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authentication required disable

PPP- PPTP L2TP-.

(no) PPP PPTP L2TP-.

[no] authentication required disable

CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

CONFIG-OPENVPN-SERVER

```
esr(config-pptp-server)# authentication required disable
```

clear remote-access counters

OpenVPN, PPTP L2TP over IPsec.

```
clear remote-access counters [ pptp | l2tp | openvpn ] [ server <SERVER-NAME> ] [ username <USER-NAME> ] [ ip-  
address <ADDR> ]
```

<SERVER-NAME> – OpenVPN, PPTP L2TP over IPsec;

<USER-NAME> – OpenVPN, PPTP L2TP over IPsec;

<ADDR> – IP- OpenVPN, PPTP L2TP over IPsec.

OpenVPN, PPTP L2TP over IPsec.

ROOT

```
esr# clear remote-access counters
```

clear remote-access session

OpenVPN, PPTP L2TP over IPsec.

```
clear remote-access session [ pptp | l2tp | openvpn ] [ server <SERVER-NAME> ] [ username <USER-NAME> ] [ ip-  
address <ADDR> ]
```

<SERVER-NAME> – OpenVPN, PPTP L2TP over IPsec;

<USER-NAME> – OpenVPN, PPTP L2TP over IPsec;

<ADDR> – IP- OpenVPN, PPTP L2TP over IPsec. OpenVPN, PPTP L2TP over IPsec.

ROOT

```
esr# clear remote-access session
```

description

OpenVPN, PPTP L2TP over IPsec.

(no) .

```
description <DESCRIPTION>
```

```
no description
```

```
<DESCRIPTION> - , 255 .
```

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

CONFIG-OPENVPN-SERVER

PPTP-:

```
esr(config-pptp-server)# description "Our remote workers"
```

enable

.

(no) .

[no] enable

.

.

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

CONFIG-OPENVPN-SERVER

```
esr(config-pptp-server)# enable
```

encryption mppe

MPPE (Microsoft Point-to-Point Encryption) PPTP-.

(no) .

```
[no] encryption mppe
```

.

.

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CONFIG-PPTP-SERVER

```
esr(config-pptp-server)# encryption mppe
```

remote-access

.

(no) .

```
[no] remote-access <SERVER-TYPE> <NAME>
```

<SERVER-TYPE> – . l2tp, openvpn, pptp

<NAME> – , 31 .

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CONFIG

```
esr(config)# remote-access l2tp remote-workers
esr(config-l2tp-server)#
```

show remote-access configuration

OpenVPN, PPTP L2TP over IPsec-.

```
show remote-access configuration { pptp | l2tp | openvpn } [ <NAME> ]
```

<NAME> – OpenVPN, PPTP L2TP over IPsec .

OpenVPN, PPTP L2TP over IPsec-.

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ROOT

```
esr# show remote-access configuration pptp pptp1
State:                Enabled
Description:          --
Security zone:        trusted
Authentication mode:  local
MTU:                  1500
Local address:        192.168.1.1
Remote address:       rem_pptp(10.0.10.20-10.0.10.40)
Outside address:      115.0.0.1
DNS server:           --
WINS server:          --
  Users
  ~~~~
#      Name                State      Encrypted password
---  -
0      pptp                 Enabled    8CB5107EA7005AFF
1      petr                 Enabled    CCE5513EE45A1EAC
```

show remote-access counters

OpenVPN, PPTP L2TP over IPsec .

```
show remote-access counters [ pptp | l2tp | openvpn ] [ server <SERVER-NAME> ] [ username <USER-NAME> ] [ ip-
address <ADDR> ]
```

<SERVER-NAME> – PPTP L2TP over IPsec ;

<USER-NAME> – OpenVPN, PPTP L2TP over IPsec ;

<ADDR> – IP- OpenVPN, PPTP L2TP over IPsec ;

OpenVPN, PPTP L2TP over IPsec .

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ROOT

