (TEST_KSTRTOX) [N/m/y/?] n
  Test printf() family of functions at runtime (TEST_PRINTF) [N/m/y/?] n
  Test bitmap_*() family of functions at runtime (TEST_BITMAP) [N/m/y/?] (NEW)
  Test functions located in the uuid module at runtime (TEST_UUID) [N/m/y/?] (NEW)
  Test the XArray code at runtime (TEST_XARRAY) [N/m/y/?] (NEW)
  Test check_*_overflow() functions at runtime (TEST_OVERFLOW) [N/m/y/?] (NEW)
  Perform selftest on resizable hash table (TEST_RHASHTABLE) [N/m/y/?] n
  Perform selftest on hash functions (TEST_HASH) [N/m/y/?] n
  Perform selftest on IDA functions (TEST_IDA) [N/m/y/?] (NEW)
  Test module loading with 'hello world' module (TEST_LKM) [N/m/?] n
  Test module for compilation of bitops operations (TEST_BITOPS) [N/m/?] (NEW)
  Test module for stress/performance analysis of vmalloc allocator (TEST_VMALLOC) [N/m/?] (NEW)
  Test user/kernel boundary protections (TEST_USER_COPY) [N/m/?] n
  Test BPF filter functionality (TEST_BPF) [N/m/?] n
  Test blackhole netdev functionality (TEST_BLACKHOLE_DEV) [N/m/?] (NEW)
  Test find_bit functions (FIND_BIT_BENCHMARK) [N/m/y/?] (NEW)
  Test firmware loading via userspace interface (TEST_FIRMWARE) [N/m/y/?] n
  sysctl test driver (TEST_SYSCTL) [N/m/y/?] (NEW)
  udelay test driver (TEST_UDELAY) [N/m/y/?] n
  Test static keys (TEST_STATIC_KEYS) [N/m/?] n
  kmod stress tester (TEST_KMOD) [N/m/?] (NEW)
  Test memcat_p() helper function (TEST_MEMCAT_P) [N/m/y/?] (NEW)
  Test level of stack variable initialization (TEST_STACKINIT) [N/m/y/?] (NEW)
  Test heap/page initialization (TEST_MEMINIT) [N/m/y/?] (NEW)
  Test freeing pages (TEST_FREE_PAGES) [N/m/y/?] (NEW)
  Test floating point operations in kernel space (TEST_FPU) [N/m/y/?] (NEW)
#
# configuration written to .config
#
root@slack32:/usr/src/linux-5.12.1#
root@slack32:/usr/src/linux-5.12.1#
```

Kompilacja obrazu jądra.

```
root@slack32:/usr/src/linux-5.12.1# make -j4 bzImage
```

```
  CC      drivers/md/dm-ioctl.o
  CC      drivers/md/dm-io.o
  CC      drivers/md/dm-kcopyd.o
  CC      drivers/md/dm-sysfs.o
  CC      drivers/md/dm-stats.o
  CC      drivers/md/dm-rq.o
  CC      drivers/md/dm-builtin.o
  CC      drivers/md/dm-bufio.o
  CC      drivers/md/dm-crypt.o
  CC      drivers/md/dm-snap.o
  CC      drivers/md/dm-exception-store.o
  CC      drivers/md/dm-snap-transient.o
  CC      drivers/md/dm-snap-persistent.o
  CC      drivers/md/dm-raidl.o
  CC      drivers/md/dm-log.o
  CC      drivers/md/dm-region-hash.o
  AR      drivers/md/built-in.a
  AR      drivers/built-in.a
  GEN     .version
  CHK     include/generated/compile.h
  UPD     include/generated/compile.h
  CC      init/version.o
  AR      init/built-in.a
  LD      vmlinux.o
  MODPOST vmlinux.symvers
  MODINFO modules.builtin.modinfo
  GEN     modules.builtin
  LD      .tmp_vmlinux.kallsyms1
  KSYMS   .tmp_vmlinux.kallsyms1.S
  AS      .tmp_vmlinux.kallsyms1.S
  LD      .tmp_vmlinux.kallsyms2
  KSYMS   .tmp_vmlinux.kallsyms2.S
  AS      .tmp_vmlinux.kallsyms2.S
  LD      vmlinux
  SORTTAB vmlinux
  SYSMAP  System.map
  CC      arch/x86/boot/main.o
  CC      arch/x86/boot/edd.o
  CC      arch/x86/boot/version.o
  AS      arch/x86/boot/compressed/head_32.o
  VOFFSET arch/x86/boot/compressed/../voffset.h
  CC      arch/x86/boot/compressed/cmdline.o
  CC      arch/x86/boot/compressed/error.o
  OBJCOPY arch/x86/boot/compressed/vmlinux.bin
  CC      arch/x86/boot/compressed/early_serial_console.o
  CC      arch/x86/boot/compressed/acpi.o
  LZMA    arch/x86/boot/compressed/vmlinux.bin.lzma
  CC      arch/x86/boot/compressed/misc.o
  MKPIGGY arch/x86/boot/compressed/piggy.S
  AS      arch/x86/boot/compressed/piggy.o
  LD      arch/x86/boot/compressed/vmlinux
  ZOFFSET arch/x86/boot/zoffset.h
  OBJCOPY arch/x86/boot/vmlinux.bin
  AS      arch/x86/boot/header.o
  LD      arch/x86/boot/setup.elf
  OBJCOPY arch/x86/boot/setup.bin
  BUILD   arch/x86/boot/bzImage
Kernel: arch/x86/boot/bzImage is ready  (#2)
root@slack32:/usr/src/linux-5.12.1#
```

Budowanie modułów.

