

# Mageia 2 Disk encryption

## About this document

This document is about workaround steps used to have Mageia 2 with disk encryption working.

## Issue

Installation of mageia2 with disk encryption fails to boot.

## Setup

Machine: Virtual machine (qemu/kvm)

Media: ISO Image *Mageia-2-x86\_64-DVD.iso*

Hard disk- 8 GB

RAM – 1 GB

/boot is non encrypted, remaining free space is under encrypted Volume Group named *vg-mga*.

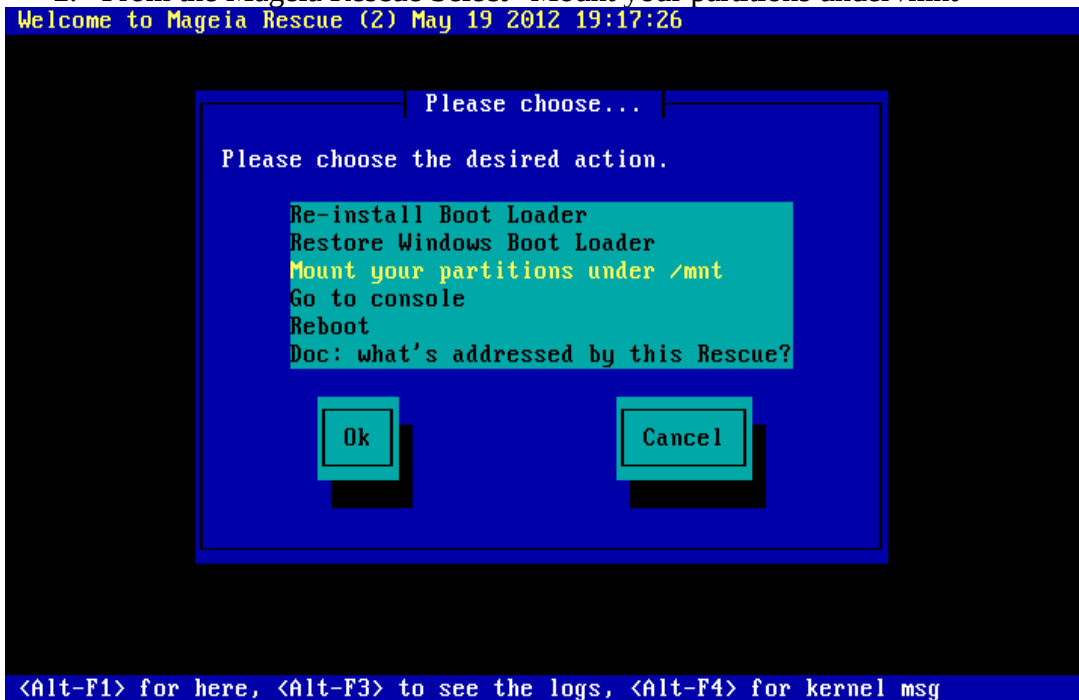
## Summary of Steps taken

Normal installation fails to add dm-crypt module in initial ram disk image resulting in a non-bootable OS, issue should be resolved if we can create a new initial ramdisk with having dm-crypt module added.