```

esr# show remote-access counters
User          IP-address      UC recv      Bytes recv   Err recv     MC recv
-----
ivan          10.20.20.5       262          25365        0            0
fedor         20.20.20.160     59           5236         0            0
User          IP-address      UC sent      Bytes sent    Err sent
-----
ivan          10.20.20.5       249          29298        0
fedor         20.20.20.160     16           739          0
esr# show remote-access counters l2tp
PPTP Server: remote-workers
User: ivan(10.20.20.5)
Packets received:          231
Bytes received:            22229
Dropped on receive:        0
Receive errors:            0
Multicasts received:      0
Receive length errors:     0
Receive buffer overflow errors: 0
Receive CRC errors:        0
Receive frame errors:      0
Receive FIFO errors:       0
Receive missed errors:     0
Receive compressed:        0
Packets transmitted:       189
Bytes transmitted:         21858
Dropped on transmit:       0
Transmit errors:           0
Transmit aborted errors:   0
Transmit carrier errors:   0
Transmit FIFO errors:      0
Transmit heartbeat errors: 0
Transmit window errors:    0
Transmit compressed:       0
Collisions:                0

```

show remote-access status

OpenVPN, PPTP L2TP over IPsec .

```
show remote-access status [ pptp | l2tp | openvpn ] [ server <SERVER-NAME> ] [ username <USER-NAME> ] [ ip-
address <ADDR> ]
```

<SERVER-NAME> – OpenVPN, PPTP L2TP over IPsec ;

<USER-NAME> – OpenVPN, PPTP L2TP over IPsec ;

<ADDR> – IP- OpenVPN, PPTP L2TP over IPsec .

OpenVPN, PPTP L2TP over IPsec .

```

esr# show remote-access status
User          IP-address      Server
-----
ivan          10.20.20.5      pptp(remote-workers)
fedor         20.20.20.160    l2tp(remote-workers-l2tp)
Count sessions: 2

```

L2TP over IPsec/PPTP-

authentication mode

, PPTP L2TP over IPsec.

(no) .

```

authentication mode { local | radius }
no authentication mode

```

- local – , .
- radius – , RADIUS-.

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```

esr(config-pptp-server)# authentication mode local

```

authentication method

, PPTP L2TP over IPsec.

(no) .

```

[no] authentication method <METHOD>

```

<METHOD> – , [chap, mschap, mschap-v2, eap, pap].

chap

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# authentication method mschap
```

dns-servers

DNS-, , PPTP L2TP over IPsec.

(no) DNS-.

```
dns-servers object-group <NAME>
```

```
no dns-servers
```

<NAME> – IP-, DNS-, 31 .

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# dns-servers object-group pptp_dns
```

dscp

DSCP IP- PPTP L2TP over IPsec-.

(no) DSCP .

```
dscp <DSCP>
```

```
no dscp
```

<DSCP> – DSCP, [0..63].

32

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# dscp 40
```


ipsec authentication method

IKE-, IKE-, «ipsec authentication pre-shared-key» ([ipsec authentication pre-shared-key](#)).

(no) .

```
ipsec authentication method pre-shared-key
no ipsec authentication method
```

pre-shared-key – , .

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CONFIG-L2TP-SERVER

```
esr(config-l2tp-server)# ipsec authentication method pre-shared-key
```

ipsec authentication pre-shared-key

, .

(no) .

```
ipsec authentication pre-shared-key { ascii-text { <TEXT> | encrypted <ENCRYPTED-TEXT> } | hexadecimal { <HEX> |
encrypted <ENCRYPTED-HEX> } }
no ipsec authentication pre-shared-key
```

<TEXT> – [1..64] ASCII .

<HEX> – [1..32] [2..128] (0xYYYY...) (YYYY...).

<ENCRYPTED-TEXT> – [1..32], [2..128];

<ENCRYPTED-HEX> – [2..64], [2..256].

.

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CONFIG-L2TP-SERVER

```
esr(config-l2tp-server)# ipsec authentication pre-shared-key ascii-text password
```

local-address

IP-, PPTP L2TP over IPsec IP- .

(no) IP- .

```
local-address { object-group <NAME> | ip-address <ADDR> }
```

```
no local-address
```

<NAME> – IP-, IP-, 31 .

<ADDR> – IP- AAA.BBB.CCC.DDD, [0..255].

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# local-address object-group pptp_local
```

mtu

MTU , PPTP L2TP over IPsec.

(no) MTU .

```
mtu <MTU>
```

```
no mtu
```

<MTU> – MTU, [1280..1500].

1500

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# mtu 1400
```

outside-address

IP-, PPTP L2TP over IPsec .

(no) .

