

802.1X MAB SNR

- FreeRadius
- IEEE 802.1X
- MAB

FreeRadius

freeradius. freeradius /etc/freeradius/3.0/users. 'nag' 802.1X- , 'b8-27-eb-ea-05-e1', MAC- , MAB. VLAN_ID 20.

/etc/freeradius/3.0/users

```
nag Cleartext-Password := "nag"
    Tunnel-Type = 13,
    Tunnel-Medium-Type = 6,
    Tunnel-Private-Group-ID = "20"

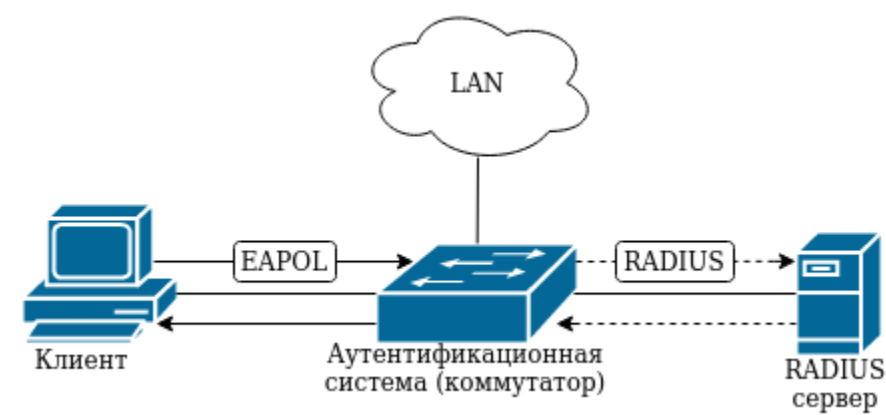
b8-27-eb-ea-05-e1 Cleartext-Password := "b8-27-eb-ea-05-e1"
    Tunnel-Type = 13,
    Tunnel-Medium-Type = 6,
    Tunnel-Private-Group-ID = "20"
```

- 13 - Tunnel - Virtual LANs (VLAN);
- 6 - 802;
- 20 - VLAN_ID, .

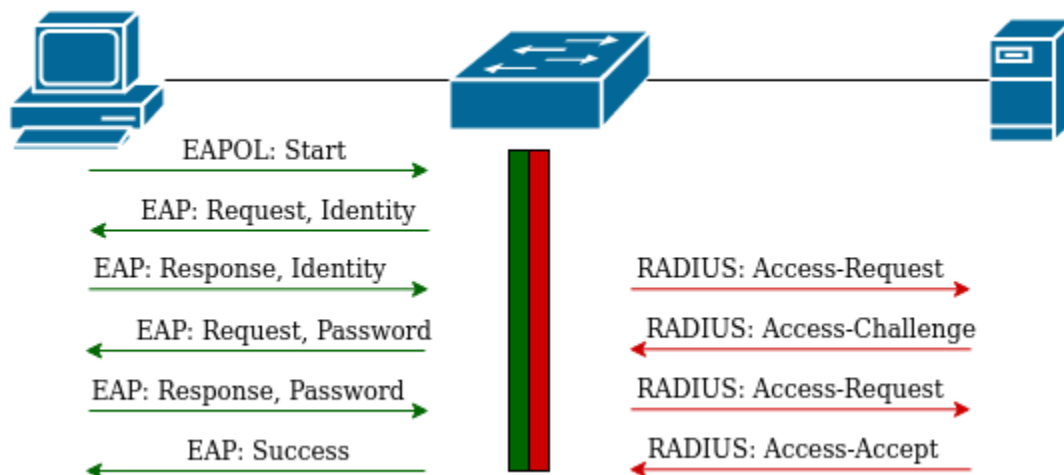
freeradius .

IEEE 802.1X

IEEE 802.1X - , . , .



DOWN UP , EAPOL (extensible authentication protocol over LAN) RADIUS (remote authentication in dial-in user service). , , 802.1X .