```
root@slack32:/usr/src/linux-5.12.1# make -j4 modules
```

```
  CC [M]  drivers/video/fbdev/core/fb_sys_fops.mod.o
  CC [M]  drivers/video/fbdev/core/sysfillrect.mod.o
  CC [M]  drivers/video/fbdev/core/syscopyarea.mod.o
  CC [M]  drivers/video/fbdev/core/sysimgblt.mod.o
  CC [M]  fs/fuse/fuse.mod.o
  CC [M]  net/ipv6/ipv6.mod.o
  CC [M]  net/rfkill/rfkill.mod.o
  CC [M]  net/wireless/cfg80211.mod.o
  CC [M]  sound/ac97_bus.mod.o
  CC [M]  sound/core/snd-pcm.mod.o
  CC [M]  sound/core/snd-timer.mod.o
  CC [M]  sound/core/snd.mod.o
  CC [M]  sound/pci/ac97/snd-ac97-codec.mod.o
  CC [M]  sound/pci/snd-intel8x0.mod.o
  CC [M]  sound/soundcore.mod.o
  LD [M]  arch/x86/crypto/crc32-pclmul.ko
  LD [M]  drivers/acpi/ac.ko
  LD [M]  drivers/acpi/button.ko
  LD [M]  drivers/acpi/video.ko
  LD [M]  drivers/block/loop.ko
  LD [M]  drivers/char/agp/agpgart.ko
  LD [M]  drivers/char/agp/intel-agp.ko
  LD [M]  drivers/char/agp/intel-gtt.ko
  LD [M]  drivers/char/tpm/tpm.ko
  LD [M]  drivers/char/tpm/tpm_tis.ko
  LD [M]  drivers/char/tpm/tpm_tis_core.ko
  LD [M]  drivers/gpu/drm/drm.ko
  LD [M]  drivers/gpu/drm/drm_kms_helper.ko
  LD [M]  drivers/gpu/drm/ttm/ttm.ko
  LD [M]  drivers/gpu/drm/vmwgfx/vmwgfx.ko
  LD [M]  drivers/i2c/algos/i2c-algo-bit.ko
  LD [M]  drivers/i2c/busses/i2c-piix4.ko
  LD [M]  drivers/i2c/i2c-core.ko
  LD [M]  drivers/i2c/i2c-dev.ko
  LD [M]  drivers/input/evdev.ko
  LD [M]  drivers/input/joydev.ko
  LD [M]  drivers/input/mouse/psmouse.ko
  LD [M]  drivers/input/serio/serio_raw.ko
  LD [M]  drivers/net/ethernet/intel/e1000/e1000.ko
  LD [M]  drivers/usb/host/ehci-hcd.ko
  LD [M]  drivers/usb/host/ehci-pci.ko
  LD [M]  drivers/usb/host/ohci-hcd.ko
  LD [M]  drivers/usb/host/ohci-pci.ko
  LD [M]  drivers/video/fbdev/core/fb_sys_fops.ko
  LD [M]  drivers/video/fbdev/core/syscopyarea.ko
  LD [M]  drivers/video/fbdev/core/sysfillrect.ko
  LD [M]  drivers/video/fbdev/core/sysimgblt.ko
  LD [M]  fs/fuse/fuse.ko
  LD [M]  net/ipv6/ipv6.ko
  LD [M]  net/rfkill/rfkill.ko
  LD [M]  net/wireless/cfg80211.ko
  LD [M]  sound/ac97_bus.ko
  LD [M]  sound/core/snd-pcm.ko
  LD [M]  sound/core/snd-timer.ko
  LD [M]  sound/core/snd.ko
  LD [M]  sound/pci/snd-intel8x0.ko
  LD [M]  sound/pci/ac97/snd-ac97-codec.ko
  LD [M]  sound/soundcore.ko
root@slack32:/usr/src/linux-5.12.1#
```

Instalacja modułów.