```
outside-address { object-group <NAME> | ip-address <ADDR> | interface { <IF> | <TUN> } }  
no outside-address
```

<NAME> – IP-, , PPTP L2TP over IPsec , 31 .

<ADDR> – IP-, PPTP L2TP over IPsec , AAA.BBB.CCC.DDD, [0..255].

<IF> – , , .

<TUN> – , , .

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# outside-address object-group pptp_outside
```

remote-address

IP-, PPTP L2TP over IPsec IP- .

(no) IP- .

```
remote-address { object-group <NAME> | address-range <FROM-ADDR>-<TO-ADDR> }  
no remote-address
```

<NAME> – IP-, IP- , 31 .

<FROM-ADDR> – IP-, AAA.BBB.CCC.DDD, [0..255].

<TO-ADDR> – IP-, AAA.BBB.CCC.DDD, [0..255].

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# remote-address object-group pptp_remote
```

remote network

IP-, PPTP/L2TP-.

(no) IP-, PPTP/L2TP-.

remote network <ADDR/LEN>

no remote network

<ADDR/LEN> – IP-. AAA.BBB.CCC.DDD/EE, AAA – DDD [0..255] EE [1..32].

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CONFIG-PPP-USER

```
esr(config-ppp-user)# remote network 192.168.54.0/24
```

remote networks

IP-, PPTP/L2TP-.

(no) IP-, PPTP/L2TP-.

remote networks <OBJ-GROUP-NETWORK-NAME>

no remote network

<OBJ-GROUP-NETWORK-NAME> – IP/IPv6-, 31.

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CONFIG-PPP-USER

```
esr(config-ppp-user)# remote network 192.168.54.0/24
```

username

PPTP L2TP over IPsec. , PPP-.

(no) .

PPTP USER L2TP USER .

[no] username <NAME>

<NAME> – , 31.

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# username fedor
esr(config-pptp-user)#
```

wins-servers

WINS-, , PPTP L2TP over IPsec.

(no) WINS-.

```
wins-servers object-group <NAME>
```

```
no wins-servers
```

<NAME>- IP-, WINS-, 31 .

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CONFIG-PPTP-SERVER

CONFIG-L2TP-SERVER

```
esr(config-pptp-server)# wins-servers object-group l2tp_wins
```

OpenVPN-

address-range

IP-, OpenVPN- IP- L2.

(no) IP- .

```
address-range <FROM-ADDR>-<TO-ADDR>
```

```
no address-range
```

<FROM-ADDR>- IP-, AAA.BBB.CCC.DDD, [0..255].

<TO-ADDR>- IP-, AAA.BBB.CCC.DDD, [0..255].

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# address-range 192.168.1.10-192.168.1.250
```

authentication algorithm

OpenVPN.

(no) .

```
authentication algorithm <ALGORITHM>
```

```
no authentication-algorithm
```

<ALGORITHM> – :

- 8-128 bits key size: md4, rsa-md4, md5, rsa-md5, mdc2, rsa-mdc2
- 8-160 bits key size: sha, sha1, rsa-sha, rsa-sha1, rsa-sha1-2, dsa, dsa-sha, dsa-sha1, dsa-sha1-old, ripemd160, rsa-ripemd160, ecdsa-with-sha1
- 8-224 bits key size: sha-224, rsa-sha-224
- 8-256 bits key size: sha-256, rsa-sha-256
- 8-384 bits key size: sha-384, rsa-sha-384
- 8-512 bits key size: sha-512, rsa-sha-512, whirlpool

sha

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# authentication algorithm cleartext
```

bridge-group

OpenVPN L2-.

(no) L2-.

```
bridge-group <BRIDGE-ID>
```

```
no bridge-group
```

<BRIDGE-ID> – . , .

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# bridge-group 15
```

certificate

. *copy*, *copy*.

(no) .

```
certificate <CERTIFICATE-TYPE> <NAME>
```

```
no certificate <CERTIFICATE-TYPE>
```

<CERTIFICATE-TYPE> - , :

- ca - ;
- crl - ;
- dh - ;
- server-crt - ;
- server-key - ;
- ta - HMAC-
- client-key - OPENVPN-;
- client-crt - OPENVPN-.

<NAME> - , 31 .

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# certificate ca ca.crt
```

client-isolation

.