1. (supplicant) , EAPOL-Start- MAC- 01:80:c2:00:00:03.
2. , (authenticator) (RADIUS). EAP- Request/Identity, .
3. EAP- Response/Identity, . RADIUS Access-Request .
4. IP- RADIUS- Access-Challenge . EAP- .
5. EAP- , Access-Request . , Access-Accept.
6. EAP- EAP-Success. . , EAP- Logoff, .



:

, MD5 MSCHAPv2 TLS.

RADIUS IP- 192.168.1.3 'testing123':

```
(config)#radius-server authentication host 192.168.1.3 key testing123
(config)#aaa enable
```

VLAN:

```
(config)#vlan 20;100
```

802.1X :

```
(config)#dot1x enable
(config)#int e1/0/2
(config-if-ethernet1/0/2)#dot1x enable
```

port-based VLAN , :

```
(config-if-ethernet1/0/2)#dot1x port-method portbased
(config-if-ethernet1/0/2)#dot1x guest-vlan 100
```

, 'nag', :

```
#sh dot1x interface e1/0/2

802.1X is enabled on port Ethernet1/0/2
Authentication Method:Port based
Configured Access Vlan 1, Guest Vlan 100, Current Vlan 20
  Status      Authorized
Port-control   Auto
Supplicant     f0-de-f1-19-d5-eb

VLAN id 20
Authenticator State Machine
  State      Authenticated

Backend State Machine
  State      Idle

Reauthentication State Machine
  State      Stop
```

, , /, .

MAB

802.1X, MAB (mac authentication bypass), MAC-, / RADIUS. RADIUS-:

- Access-Request, /;
- Access-Success, , .

 :
MAB RADIUS.

, guest-vlan MAB hybrid-. MAB:

```
(config)#mac-authentication-bypass enable
```

 :
S2995, , "mac-address-learning cpu-control"

:

```
(config)#int e1/0/3
(config-if-ethernet1/0/3)#mac-authentication-bypass enable
```

MAC- ():

```
(config-if-ethernet1/0/3)#mac-authentication-bypass binding-limit 1
```

hybrid VLAN:

```
(config-if-ethernet1/0/3)#switchport mode hybrid
(config-if-ethernet1/0/3)#switchport hybrid allowed vlan 20;100 untag
(config-if-ethernet1/0/3)#switchport hybrid native vlan 100
```

VLAN:

```
(config-if-ethernet1/0/3)#mac-authentication-bypass guest-vlan 100
```

```
#sh mac-authentication-bypass interface e1/0/3
```

```
Interface Ethernet1/0/3 user config:  
MAB enable: Enable
```

```
Binding info: 1
```

```
-----  
MAB Binding built at Sun Jan 1 02:24:02 2006  
VID 20, Port: Ethernet1/0/2  
Client MAC: b8-27-eb-ea-05-e1  
Binding State: MAB_AUTHENTICATED  
Binding State Lease: 169 seconds left
```

```
MAB 802.1X, guest-vlan . hybrid- 802.1X- VLAN 100,.. native.
```

```
(config-if-ethernet1/0/3)#dot1x enable  
(config-if-ethernet1/0/3)#dot1x port-method portbased
```

```
1/0/3 802.1X :
```

```
#sh dot1x interface ethernet 1/0/3
```

```
802.1X is enabled on port Ethernet1/0/3  
Authentication Method:Port based  
Configured Native Vlan 100, Guest Vlan 100, Current Vlan 20  
Status Authorized  
Port-control Auto  
Supplicant f0-de-f1-19-d5-eb
```

```
VLAN id 20  
Authenticator State Machine  
State Authenticated
```

```
Backend State Machine  
State Idle
```

```
Reauthentication State Machine  
State Stop
```

```
e1/0/3 802.1X :
```

```
#sh dot1x interface e1/0/3
```

```
802.1X is enabled on port Ethernet1/0/3  
Authentication Method:Port based  
Configured Native Vlan 100, Guest Vlan 0, Current Vlan 100  
Status Unauthorized  
Port-control Auto  
Supplicant f0-de-f1-19-d5-eb
```

```
VLAN id 100  
Authenticator State Machine  
State Held
```

```
Backend State Machine  
State Idle
```

```
Reauthentication State Machine  
State Stop
```