```
root@slack32:/usr/src/linux-5.12.1# make modules_install
  INSTALL arch/x86/crypto/crc32-pclmul.ko
  INSTALL drivers/acpi/ac.ko
  INSTALL drivers/acpi/button.ko
  INSTALL drivers/acpi/video.ko
  INSTALL drivers/block/loop.ko
  INSTALL drivers/char/agp/agpgart.ko
  INSTALL drivers/char/agp/intel-agp.ko
  INSTALL drivers/char/agp/intel-gtt.ko
  INSTALL drivers/char/tpm/tpm.ko
  INSTALL drivers/char/tpm/tpm_tis.ko
  INSTALL drivers/char/tpm/tpm_tis_core.ko
  INSTALL drivers/gpu/drm/drm.ko
  INSTALL drivers/gpu/drm/drm_kms_helper.ko
  INSTALL drivers/gpu/drm/ttm/ttm.ko
  INSTALL drivers/gpu/drm/vmwgfx/vmwgfx.ko
  INSTALL drivers/i2c/algos/i2c-algo-bit.ko
  INSTALL drivers/i2c/busses/i2c-piix4.ko
  INSTALL drivers/i2c/i2c-core.ko
  INSTALL drivers/i2c/i2c-dev.ko
  INSTALL drivers/input/evdev.ko
  INSTALL drivers/input/joydev.ko
  INSTALL drivers/input/mouse/psmouse.ko
  INSTALL drivers/input/serio/serio_raw.ko
  INSTALL drivers/net/ethernet/intel/e1000/e1000.ko
  INSTALL drivers/usb/host/ehci-hcd.ko
  INSTALL drivers/usb/host/ehci-pci.ko
  INSTALL drivers/usb/host/ohci-hcd.ko
  INSTALL drivers/usb/host/ohci-pci.ko
  INSTALL drivers/video/fbdev/core/fb_sys_fops.ko
  INSTALL drivers/video/fbdev/core/syscopyarea.ko
  INSTALL drivers/video/fbdev/core/sysfillrect.ko
  INSTALL drivers/video/fbdev/core/sysimgblt.ko
  INSTALL fs/fuse/fuse.ko
  INSTALL net/ipv6/ipv6.ko
  INSTALL net/rfkill/rfkill.ko
  INSTALL net/wireless/cfg80211.ko
  INSTALL sound/ac97_bus.ko
  INSTALL sound/core/snd-pcm.ko
  INSTALL sound/core/snd-timer.ko
  INSTALL sound/core/snd.ko
  INSTALL sound/pci/ac97/snd-ac97-codec.ko
  INSTALL sound/pci/snd-intel8x0.ko
  INSTALL sound/soundcore.ko
  DEPMOD  5.12.1-smp
root@slack32:/usr/src/linux-5.12.1#
```

Przekopiowanie plików i stworzenie linku symbolicznego.

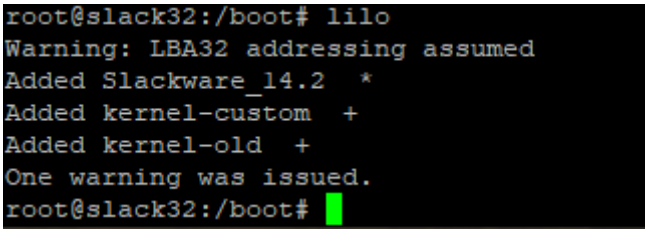
```
root@slack32:/usr/src/linux-5.12.1# cp arch/x86/boot/bzImage /boot/vmlinuz-oldmethod-5.12.1-smp
root@slack32:/usr/src/linux-5.12.1# cp System.map /boot/System.map-oldmethod-5.12.1-smp
root@slack32:/usr/src/linux-5.12.1# cp .config /boot/config-oldmethod-5.12.1-smp
root@slack32:/usr/src/linux-5.12.1# cd /boot/
root@slack32:/boot# ls
README.initrd@                      config@                         initrd-tree/              vmlinuz-generic@
System.map@                         config-custom-5.12.1-smp        inside.bmp                vmlinuz-generic-4.4.261
System.map-custom-5.12.1-smp        config-generic-4.4.261          inside.dat                vmlinuz-generic-smp@
System.map-generic-4.4.261          config-generic-smp-4.4.261-smp  map                       vmlinuz-generic-smp-4.4.261-smp
System.map-generic-smp-4.4.261-smp  config-huge-4.4.261             onlyblue.bmp              vmlinuz-huge@
System.map-huge-4.4.261             config-huge-smp-4.4.261-smp     onlyblue.dat              vmlinuz-huge-4.4.261
System.map-huge-smp-4.4.261-smp     config-oldmethod-5.12.1-smp     slack.bmp                 vmlinuz-huge-smp@
System.map-oldmethod-5.12.1-smp     elilo-ia32.efi*                 tuxlogo.bmp               vmlinuz-huge-smp-4.4.261-smp
boot.0800                           elilo-x86_64.efi*               tuxlogo.dat               vmlinuz-oldmethod-5.12.1-smp
boot_message.txt                    grub/                           vmlinuz@
coffee.dat                          initrd-custom-5.12.1-smp.gz     vmlinuz-custom-5.12.1-smp
root@slack32:/boot# rm System.map
root@slack32:/boot# ln -s System.map-oldmethod-5.12.1-smp System.map
```

Utworzenie dysku ram.

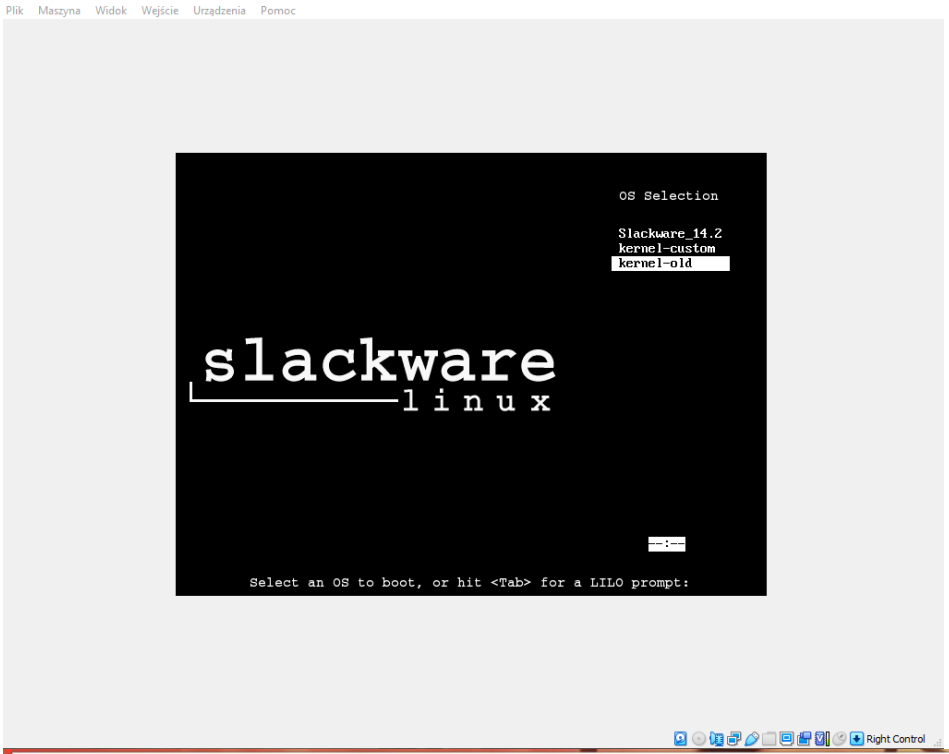
```
root@slack32:/boot# /usr/share/mkinitrd/mkinitrd_command_generator.sh -k 5.12.1-smp
#
# mkinitrd_command_generator.sh revision 1.45
#
# This script will now make a recommendation about the command to use
# in case you require an initrd image to boot a kernel that does not
# have support for your storage or root filesystem built in
# (such as the Slackware 'generic' kernels').
# A suitable 'mkinitrd' command will be:

