OmniFab

Machine Insight

User Guide

MXS-ISO-Image-Based Installation

1 MXS ISO-image-based installation

1.1 Introduction

The OmniFab Machine Insight (MI) MXS installation is a central step during the onboarding of new customers.

MXS runs as a collection of Docker containers on a CentOS 7 platform including a mechanism for the automated software update. The installation medium is an ISO image that takes care of:

> CentOS installation

> Network configuration

> Installation of software prerequisites and installation of Ansible scripts and MXS configuration

> Ansible scripts download Docker images and start the Docker containers

1.2 ISO image download

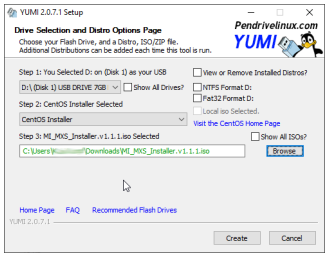
The download location for the latest ISO installation image is download.machine-insight.messersoft.com.

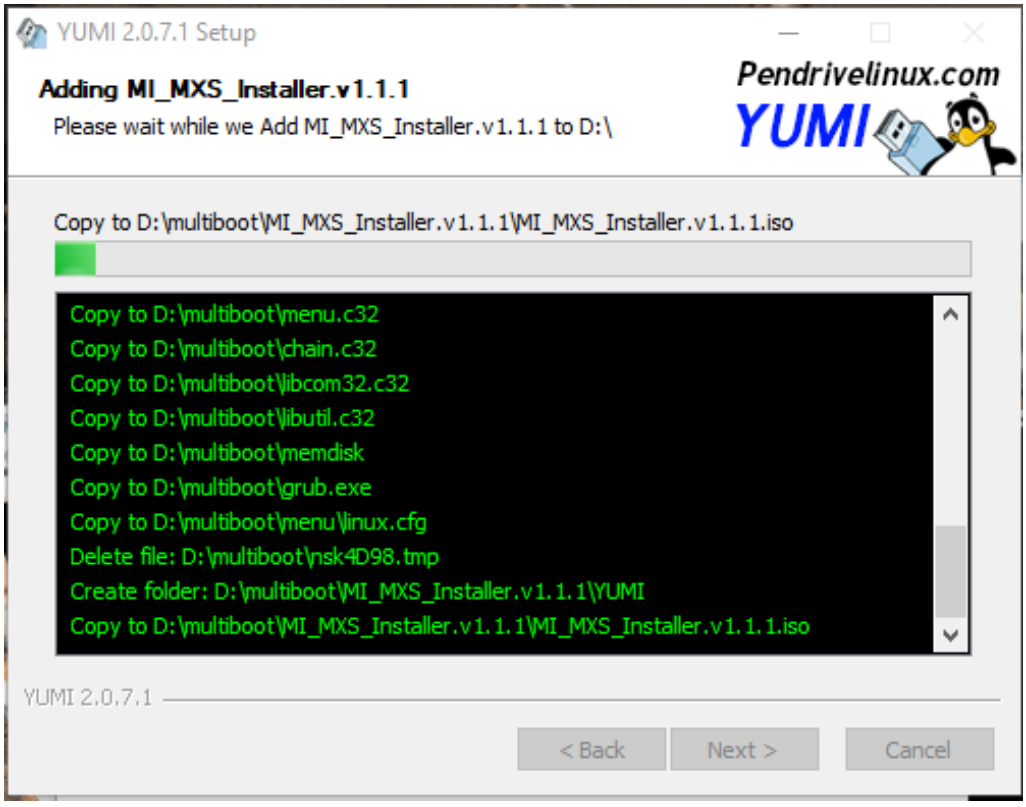
1.3 Installation process

1.3.1 On hardware (NUC, etc)

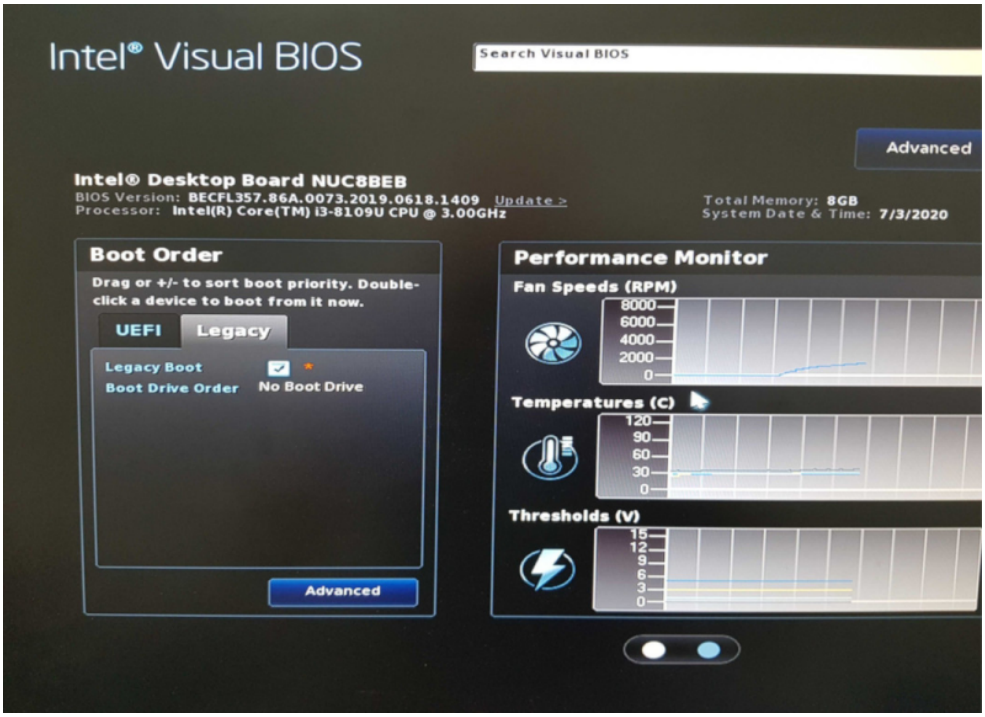
See also: OmniFab Machine Insight - Hardware and Network Requirements

