

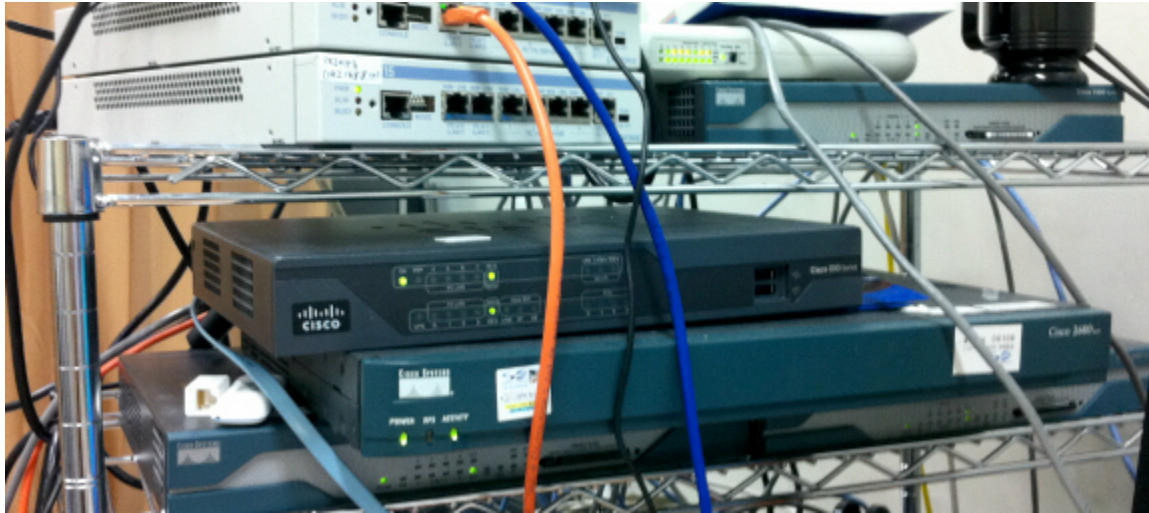


# Cisco ??????

Cisco ?????? 2005 ??????????L2TPv3 over IPsec ??????? (????????????????????IOS ??????????????????????)?

?? Web ?????????????????????Cisco 1812?????Cisco 892?? Cisco ??????? L2TP over IPsec ?????????????????? (?????????????????????)?

- [PacketiX VPN ? Cisco ?????????????????????????????????](#)



Cisco ??????

????

Cisco ??????????????SoftEther VPN ? IPsec ?????????????????????



?????L2TPv3 ????? (???) ? VPN Server ??? IPsec ?????????????? ISAKMP (IKE) Phase 1 ? ID ?????????  
? HUB ??? HUB ???

????????????????? L2TPv3 ????? ? VPN ????? HUB ?DEFAULT?????????l2tpv3????????????????????  
??????????????

(?????l2tpv3???? HUB ?DEFAULT?????????????????)

????? Cisco ??? VPN Server ?????? ISAKMP (IKE) Phase 1 ? ID ??? ? IP ?????????????????????????  
??\*? (?????) ?? 1 ?? ID ????????????????????????????? ID ????? VPN ?????????????????????

????????????????VPN Server ????? ID ??? Cisco ???

**Cisco ?????????? #1 (?? IP ??????)**

1 ?????? Cisco ?????????????????? SoftEther VPN Server ??? VPN ??????????????????

????????????Cisco ????? IP ??? (???? IP ????? NAT ????? IP ??????????????) ?????????  
????Cisco ????? IP ?????????????PPPoE ?? ISP ?? IP ?????????????????????????????

??

- **Ethernet ??????**  
FastEthernet 0: WAN ? (IP ?????: 2.3.4.5?NAT ?????)  
FastEthernet 1: ?????
- **???????? (????????) ???? IP ???**  
FastEthernet 0 ??? Ethernet ?????  
IP ????: 2.3.4.5 / 255.255.255.0  
?????????: 2.3.4.254  
????????????????
- **????? SoftEther VPN Server ????? IP ???**  
1.2.3.4
- **ISAKMP SA ?????**  
AES-256 / SHA / DH Group 2 (1024 bit)
- **IPsec SA ?????**  
AES-256 / SHA
- **IPsec Pre-Shared Key (????) ??**  
vpn

???????? Cisco ?????????????????????????????