mkinitrd -c -k 5.12.1-smp -f ext4 -r /dev/sda1 -m ext4 -u -o /boot/initrd.gz
root@slack32:/boot# mkinitrd -c -k 5.12.1-smp -f ext4 -r /dev/sda1 -m ext4 -u -o /boot/initrd-oldmethod-5.12.1-smp.gz
31927 bloków
/boot/initrd-oldmethod-5.12.1-smp.gz created.
Be sure to run lilo again if you use it.
root@slack32:/boot#
```

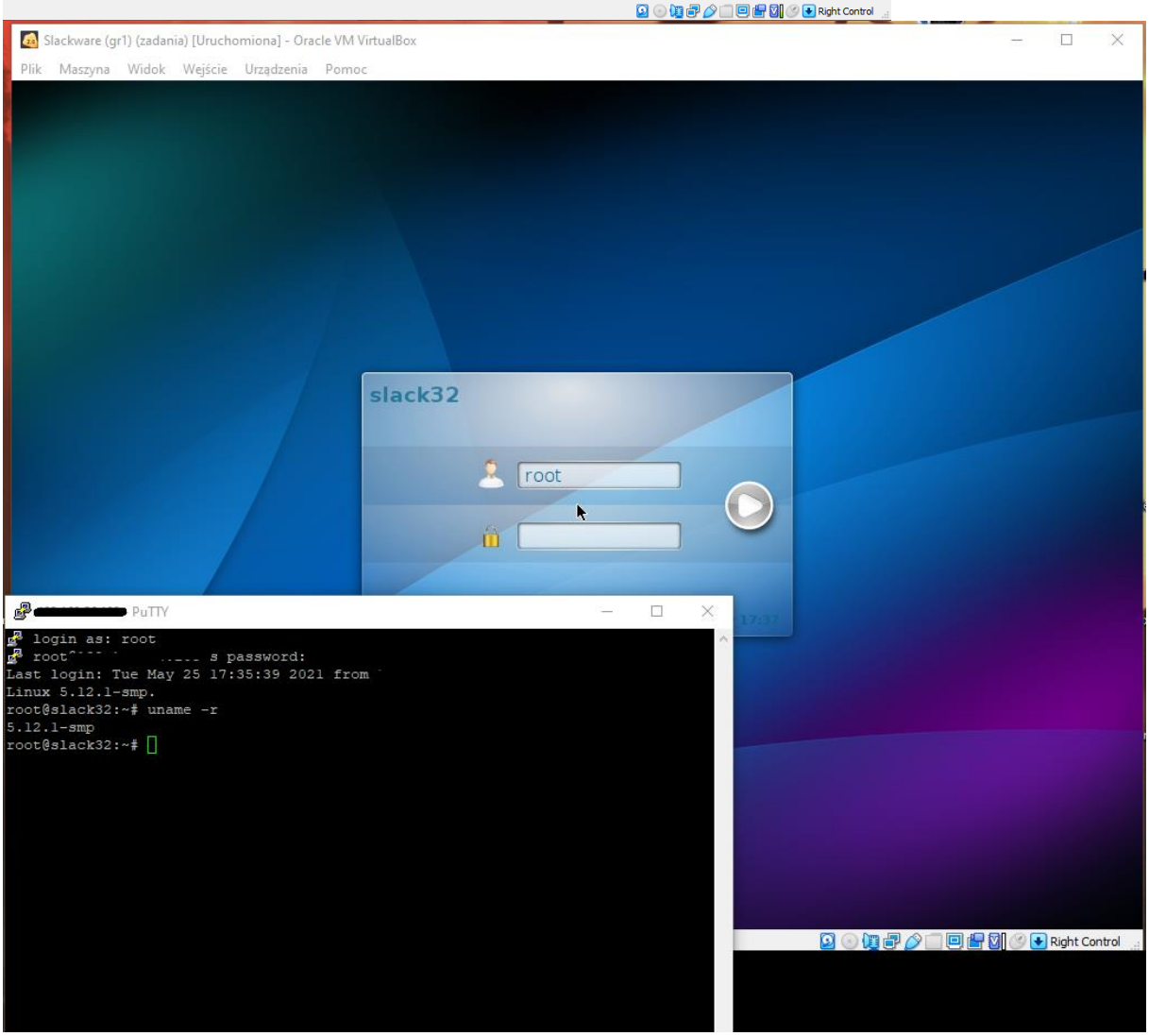
Skonfigurowanie lilo.