1. Boot new installation in rescue mode.



2. From the Mageia Rescue Select "Mount your partitions under /mnt

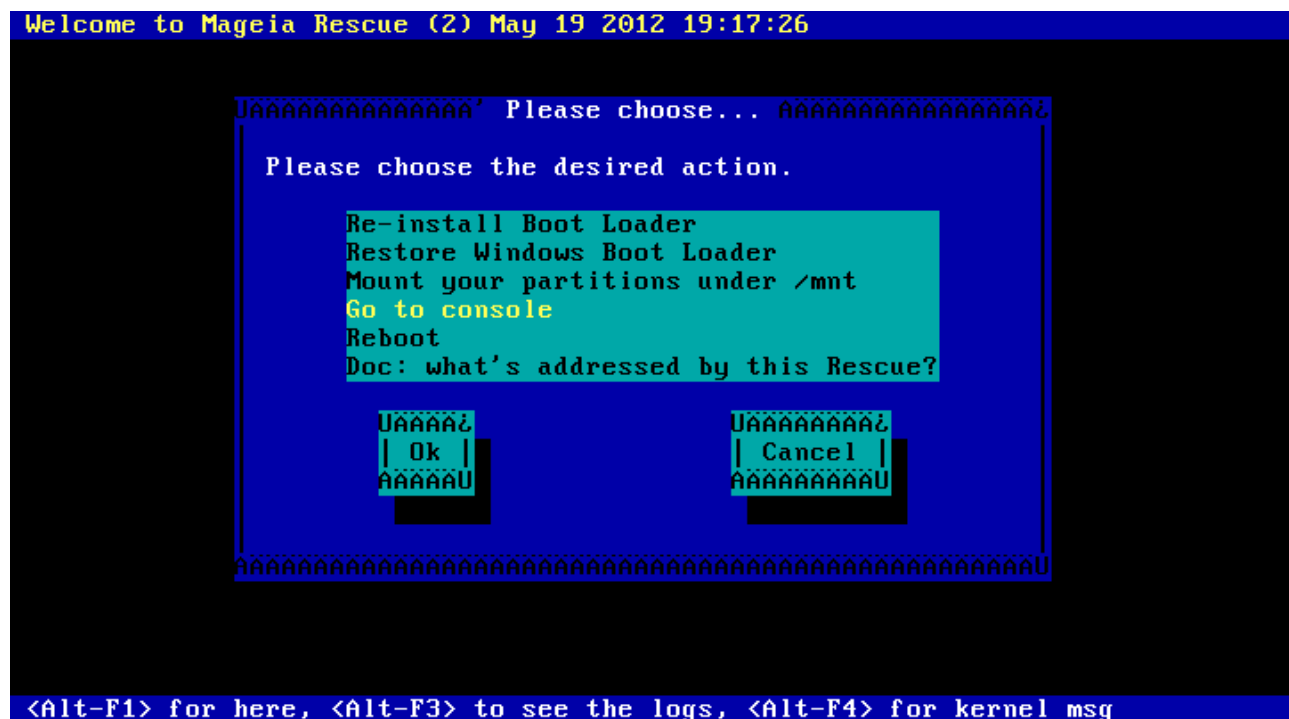


3. Mounting system under /mnt can fail with an error "Could not find your root device :-(."

```
ton III")

Please wait, trying to find your root device...
running: lvm2 vgscan
  Reading all physical volumes.  This may take a while...
  No volume groups found
running: lvm2 vgchange -a y
  No volume groups found
running: /sbin/modprobe dm_crypt
running: /sbin/modprobe xts
running: /sbin/modprobe cbc
running: /sbin/modprobe sha256_generic
running: /sbin/modprobe aes_x86_64
running: /sbin/modprobe aes_generic
running: blkid -o udev -p /dev/vda
running: blkid -o udev -p /dev/vda1
blkid gave: ext4 9ef6056c-6df7-4ea0-bc4f-0932b1fbaeae
running: blkid -o udev -p /dev/vda5
blkid gave: 606f1a16-ac13-4b12-847a-16a3cc539a45
running: blkid -o udev -p /dev/sr0
blkid gave: iso9660 Mageia-2-x86_64
running: blkid -o udev -p /dev/loop0
blkid gave: squashfs
Could not find your root device :-(.
<press Enter to return to Rescue menu>_
```

4. Press enter to return to Rescue Menu and then select 'Go to the Console'



5. Use *blkid* command to get a detail of block device attributes and setup dm-crypt managed device-mapper mappings.

From the screen-shot below `/dev/vda5` is the partition with `TYPE="crypto_LUKS"`

**cryptsetup luksOpen /dev/vda5 vg-mga**

**Note:** `vg-mga` is the name of volume group given during the installation.

6. Use *lvm2* command to activate lvm's created during the installation.

```

--- Logical volume ---
LU Path                /dev/vg-mga/root
LU Name                 root
VG Name                 vg-mga
LU UUID                 uUvvsSJ-5EDH-5IW8-kj75-W5wT-AxcP-v2w1xq
LU Write Access         read/write
LU Creation host, time localhost, 2012-12-18 12:06:27 +0000
LU Status                NOT available
LU Size                 6.80 GiB
Current LE              1742
Segments                1
Allocation               inherit
Read ahead sectors      auto

lvm> lvs
  inactive          '/dev/vg-mga/swap' [588.00 MiB] inherit
  inactive          '/dev/vg-mga/root' [6.80 GiB] inherit
lvm> lvchange -aly /dev/vg-mga/root
lvm> lvchange -aly /dev/vg-mga/swap
lvm> lvs
  LU   VG      Attr      LSize   Pool Origin Data%  Move Log Copy%  Convert
  root vg-mga  -wi-a---  6.80g
  swap vg-mga  -wi-a--- 588.00m
lvm>