1. Download latest version of ISO image from above URL
2. Make bootable USB stick with ISO image, e.g. using YUMI





3. Boot from USB stick
    1. Choosing a boot medium on your hardware box can be achieved by pressing F10 on startup directly after power-on on an Intel NUC. This may differ for other types of machines.
    2. If USB stick cannot be chosen on startup (if it is not offered in the list of boot media), chances are that you are dealing with a UEFI-boot enabled machine. To get back to the traditional behaviour, you might have to choose "Legacy" as the boot method. On an Intel NUC, you can enter the BIOS settings by pressing F1 on startup. The menu show here is specific for Intel NUCs but intended to serve as an example:

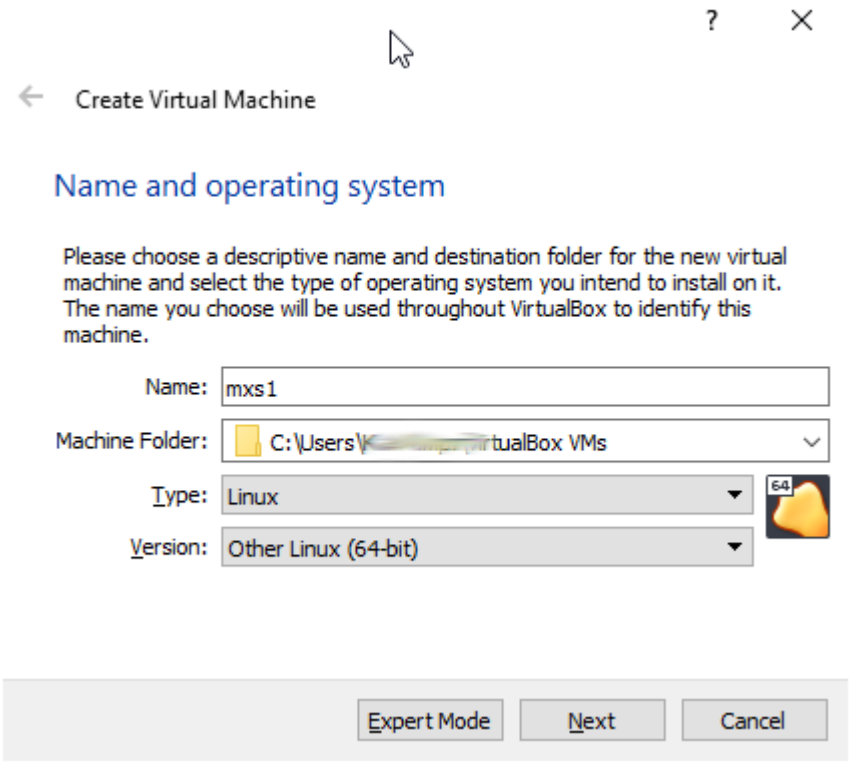


4. Proceed like in section "On VM", step 5

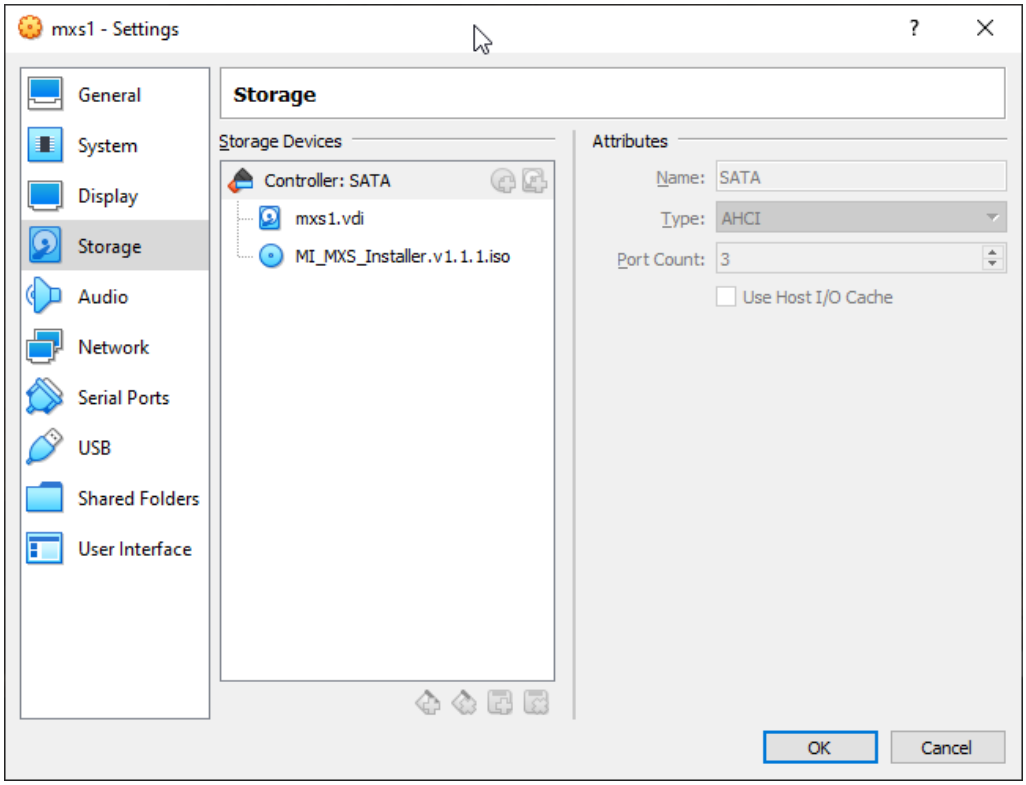
1.4 On VM

For exemplification, Oracle VirtualBox was chosen here. VMware or other systems should be treated similarly.