```
  nano 2.6.0                                Plik: /etc/lilo.conf

#message = /boot/boot_message.txt

# Wait until the timeout to boot (if commented out, boot the
# first entry immediately):
prompt
# Timeout before the first entry boots.
# This is given in tenths of a second, so 600 for every minute:
timeout = 300
# Override dangerous defaults that rewrite the partition table:
change-rules
  reset
# Normal VGA console
#vga = normal
# Ask for video mode at boot (time out to normal in 30s)
#vga = ask
# VESA framebuffer console @ 1024x768x64k
vga=791
# VESA framebuffer console @ 1024x768x32k
#vga=790
# VESA framebuffer console @ 1024x768x256
#vga=773
# VESA framebuffer console @ 800x600x64k
#vga=788
# VESA framebuffer console @ 800x600x32k
#vga=787
# VESA framebuffer console @ 800x600x256
#vga=771
# VESA framebuffer console @ 640x480x64k
#vga=785
# VESA framebuffer console @ 640x480x32k
#vga=784
# VESA framebuffer console @ 640x480x256
#vga=769
# End LILO global section
# Linux bootable partition config begins
image = /boot/vmlinuz
  root = /dev/sda1
  label = "Slackware 14.2"
  read-only

image = /boot/vmlinuz-custom-5.12.1-smp
  root = /dev/sda1
  initrd = /boot/initrd-custom-5.12.1-smp.gz
  label = "kernel-custom"
  read-only

image = /boot/vmlinuz-oldmethod-5.12.1-smp
  root = /dev/sda1
  initrd = /boot/initrd-oldmethod-5.12.1-smp.gz
  label = "kernel-old"
  read-only
# Linux bootable partition config ends


