

# Setting up Hypervisors

## Necessary conditions for SafeUTM work:

1. UEFI support.
2. Legacy download mode must be turned off (it may also be called CSM - Compatibility Support Module).
3. Turn off Secure Boot in UEFI.

SafeUTM supports the following hypervisors:

- VMware (Workstation and ESXi) versions 6.5.0 and higher;
- Microsoft Hyper-V (2<sup>nd</sup> generation);
- VirtualBox;
- KVM;
- Citrix XenServer.

In order to work on virtual machines, there is no need to install additional drivers or utilities on SafeUTM. Guest add-ons are included in the distribution package.

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## General Recommendations

- OS type to create a virtual machine: Linux Fedora, 64-bit;
- Minimum hard drive capacity - 64 Gb;
- Hard drive dynamic expansion is not automated but possible upon contacting technical support;
- Minimum memory size - 8 Gb;
- An internal VM clock must be set up for keeping time in the UTC time zone.

If during the installation of SafeUTM an error "**At least 8 GB of RAM is required**" appears on the screen, and you specified the recommended amount of RAM, then reduce the size of the resources allocated for video memory to the minimum.

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## Microsoft Hyper-V

Only the 2<sup>nd</sup> generation VMs for Windows Server 2012 R2 or higher are supported. It is necessary to turn off Secure Boot.

Always use a regular virtual network adapter.

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## VMware ESXi

Before SafeUTM installation it is necessary to increase video memory for the virtual machine to 16 Mb (the default is 4 Mb).

**Vmxnet3** virtual network adapters are recommended for use.

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## Citrix XenServer

In case XenServer cannot be downloaded from an ISO file, follow these steps:

1. Run command `xe vm-list`. This command will show the list of virtual machines on XenServer.
2. Select a virtual machine with UTM and memorize its UUID.
3. Run command `xe vm-param-set uuid=<UUID> HVM-boot-policy=BIOS\ order HVM-boot-params: order=dc`


These steps should start the installation from the installation medium.

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## KVM

1. When installing SafeUTM choose **Fedora** as the type of operating system.
2. At Step 5 (virtm-manager) of installation make sure to tick **Customize configuration before installation** and click **Finish**.

New VM



Create a new virtual machine

Step 5 of 5

Ready to begin the installation

Name: fedora

OS: Fedora

Install: Local CDROM/ISO

Memory: 3889 MiB

CPUs: 4

Storage: 20.0 GiB ... /share/libvirt/images/fedora.qcow2

☒ Customize configuration before install

> Network selection

Cancel

Back

Finish

3. For disks and NICs select/change the network interface to **virtio**.
4. For disks use **writeback** cache mode if disks are stored in qcow2 or raw files. If it is not the case, please consult your storage admin or our technical support about the cache mode selection.

5. In the window, select **Overview** in the Firmware field and select **UEFI x86\_64:/usr/share/OVMF/OVMF\_CODE.fd**. This selection will turn on UEFI and turn off **Secure Boot**.

fedora on QEMU/KVM User session

Begin Installation

Cancel Installation

Overview

OS information

CPU

Memory

Boot Options

VirtIO Disk 1

SATA CDROM 1

NIC :39:4e:78

Tablet

Display Spice

Sound ich9

Console 1

Channel qemu-ga

Channel spice

Video Virtio

Controller USB

Controller PCIe

USB Redirector 1

USB Redirector 2

RNG /dev/urandom

Details

XML

Basic Details

Name:

UTM

UUID:

6a19a3e0-7482-4a44-8e05-f03786e2cf2e

Status:

Shutoff (Shut Down)

Title:

Description:

Hypervisor Details

Hypervisor:

QEMU TCG

Architecture:

x86\_64

Emulator:

/usr/bin/qemu-system-x86\_64

Chipset:

Q35

Firmware:

UEFI x86\_64: /usr/share/OVMF/OVMF\_CODE\_4M.fd

Add Hardware

Cancel

App

If there is no **UEFI x86\_64:/usr/share/OVMF/OVMF\_CODE.fd** on the list, you need to install ovmf package. In Ubuntu, this package is installed with the command **sudo apt install ovmf**.

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