1. Install Oracle VirtualBox
2. Prepare VM, make sure to configure the client as CentOS 64 bit (on VirtualBox, no CentOS is offered, therefore: Other Linux (64 bit))

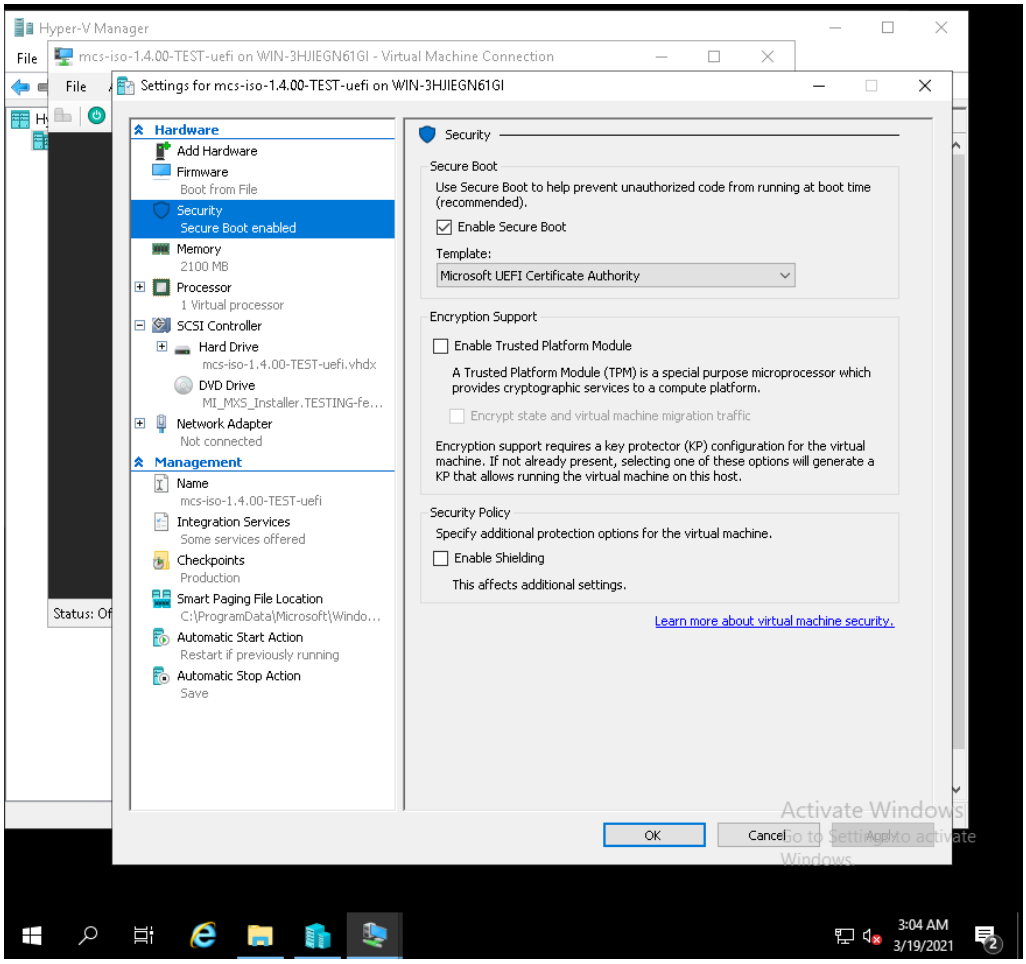


3. Define network adapter such that it eventually can allocate its own IP address independent from the physical system hosting the VM.
4. Add ISO image as CDROM storage

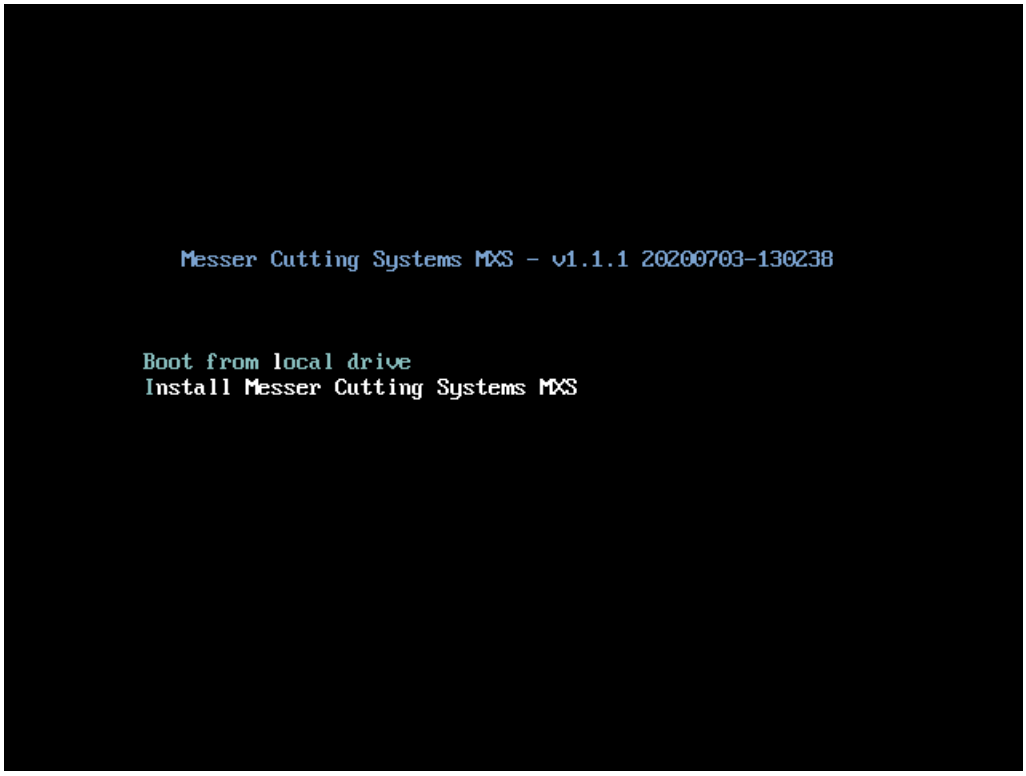


5. Only for MS HyperV

   For HyperV version 2 VMs with UEFI, we need to configure secure boot - set under VM Settings > Security > Template = Microsoft UEFI Certificate Authority.