                              [ Zapisano 80 linii ]
^G Pomoc      ^O Zapisz     ^W Wyszukaj   ^K Wytnij     ^J Wyjustuj   ^C Bież.poz.  ^Y Poprz.str.  M-\ Pierw.lin.
^X Wyjdź      ^R Wczyt.plik ^\ Zastąp     ^U Odnów Tekst^T Pisownia   ^_ Przejdź do li^V Nast.str.  M-/ Ost.lin.
```


root@slack32:/boot# lilo
Warning: LBA32 addressing assumed
Added Slackware_14.2 *
Added kernel-custom +
Added kernel-old +
One warning was issued.
root@slack32:/boot#

Poprawne uruchomienie.





2.Przebieg procesu kompilacji dla metody nowej

Kopiowanie starej konfiguracji i utworzenie .config z wykorzystaniem skryptu.

```
root@slack32:/usr/src/linux-5.12.1# zcat /proc/config.gz > .config
root@slack32:/usr/src/linux-5.12.1# scripts/kconfig/streamline_config.pl > config_new
using config: '.config'
module vboxvideo did not have configs CONFIG_DRM_VBOXVIDEO
module vboxguest did not have configs CONFIG_VBOXGUEST
root@slack32:/usr/src/linux-5.12.1# mv config_new .config
root@slack32:/usr/src/linux-5.12.1# make olddefconfig
#
# configuration written to .config
#
root@slack32:/usr/src/linux-5.12.1#
```

Kompilacja obrazu jądra, budowanie modułów i instalacja modułów.

```
root@slack32:/usr/src/linux-5.12.1# make -j4 bzImage
```

```
root@slack32:/usr/src/linux-5.12.1# make -j4 modules
  CALL    scripts/atomic/check-atomics.sh
  CALL    scripts/checksyscalls.sh
  MODPOST Module.symvers
root@slack32:/usr/src/linux-5.12.1# make modules_install
  INSTALL arch/x86/crypto/crc32-pclmul.ko
  INSTALL drivers/acpi/ac.ko
  INSTALL drivers/acpi/button.ko
  INSTALL drivers/acpi/video.ko
  INSTALL drivers/block/loop.ko
  INSTALL drivers/char/agp/agpgart.ko
  INSTALL drivers/char/agp/intel-agp.ko
  INSTALL drivers/char/agp/intel-gtt.ko
  INSTALL drivers/char/tpm/tpm.ko
  INSTALL drivers/char/tpm/tpm_tis.ko
  INSTALL drivers/char/tpm/tpm_tis_core.ko
  INSTALL drivers/gpu/drm/drm.ko
  INSTALL drivers/gpu/drm/drm_kms_helper.ko
  INSTALL drivers/gpu/drm/ttm/ttm.ko
  INSTALL drivers/gpu/drm/vmwgfx/vmwgfx.ko
  INSTALL drivers/i2c/algos/i2c-algo-bit.ko
  INSTALL drivers/i2c/busses/i2c-piix4.ko
  INSTALL drivers/i2c/i2c-core.ko
  INSTALL drivers/i2c/i2c-dev.ko
  INSTALL drivers/input/evdev.ko
  INSTALL drivers/input/joydev.ko
  INSTALL drivers/input/mouse/psmouse.ko
  INSTALL drivers/input/serio/serio_raw.ko
  INSTALL drivers/net/ethernet/intel/e1000/e1000.ko
  INSTALL drivers/usb/host/ehci-hcd.ko
  INSTALL drivers/usb/host/ehci-pci.ko
  INSTALL drivers/usb/host/ohci-hcd.ko
  INSTALL drivers/usb/host/ohci-pci.ko
  INSTALL drivers/video/fbdev/core/fb_sys_fops.ko
  INSTALL drivers/video/fbdev/core/syscopyarea.ko
  INSTALL drivers/video/fbdev/core/sysfillrect.ko
  INSTALL drivers/video/fbdev/core/sysimgblt.ko
  INSTALL fs/fuse/fuse.ko
  INSTALL net/ipv6/ipv6.ko
  INSTALL net/rfkill/rfkill.ko
  INSTALL net/wireless/cfg80211.ko
  INSTALL sound/ac97_bus.ko
  INSTALL sound/core/snd-pcm.ko
  INSTALL sound/core/snd-timer.ko
  INSTALL sound/core/snd.ko
  INSTALL sound/pci/ac97/snd-ac97-codec.ko
  INSTALL sound/pci/snd-intel8x0.ko
  INSTALL sound/soundcore.ko
  DEPMOD  5.12.1-smp
```

Przekopiowanie plików i stworzenie linku symbolicznego.