(no) .

```
[no] client-isolation
```

.

.

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# client-isolation
```

client-max

.
(no) .

client-max <VALUE>
no client-max

<VALUE> - , [1..65535].

.

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# clients-max 500
```

compression

OpenVPN.

(no) .

[no] compression

.

.

10

CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# compression
```

dns-server

DNS-, .
(no) DNS-.

```
dns-server <ADDR>  
no dns-server { <ADDR> | all }
```

<ADDR> – IP- DNS-a, AAA.BBB.CCC.DDD, [0..255];
all – IP-.

10

CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# dns-server 1.1.1.1
```

duplicate-cn

.
(no) .

[no] duplicate-cn

.

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# duplicate-cn
```

encryption algorithm

, .
(no) .

```
encryption algorithm <ALGORITHM>  
no encryption algorithm
```

<ALGORITHM> – , : des, blowfish128, aes128, des-ede, aes192, 3des, desx, aes256.

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# encryption algorithm aes128
```

ip address

IP- . (no) IP- .

```
[no] ip address <ADDR>
```

<ADDR> – IP-, :

AAA.BBB.CCC.DDD – IP- , AAA-DDD [0..255].

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CONFIG-OPENVPN-USER

```
esr(config-openvpn-server)# username client  
esr(config-openvpn-user)# ip address 10.10.100.15
```

login authentication

«default», – «local».

(no) .

```
login authentication <NAME>
```

```
no login authentication
```

<NAME> – , 31 .

default

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# login authentication OPENVPN-LIST
```

network

, IP-. IP- .
(no) .

```
network <ADDR/LEN>  
no network
```

<ADDR/LEN> – IP-, :

- AAA.BBB.CCC.DDD/EE – IP- , AAA-DDD [0..255] EE [1..32].

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# network 192.168.25.0/24
```

port

TCP/UDP-, OpenVPN- .
(no) .

```
port <PORT>  
no port
```

<PORT> – TCP/UDP , [1..65535].

1194

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# port 5000
```

protocol

.
(no) .

```
protocol <PROTOCOL>  
no protocol
```

<TYPE>- , :

- TCP- TCP-;
- UDP- UDP-.

.

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# protocol udp
```

redirect-gateway

OpenVPN-, . IP- OpenVPN-.
(no) .

```
[no] redirect-gateway
```

.

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# redirect-gateway
```

route

, IP OpenVPN- (IP- , network, [network](#)).

(no) .

```
route <ADDR/LEN>
no route { <ADDR/LEN> | all }
```

<ADDR/LEN> – IP-, :
AAA.BBB.CCC.DDD/EE – IP- , AAA-DDD [0..255] EE [1..32];

10

CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# route 192.168.25.0/24, 192.168.26.0/24
```

timers holdtime

, . 0. keepalive . , 3 **keepalive*.

(no) .

```
timers holdtime <TIME>
no timers holdtime
```

<TIME> – , [1..65535].

120

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# timers holdtime 360
```

timers keepalive

, .

(no) .

```
timers keepalive <TIME>
no timers keepalive
```

<TIME> – , [1..65535].

10

10

CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# timers keepalive 120
```

subnet

OpenVPN-

(no) .

[no] subnet <ADDRLEN>

<ADDR/LEN> – IP-, :

AAA.BBB.CCC.DDD/EE – IP- , AAA-DDD [0..255] EE [1..32].

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CONFIG-OPENVPN-USER

```
esr(config-openvpn-server)# username client
esr(config-openvpn-user)# subnet 192.168.25.128/28
```

tunnel

OpenVPN-

(no) .

tunnel <TYPE>

no tunnel

<TYPE> – , :

- ip – -;
- ethernet – L2 .

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# tunnel ip
```

username

OpenVPN-

(no) .

```
[no] username { <NAME> | all }
```

<NAME> - , 31 .

all - , .

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# username client
esr(config-openvpn-user)#
```

wins-server

WINS-, .

(no) WINS-.

```
wins-server <ADDR>
```

```
no wins-server { <ADDR> | all }
```

<ADDR> - IP- WINS , AAA.BBB.CCC.DDD, [0..255].

all - IP- DNS .

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CONFIG-OPENVPN-SERVER

```
esr(config-openvpn-server)# wins-servers 1.1.1.1
```