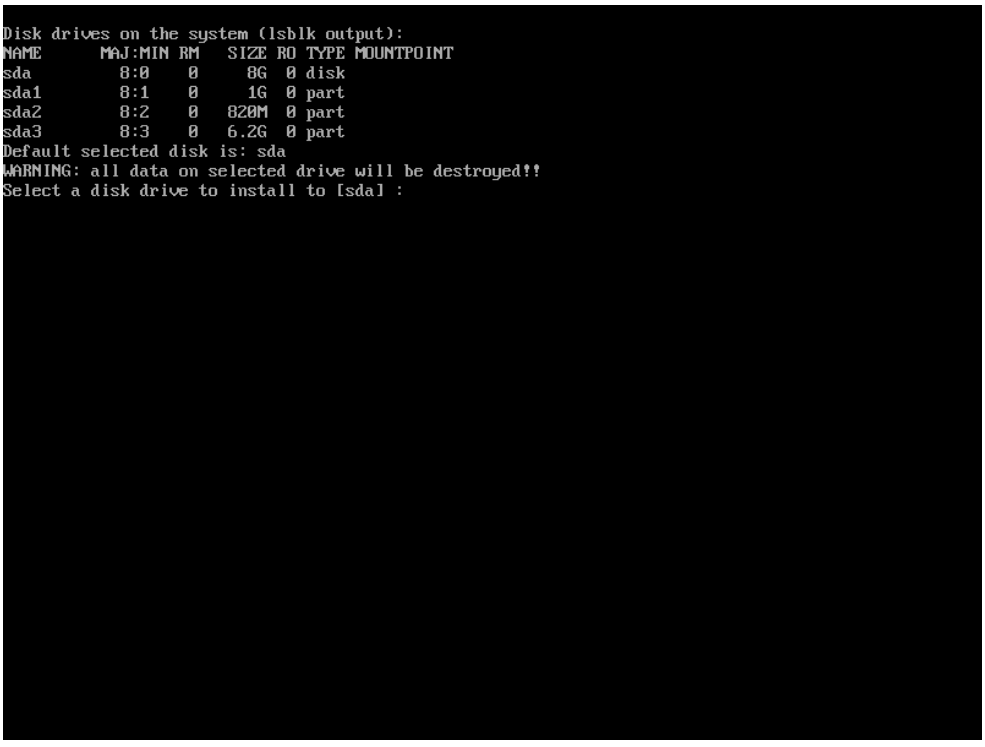
6. Start VM machine
7. Boot into ISO image installer boot menu, choose "Install Messer Cutting System MXS" using arrow keys

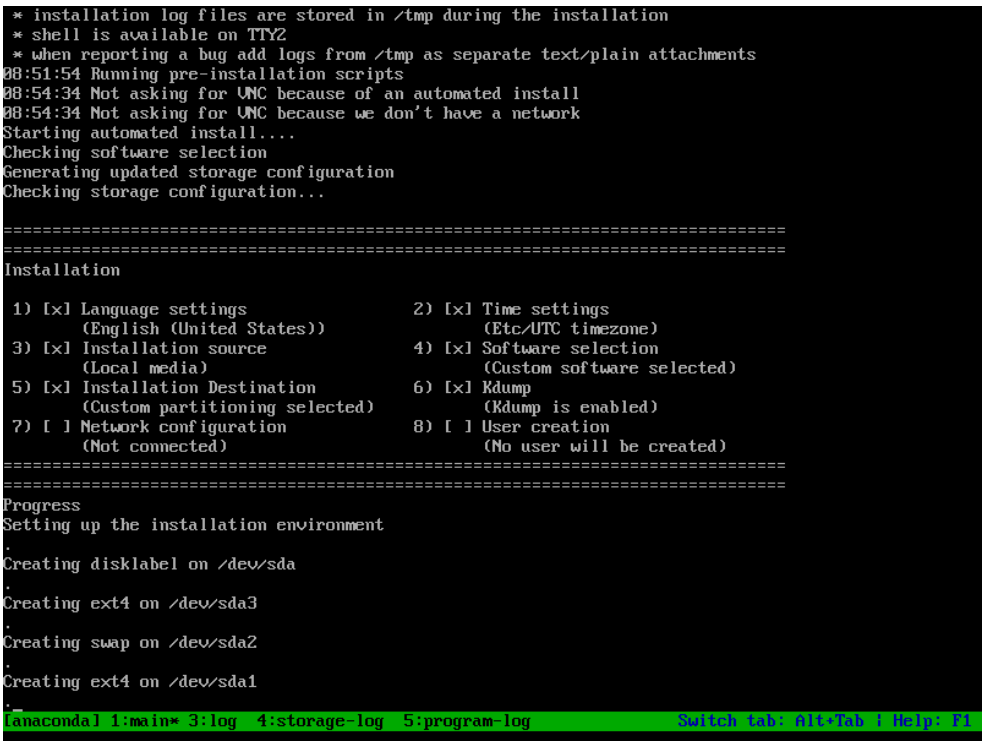


a. choose "Install Messer CS MXS"