```
root@slack32:/usr/src/linux-5.12.1# cp arch/x86/boot/bzImage /boot/vmlinuz-new-5.12.1-smp
root@slack32:/usr/src/linux-5.12.1# cp System.map /boot/System.map-new-5.12.1-smp
root@slack32:/usr/src/linux-5.12.1# cp .config /boot/config-new-5.12.1-smp
root@slack32:/usr/src/linux-5.12.1# cd /boot/
root@slack32:/boot# ls
README.initrd@                      config-huge-4.4.261             slack.bmp
System.map@                         config-huge-smp-4.4.261-smp     tuxlogo.bmp
System.map-custom-5.12.1-smp        config-new-5.12.1-smp           tuxlogo.dat
System.map-generic-4.4.261          config-oldmethod-5.12.1-smp     vmlinuz@
System.map-generic-smp-4.4.261-smp  elilo-ia32.efi*                 vmlinuz-custom-5.12.1-smp
System.map-huge-4.4.261             elilo-x86_64.efi*               vmlinuz-generic@
System.map-huge-smp-4.4.261-smp     grub/                           vmlinuz-generic-4.4.261
System.map-new-5.12.1-smp           initrd-custom-5.12.1-smp.gz     vmlinuz-generic-smp@
System.map-oldmethod-5.12.1-smp     initrd-oldmethod-5.12.1-smp.gz  vmlinuz-generic-smp-4.4.261-smp
boot.0800                           initrd-tree/                    vmlinuz-huge@
boot_message.txt                    initrd.gz                       vmlinuz-huge-4.4.261
coffee.dat                          inside.bmp                      vmlinuz-huge-smp@
config@                             inside.dat                      vmlinuz-huge-smp-4.4.261-smp
config-custom-5.12.1-smp            map                             vmlinuz-new-5.12.1-smp
config-generic-4.4.261              onlyblue.bmp                    vmlinuz-oldmethod-5.12.1-smp
config-generic-smp-4.4.261-smp      onlyblue.dat
root@slack32:/boot# rm System.map
root@slack32:/boot# ln -s System.map-new-5.12.1-smp System.map
root@slack32:/boot#
```

Utworzenie dysku ram.

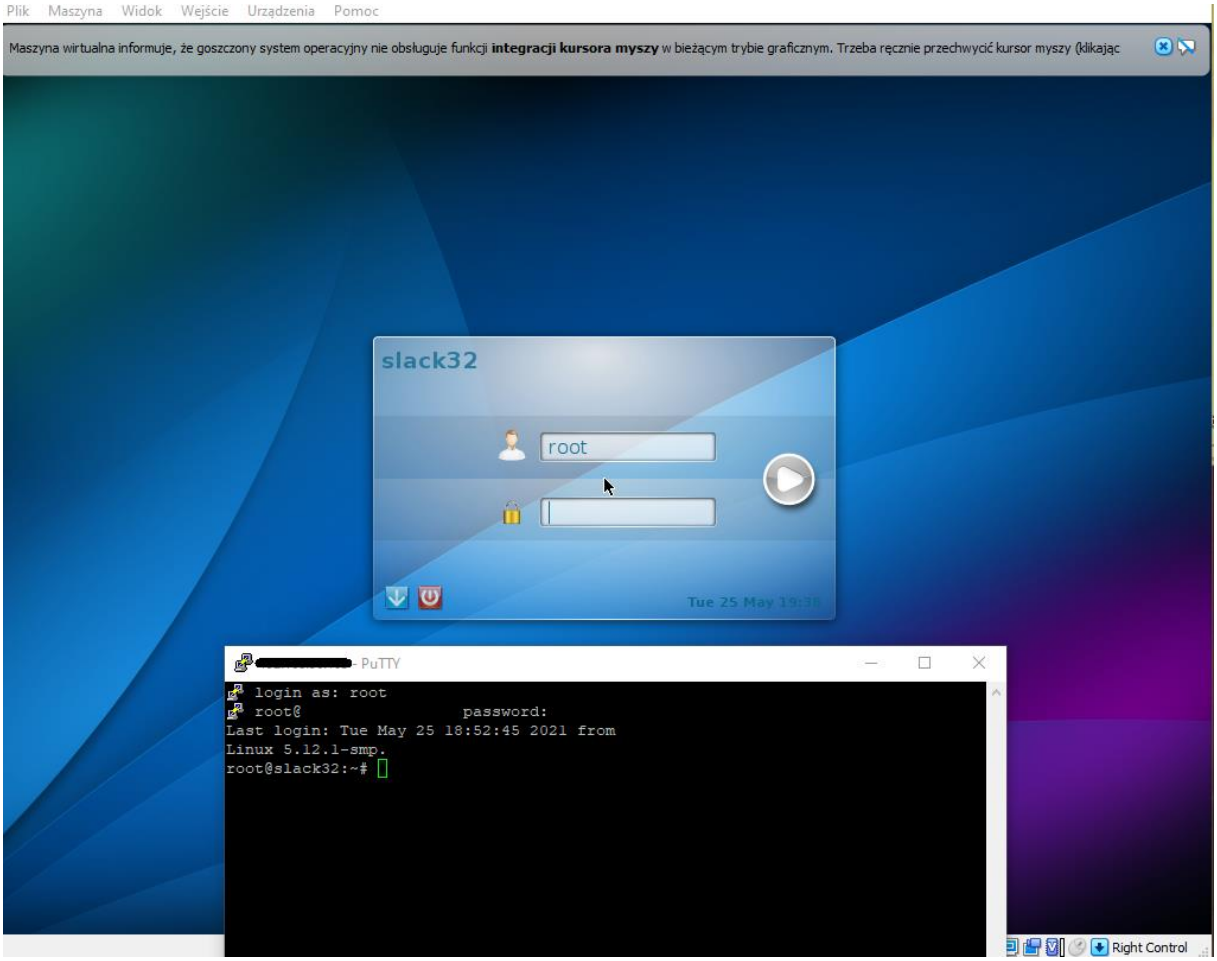
```
root@slack32:/boot# /usr/share/mkinitrd/mkinitrd_command_generator.sh -k 5.12.1-smp
#
# mkinitrd_command_generator.sh revision 1.45
#
# This script will now make a recommendation about the command to use
# in case you require an initrd image to boot a kernel that does not
# have support for your storage or root filesystem built in
# (such as the Slackware 'generic' kernels').
# A suitable 'mkinitrd' command will be:

