

(СибГУТИ)  
Институт ИВТ

**Лабораторная работа №1**  
**Запуск OpenVMS с использованием QEMU**

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## I. Цель работы

Освоить базовые принципы работы с OpenBMC, развернуть его в эмуляторе QEMU, изучить процесс загрузки и основные функции системы.

## II. Выполнение

### 1. Получение образа OpenBMC

```
tony-19@DESKTOP-S61ESJL: /mnt/c/Windows/system32
tony-19@DESKTOP-S61ESJL:/mnt/c/Windows/system32$ sudo apt install qemu-system-arm
[sudo] password for tony-19:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
tony-19@DESKTOP-S61ESJL:/mnt/c/Windows/system32$ unzip romulus.zip
```

### 2. Запуск в QEMU

```
tony-19@DESKTOP-S61ESJL:/mnt/c/Windows/system32$ qemu-system-arm -m 256 -M romulus-bmc
-nographic -drive file=romulus/obmc-phosphor-image-romulus-20250214213550.static.mt
d,format=raw,if=mtd -net nic -net user,hostfwd=:0.0.0.0:2222-:22,hostfwd=:0.0.0.0:24
43-:443,hostfwd=udp:0.0.0.0:2623-:623,hostname=qemu_
```

### 3. Изучение работы OpenBMC

```
romulus login: root
Password:
root@romulus:~# obmcutil state
CurrentBMCState      : xyz.openbmc_project.State.BMC.BMCState.Ready
CurrentPowerState    : xyz.openbmc_project.State.Chassis.PowerState.Off
CurrentHostState     : xyz.openbmc_project.State.Host.HostState.Off
BootProgress         : xyz.openbmc_project.State.Boot.Progress.ProgressStages.Unspecifi
ed
OperatingSystemState: xyz.openbmc_project.State.OperatingSystem.Status.OSStatus.Inacti
ve
```

Тут мы получи информацию о том, что система готова.

### 4. Получение доступа к BMC через IPMI с другого хоста

```
romulus login: root
Password:
root@romulus:~# obmcutil state
CurrentBMCState      : xyz.openbmc_project.State.BMC.BMCState.Ready
CurrentPowerState    : xyz.openbmc_project.State.Chassis.PowerState.Off
CurrentHostState     : xyz.openbmc_project.State.Host.HostState.Off
BootProgress         : xyz.openbmc_project.State.Boot.Progress.ProgressStages.Unspecifi
ed
OperatingSystemState: xyz.openbmc_project.State.OperatingSystem.Status.OSStatus.Inacti
ve
root@romulus:~#
```

```
C:\Users\admit\bash
tony-19@DESKTOP-S61ESJL:/mnt/c/Users/admit$ ipmitool -I lanplus -H 127.0.0.1 -p 2623 -U root -P 0penBmc fru print
FRU Device Description : BuiltIn FRU Device (ID 0)
Device not present (Requested sensor, data, or record not found)
FRU Device Description : cpu0 (ID 1)
Device not present (Requested sensor, data, or record not found)
FRU Device Description : cpu1 (ID 2)
Device not present (Requested sensor, data, or record not found)
FRU Device Description : system (ID 3)
Device not present (Requested sensor, data, or record not found)
FRU Device Description : dlm0 (ID 4)
Device not present (Requested sensor, data, or record not found)
FRU Device Description : dlm1 (ID 5)
Device not present (Requested sensor, data, or record not found)
FRU Device Description : dlm2 (ID 6)
Device not present (Requested sensor, data, or record not found)
```

### 5. Анализ логов

```
root@romulus:~# journalctl -u xyz.openbmc_project.State.BMC.service
Feb 19 03:03:51 romulus systemd[1]: Starting Phosphor BMC State Manager...
Feb 19 03:03:52 romulus phosphor-bmc-state-manager[376]: Unit obmc-bmc-service-quietse
@0.target not found: sd_bus_call: org.freedesktop.systemd1.NoSuchUnit: Unit obmc-bmc-s
ervice-quietse@0.target not loaded.
Feb 19 03:03:52 romulus phosphor-bmc-state-manager[376]: Setting the BMCState field to
BMC_NOTREADY
Feb 19 03:03:52 romulus phosphor-bmc-state-manager[376]: Setting the BMCState field to
xyz.openbmc_project.State.BMC.BMCState.NotReady
Feb 19 03:03:52 romulus phosphor-bmc-state-manager[376]: Setting the RebootCause field
to xyz.openbmc_project.State.BMC.RebootCause.POR
Feb 19 03:03:53 romulus systemd[1]: Started Phosphor BMC State Manager.
Feb 19 03:03:57 romulus phosphor-bmc-state-manager[376]: BMC_READY
Feb 19 03:03:57 romulus phosphor-bmc-state-manager[376]: Setting the BMCState field to
xyz.openbmc_project.State.BMC.BMCState.Ready
root@romulus:~#
```