b. Wait for anaconda to start

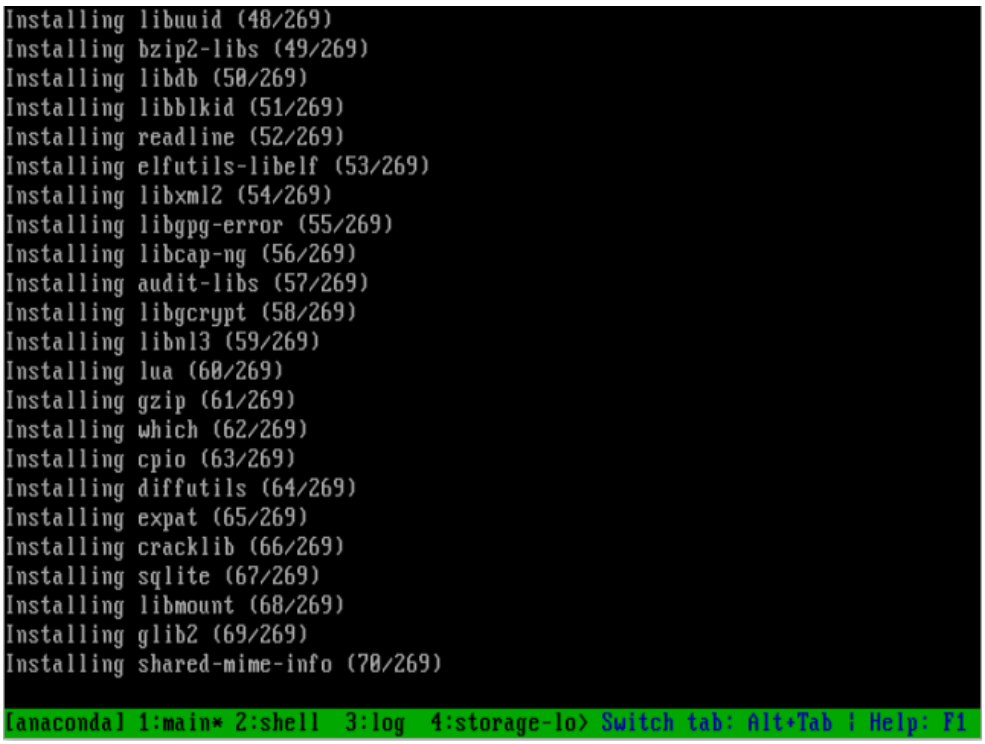
c. Choose disk (use default)

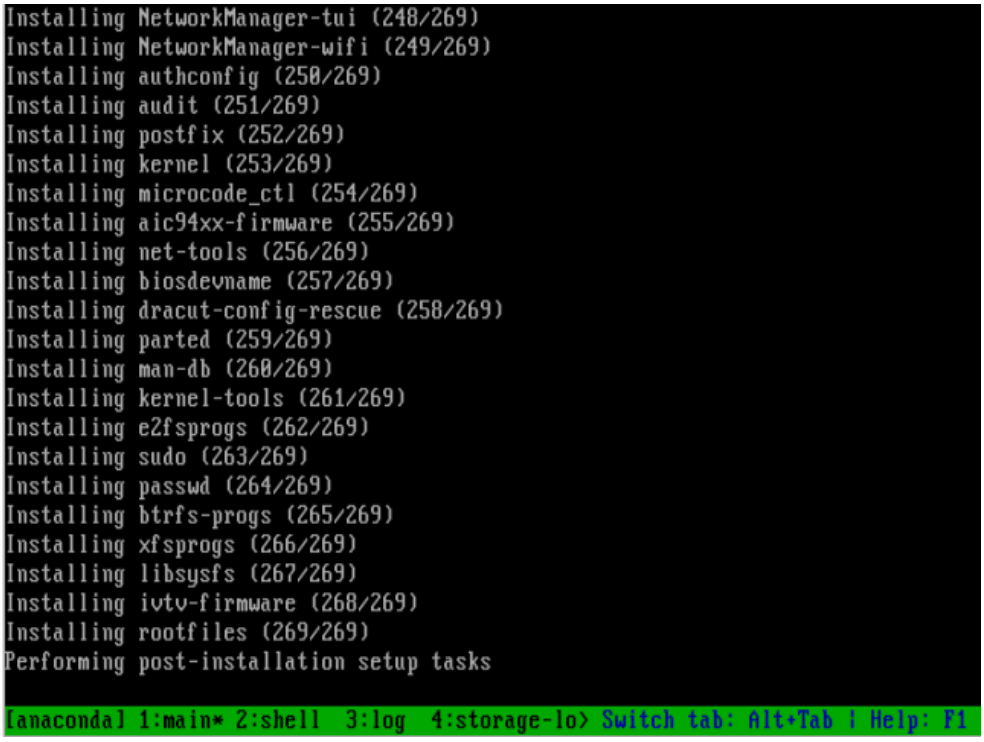




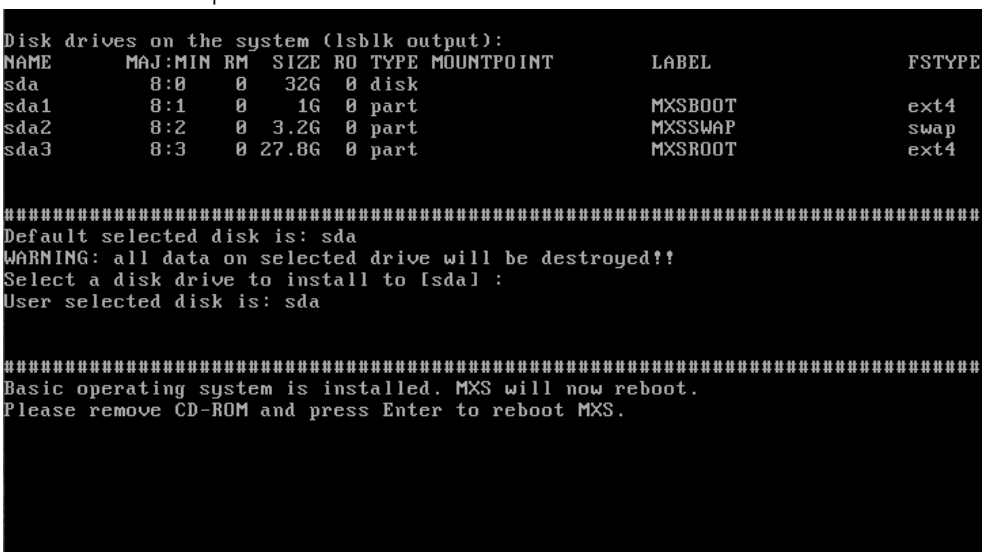
d. No other configuration steps needed in this phase.