mkinitrd -c -k 5.12.1-smp -f ext4 -r /dev/sda1 -m ext4 -u -o /boot/initrd.gz
root@slack32:/boot# mkinitrd -c -k 5.12.1-smp -f ext4 -r /dev/sda1 -m ext4 -u -o /boot/initrd-new-5.12.1-
smp.gz
31927 bloków
/boot/initrd-new-5.12.1-smp.gz created.
Be sure to run lilo again if you use it.
root@slack32:/boot#
```

Konfiguracja lilo.

```
  nano 2.6.0                          Plik: /etc/lilo.conf                          Zmieniony

#vga=787
# VESA framebuffer console @ 800x600x256
#vga=771
# VESA framebuffer console @ 640x480x64k
#vga=785
# VESA framebuffer console @ 640x480x32k
#vga=784
# VESA framebuffer console @ 640x480x256
#vga=769
# End LILO global section
# Linux bootable partition config begins
image = /boot/vmlinuz
  root = /dev/sda1
  label = "Slackware 14.2"
  read-only

image = /boot/vmlinuz-custom-5.12.1-smp
  root = /dev/sda1
  initrd = /boot/initrd-custom-5.12.1-smp.gz
  label = "kernel-custom"
  read-only

image = /boot/vmlinuz-oldmethod-5.12.1-smp
  root = /dev/sda1
  initrd = /boot/initrd-oldmethod-5.12.1-smp.gz
  label = "kernel-old"
  read-only

image = /boot/vmlinuz-new-5.12.1-smp
  root = /dev/sda1
  initrd = /boot/initrd-new-5.12.1-smp.gz
  label = "kernel-new"
  read-only
# Linux bootable partition config ends
```

```
root@slack32:/boot# lilo
Warning: LBA32 addressing assumed
Added Slackware_14.2  *
Added kernel-custom  +
Added kernel-old  +
Added kernel-new  +
One warning was issued.
root@slack32:/boot#
```

Poprawne uruchomienie.



3.Wnioski

W obu przypadkach nastąpiło bezproblemowe uruchomienie systemu. Czasy uruchomienia systemu są podobne w obu przypadkach i nie zauważyłam różnic w działaniu. Podobnie jak na zajęciach, w dalszym ciągu są problemy z obsługą m.in. myszki w maszynie wirtualnej. Jedyna różnica między metodami, którą zauważyłam to czas kompilacji obrazu jądra. W przypadku starej metody zajęło to ok. 5 min, a w przypadku nowej, mniej niż 1 min (wykorzystując 4 rdzenie). Cały proces kompilacji w obu metodach, przebiegł bez większych problemów i zakończył się pomyślnie.