

Реализация проводной 802.1x аутентификации без использования б-гмерзкого NetworkManager

Зачем это нужно?

- **NetworkManager** отсутствует, а чтобы его установить требуется сеть (e.g. Debian Live);
- вы ненавидите **NetworkManager**;
- вы ненавидите **systemd** и хотите максимально независимую от него реализацию (пригодную, например, для **OpenRC**).

Реализация

1. Для всех ОС: wpa_supplicant.conf

```
root@2007stud01:~# cat /etc/wpa_supplicant/wpa_supplicant.conf
```

```
ctrl_interface=/var/run/wpa_supplicant
ctrl_interface_group=0
eapol_version=2
ap_scan=0

network={
    key_mgmt=IEEE8021X
    eap=PEAP
    identity="cmt_netservice@skoltech.ru"
    password="<PASSWORD>"
    phase2="auth=MSCHAPV2 password=<PASSWORD>"
}
```

2. Проверяем, как работает аутентификация

```
root@2007stud01:~# wpa_supplicant -c /etc/wpa_supplicant/wpa_supplicant.conf -D wired -i eno1
```

```
Successfully initialized wpa_supplicant
eno1: Associated with 01:80:c2:00:00:03
eno1: CTRL-EVENT-SUBNET-STATUS-UPDATE status=0
eno1: CTRL-EVENT-EAP-STARTED EAP authentication started
eno1: CTRL-EVENT-EAP-PROPOSED-METHOD vendor=0 method=13 -> NAK
eno1: CTRL-EVENT-EAP-PROPOSED-METHOD vendor=0 method=25
eno1: CTRL-EVENT-EAP-METHOD EAP vendor 0 method 25 (PEAP) selected
eno1: CTRL-EVENT-EAP-PEER-CERT depth=2
    subject='/OU=GlobalSign Root CA - R6/O=GlobalSign/CN=GlobalSign'
    hash=2cabeafe37d06ca22aba7391c0033d25982952c453647349763a3ab5ad6ccf69
eno1: CTRL-EVENT-EAP-PEER-CERT depth=2
    subject='/OU=GlobalSign Root CA - R6/O=GlobalSign/CN=GlobalSign'
    hash=2cabeafe37d06ca22aba7391c0033d25982952c453647349763a3ab5ad6ccf69
eno1: CTRL-EVENT-EAP-PEER-CERT depth=1
```

```
subject='/C=BE/O=GlobalSign nv-sa/CN=GlobalSign GCC R6 AlphaSSL CA 2023'  
hash=e46fb2a75097a345d4246dcf44a10daa71d9fd0ebfab61ba67e6db84ee5b6cab  
eno1: CTRL-EVENT-EAP-PEER-CERT depth=0 subject='/CN=skt-ise-01.skoltech.ru'  
hash=e5c98d23ec8e84fe387fa4b3b5546e81d341aa6eed420768af311e7d81c68804  
eno1: CTRL-EVENT-EAP-PEER-ALT depth=0 DNS:skt-ise-01.skoltech.ru  
EAP-MSCHAPV2: Authentication succeeded  
eno1: CTRL-EVENT-EAP-SUCCESS EAP authentication completed successfully  
eno1: CTRL-EVENT-CONNECTED - Connection to 01:80:c2:00:00:03  
completed [id=0 id_str=]
```

3. Для Debian-based ОС: interfaces

```
root@2007stud01:~# cat /etc/network/interfaces
```

```
auto lo  
iface lo inet loopback  
  
auto eno1  
iface eno1 inet dhcp  
wpa-driver wired  
wpa-conf /etc/wpa_supplicant/wpa_supplicant.conf
```

4. Состояние в рабочем режиме

От **systemd** избавляться не будем (мы же не гентушники и не арчеводы). В Debian-based системах оберткой для /etc/init.d/networking является сервис networking.service.

```
root@2007stud01:~# systemctl status networking.service
```

```
- networking.service - Raise network interfaces  
  Loaded: loaded (/lib/systemd/system/networking.service; enabled;  
         preset: enabled)  
  Active: active (exited) since Fri 2024-11-01 10:46:32 MSK; 2h 17min ago  
  CGroup: /system.slice/networking.service  
          └─2124 /sbin/wpa_supplicant -s -B -P /run/wpa_supplicant.eno1.pid  
            -i eno1 -D wired -c /etc/w  
          └─2133 dhclient -4 -v -i -pf /run/dhclient.eno1.pid  
            -lf /var/lib/dhcp/dhclient.eno1.leases ->
```

```
vladimir@2007stud01:~$ ip a show dev eno1
```

```
2: eno1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP  
    group default qlen 1000  
    link/ether d0:f4:05:1f:a6:48 brd ff:ff:ff:ff:ff:ff  
    altname enp0s31f6  
    inet 10.16.74.54/24 brd 10.16.74.255 scope global dynamic eno1  
        valid_lft 689490sec preferred_lft 689490sec  
    inet6 fe80::d2f4:5ff:fe1f:a648/64 scope link  
        valid_lft forever preferred_lft forever
```