e. Installation starts automatically

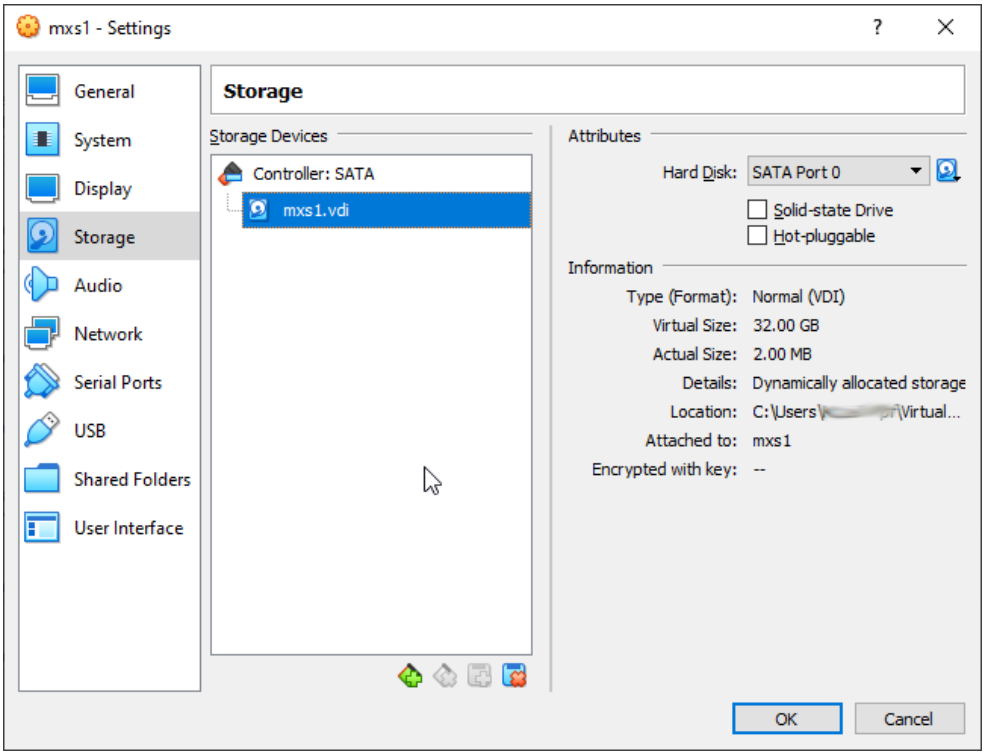




f. Press <return> to quit and reboot

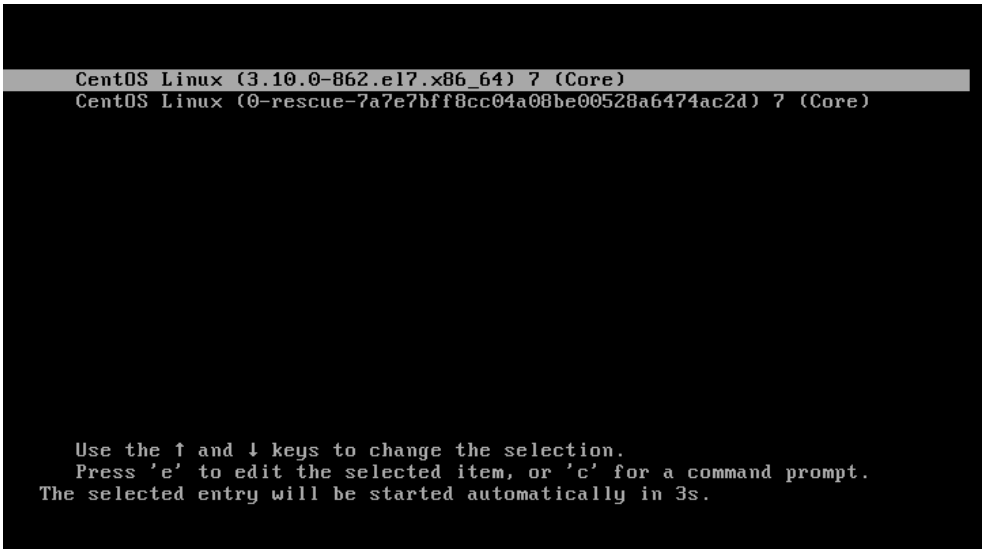


8. Remove CDROM storage
   a. in case of VM installation, you might have to interrupt reboot and turn off the VM in order to be able to remove the ISO image, then start the VM again