```

7. Once the LVM's are available exit to the Rescue Menu and then again select to mount the system under `/mnt`



```
running: blkid -o udev -p /dev/vda1
blkid gave: ext4 9ef6056c-6df7-4ea0-bc4f-0932b1fbaeae
running: blkid -o udev -p /dev/vda5
blkid gave: 606f1a16-ac13-4b12-847a-16a3cc539a45
running: blkid -o udev -p /dev/sr0
blkid gave: iso9660 Mageia-2-x86_64
running: blkid -o udev -p /dev/loop0
blkid gave: squashfs
running: blkid -o udev -p /dev/dm-0
blkid gave: a109qe-8nhG-5UAv-XpCv-isJm-8Xht-N1G3QS
running: blkid -o udev -p /dev/dm-1
blkid gave: ext4 fd0bb9cb-6736-455c-bbbf-13310ef06e6c
running: blkid -o udev -p /dev/dm-2
blkid gave: swap 8081111e-489c-4e85-8cd5-61402fecb746
=> found a Mageia release 2 (Official) for x86_64 root partition on /dev/dm-1
=> type ext4, version `
=> Selecting /dev/dm-1 as root fs

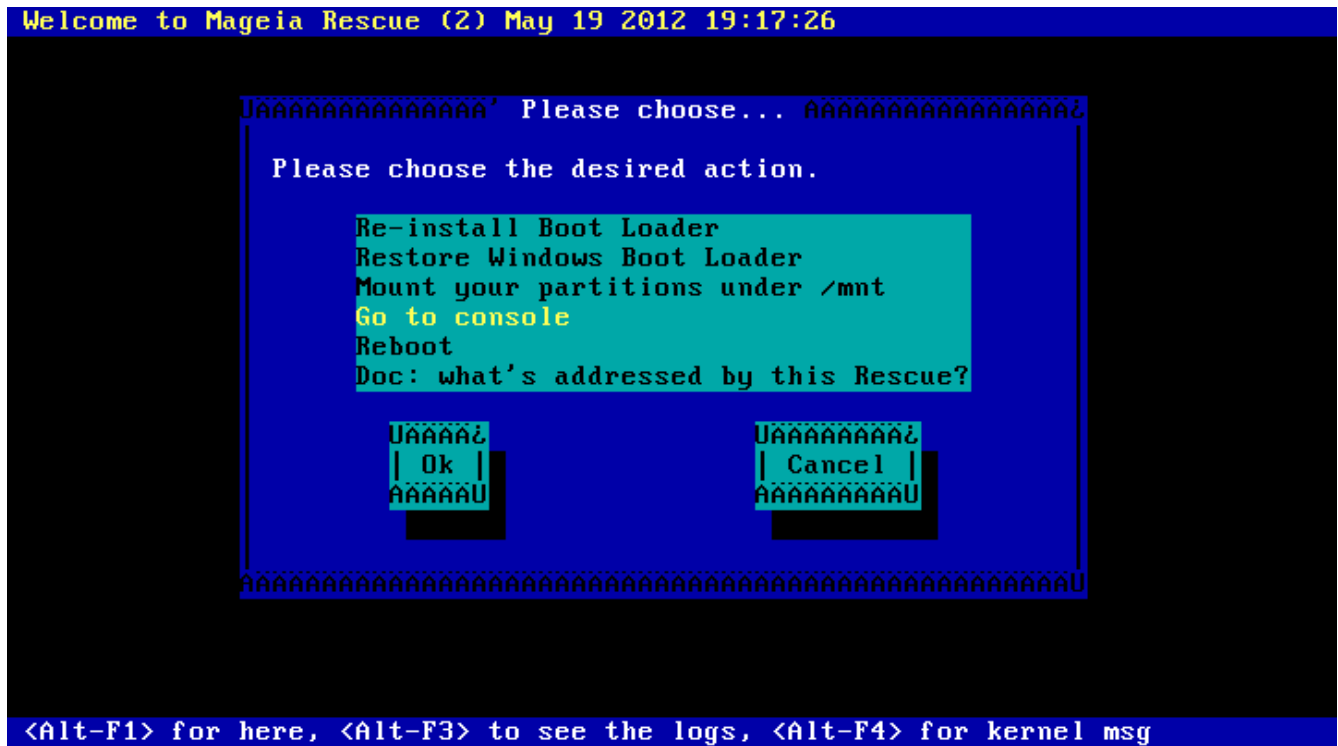
Mounting other partitions from fstab on /mnt...
    UUID=9ef6056c-6df7-4ea0-bc4f-0932b1fbaeae on /mnt/boot type ext4 options
    acl,relatime

Your system is ready on /mnt.

<press Enter to return to Rescue menu>_
```

8. Once the system is ready on /mnt hit Enter to get back to rescue menu and then select to “Go to

the console”.



Do chroot /mnt



9. Create new initial ramdisk.

```
[root@rescue /]# mkinitrd /boot/initrd-3.3.6-desktop-2.mga2.img 3.3.6-desktop-2.mga2 --force_
```

```
I: *** Including module: rootfs-block ***
I: *** Including module: terminfo ***
I: *** Including module: udev-rules ***
I: Skipping udev rule: 50-udev.rules
I: Skipping udev rule: 95-late.rules
I: Skipping udev rule: 50-firmware.rules
I: *** Including module: usrmount ***
I: *** Including module: base ***
I: *** Including module: fs-lib ***
I: Skipping program xfs_db as it cannot be found and is flagged to be optional
I: Skipping program xfs_check as it cannot be found and is flagged to be optional
I: Skipping program xfs_repair as it cannot be found and is flagged to be optional
I: Skipping program jfs_fsck as it cannot be found and is flagged to be optional
I: Skipping program reiserfsck as it cannot be found and is flagged to be optional
I: Skipping program btrfsck as it cannot be found and is flagged to be optional
I: *** Including module: shutdown ***
I: Skipping program kexec as it cannot be found and is flagged to be optional
I: *** Including modules done ***
I: Wrote /boot/initrd-3.3.6-desktop-2.mga2.img:
I: -rw-r--r-- 1 root root 17631490 Dec 18 08:29 /boot/initrd-3.3.6-desktop-2.mga2.img
[root@rescue /]# _
```

10. Reboot and the installation should work as expected.