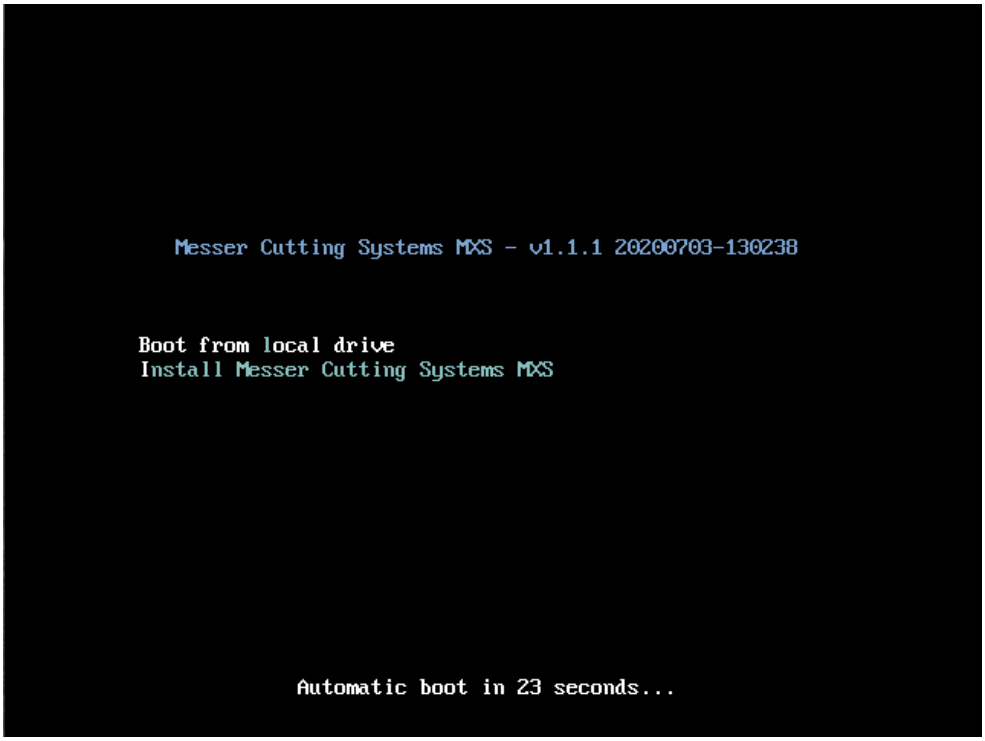


b. in case of HW installation, remove USB stick

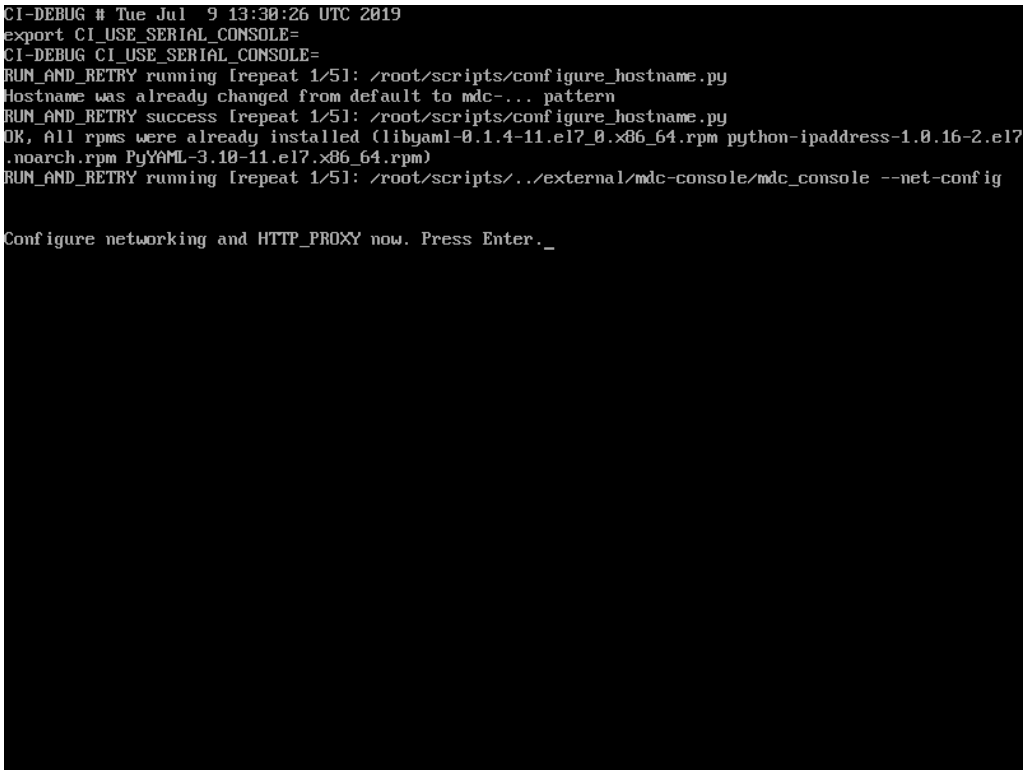
9. Reboot into final installation stage
10. Proceed with installation
    a. when ISO image medium was removed, choose standard kernel from boot menu



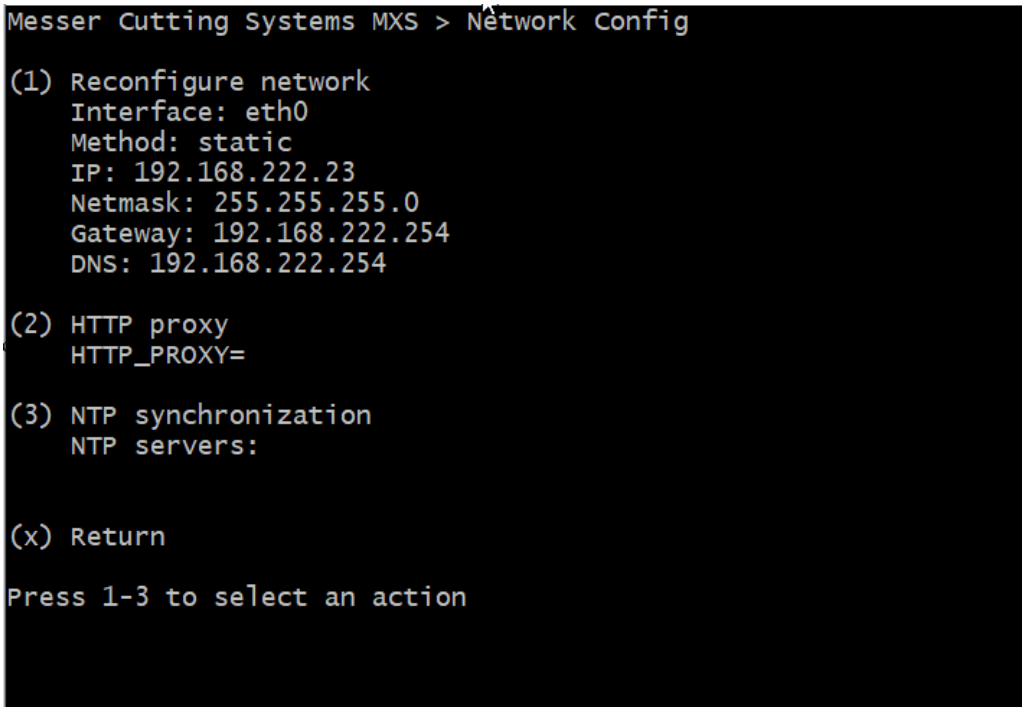
b. when ISO image medium was not removed, chose default first item



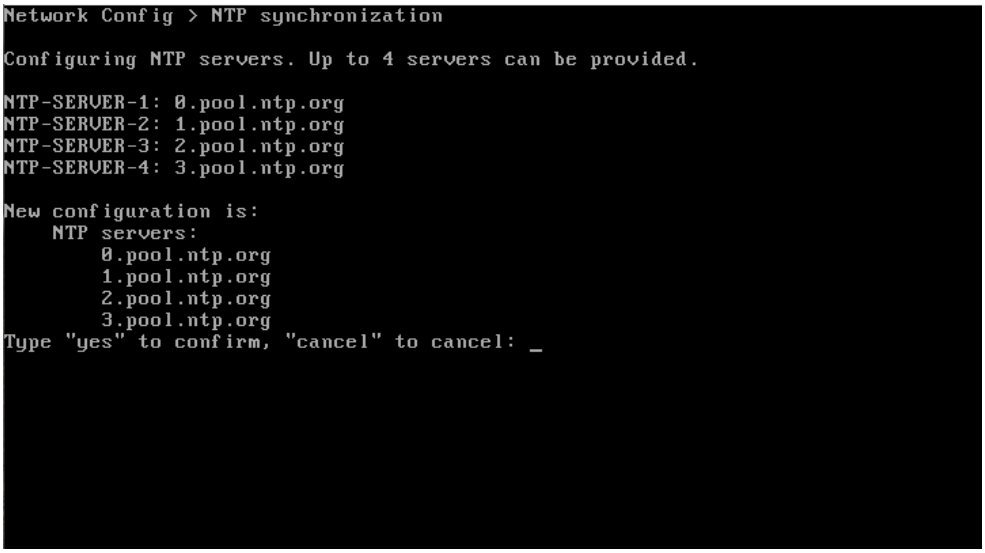
11. Enter network configuration



12. Choose what to configure by pressing numbers indicated in the menus to choose. The order indicated by the numbers (1-basic,2-proxy,3-NTP servers) should be kept.



   a. (1) Enter interface, assignment method (static is highly recommended!), IP address, netmask, DNS. The numbers shown in the figure are just examples.
   b. (2) If the MXS host is behind a HTTP/HTTS proxy, enter proxy hostname or IP
   c. (3) NTP servers must be given. In case of doubt, accept the defaults by hitting Enter.



   d. when done, press the indicated key to exit this configuration and continue

13. You are asked for the installation token

```
03c9280e58951a81abe24640905de621c9f81839/pip-20.2.3-py2.py3-none-any.whl (1.5MB)
Installing collected packages: pip
  Found existing installation: pip 8.1.2
    Uninstalling pip-8.1.2:
      Successfully uninstalled pip-8.1.2
Successfully installed pip-20.2.3
DEPRECATION: Python 2.7 reached the end of its life on January 1st, 2020. Please
 upgrade your Python as Python 2.7 is no longer maintained. pip 21.0 will drop s
upport for Python 2.7 in January 2021. More details about Python 2 support in pi
p can be found at https://pip.pypa.io/en/latest/development/release-process/#pyt
hon-2-support pip 21.0 will remove support for this functionality.
Collecting pika==1.0.1
  Downloading pika-1.0.1-py2.py3-none-any.whl (148 kB)
Installing collected packages: pika
Successfully installed pika-1.0.1
OK Messer Cutting Systems MXS console requirements installed.
RUN_AND_RETRY success [retry=1/5, rc=0]: configure-sw.sh
RUN_AND_RETRY running [retry=1/5]: configure_token.py bootstrap
2020-10-01 09:17:21,737 INFO     configure_token.py:286 Creating directory /etc/
messer/certificates
Installing Messer CA-chain system-wide.


################################################################################
Enter MXS installation token: _
```

14. Installation proceeds autonomously from there.

```
TASK [docker : Add Docker repository.] *****************************************
skipping: [MDC]

TASK [docker : Install gzip (for db backups)] **********************************
ok: [MDC]

TASK [docker : CHECK Install Docker.] ******************************************
changed: [MDC]

TASK [docker : check docker is installed] **************************************
ok: [MDC]

TASK [docker : DEBUG docker_upgrade_required] **********************************
ok: [MDC] => {
    "msg": "docker_upgrade_required={'failed': False, u'changed': True, u'change
s': {u'installed': [u'docker-ce']}, u'results': []}\ndocker_is_installed={'faile
d': False, u'stat': {u'exists': False}, u'changed': False}"
}

TASK [docker : Stop docker before upgrade] *************************************
skipping: [MDC]

TASK [docker : Install Docker.] ************************************************
_
```

```
----------------------------------------
OK checking container count with status=running/created
OK: MXS NTP service is functional after 0 seconds.
Success installing system with provided installation token
RUN_AND_RETRY success [retry=1/5, rc=0]: configure_token.py install
RUN_AND_RETRY running [retry=1/5]: configure_mdc_console.py
2020-10-01 09:45:34,878 INFO     configure_mdc_console.py:39 dest=/opt/messer/ch
eckout/mdc-console already exists, removing it
2020-10-01 09:45:34,882 INFO     configure_mdc_console.py:42 copy dir src=/root/
external/mdc-console to dest=/opt/messer/checkout/mdc-console
2020-10-01 09:45:34,939 INFO     configure_mdc_console.py:52 copy file src=/root
/external/mdc-console/systemd-install/getty-tty1-override.conf to dest=/etc/syst
emd/system/getty@tty1.service.d/override.conf
mdc-console installed in /opt/messer/checkout/mdc-console
RUN_AND_RETRY success [retry=1/5, rc=0]: configure_mdc_console.py
RUN_AND_RETRY running [retry=1/5]: configure-finalize.sh
Removed symlink /etc/systemd/system/default.target.wants/messer-mdc-setup.servic
e.
RUN_AND_RETRY success [retry=1/5, rc=0]: configure-finalize.sh
OK running configure_main.py


################################################################################
Basic operating system was updated, reboot is required.
Press Enter to reboot MXS.
```

15. On finishing and rebooting, MXS is in operating mode and shows the diagnostics console

```
~
Messer Cutting Systems MXS

(1) Network Config
(2) Network and Application Check

(3) System Information
(4) Diagnostics
(5) Send report to MesserSoft support

(6) Shutdown
(7) Reboot


Press 1-7 to select an action
```