**Cisco Configuration Sample**

```

conf t
ip classless
ip subnet-zero
no ip domain-lookup
no bba-group pppoe global

spanning-tree mode mst
spanning-tree extend system-id
vtp mode transparent

interface FastEthernet 0

```

```
ip address dhcp
duplex auto
speed auto
arp timeout 300
no shutdown
exit
```

```
interface FastEthernet 1
no ip address
duplex auto
speed auto
arp timeout 300
no shutdown
exit
```

```
ip routing
ip cef
```

```
no cdp run
```

```
pseudowire-class L2TPv3
encapsulation l2tpv3
ip local interface FastEthernet 0
exit
```

```
crypto isakmp policy 1
encryption aes 256
authentication pre-share
group 2
exit
```

```
crypto isakmp key vpn address 0.0.0.0 0.0.0.0
crypto isakmp keepalive 10 2 periodic
crypto ipsec fragmentation after-encryption
crypto ipsec transform-set IPSEC esp-aes 256 esp-sha-hmac
mode transport
exit
```

```
crypto map MAP 1 ipsec-isakmp
set peer 1.2.3.4
set transform-set IPSEC
match address IPSEC_MATCH_RULE
exit
```

```
ip access-list extended IPSEC_MATCH_RULE
permit 115 any any
exit
```

```
interface FastEthernet 0
crypto map MAP
```

```
exit
```

```
interface FastEthernet 1
no cdp enable
xconnect 1.2.3.4 1 pw-class L2TPv3
bridge-group 1
exit
```

```
????????????Cisco ?????SoftEther VPN Server (IP ?????: 1.2.3.4) ????? IPsec ?????????????????????? L2TPv3 ?????
???????????? VPN ?????????????
```

```
FastEthernet 0 ????? WAN ? (?????????)FastEthernet 1 ? VPN ?????? (VPN ??????????????????????) ??????????
FastEthernet 1 ?????????????????? PC ??Ethernet ?????? (L2) ??? SoftEther VPN Server ??? HUB ?????????????????
????????????????????
```

### Cisco ????????????? #2 (DHCP ??? IP ????????)

```
1 ?????????? Cisco ?????????????????????? SoftEther VPN Server ????? VPN ?????????????????????????????
```

```
????????????????Cisco ?????????????????????? IP ????? (????? IP ?????????? NAT ?????????? IP ??????????????????????)
? DHCP ?????????????????????????????
```

```
????????????????????????????????????????????????????
```

- **Ethernet ???????**

```
FastEthernet 0: WAN ? (DHCP ??? IP ??????????NAT ???????)
```

```
FastEthernet 1: ??????
```

- **???????????? (?????????????????) ?????? IP ?????**

```
FastEthernet 0 ????? Ethernet ?????????? DHCP ?????? IP ?????????????????????????????????????????????????????
????????????????
```

- **??????? SoftEther VPN Server ?????????? IP ?????**

```
1.2.3.4
```

- **ISAKMP SA ????????????**

```
AES-256 / SHA / DH Group 2 (1024 bit)
```

- **IPsec SA ????????????**

```
AES-256 / SHA
```

- **IPsec Pre-Shared Key (?????) ???**

```
vpn
```

```
???????????? Cisco ?????????????????????????????????????
```

### Cisco Configuration Sample

```
conf t
ip classless
ip subnet-zero
no ip domain-lookup
no bba-group pppoe global

spanning-tree mode mst
spanning-tree extend system-id
vtp mode transparent
```

```
interface FastEthernet 0
```

```
ip address dhcp
duplex auto
speed auto
arp timeout 300
no shutdown
exit
```

```
interface FastEthernet 1
no ip address
duplex auto
speed auto
arp timeout 300
no shutdown
exit
```

```
ip routing
ip cef
```

```
no cdp run
```

```
pseudowire-class L2TPv3
encapsulation l2tpv3
ip local interface FastEthernet 0
exit
```

```
crypto isakmp policy 1
encryption aes 256
authentication pre-share
group 2
exit
```

```
crypto isakmp key vpn address 0.0.0.0 0.0.0.0
crypto isakmp keepalive 10 2 periodic
crypto ipsec fragmentation after-encryption
crypto ipsec transform-set IPSEC esp-aes 256 esp-sha-hmac
mode transport
exit
```

```
crypto map MAP 1 ipsec-isakmp
set peer 1.2.3.4
set transform-set IPSEC
match address IPSEC_MATCH_RULE
exit
```

```
ip access-list extended IPSEC_MATCH_RULE
permit 115 any any
exit
```

```
interface FastEthernet 0
crypto map MAP
```

```
exit
```

```
interface FastEthernet 1
no cdp enable
xconnect 1.2.3.4 1 pw-class L2TPv3
bridge-group 1
exit
```

```
????????????Cisco ???SoftEther VPN Server (IP ????: 1.2.3.4) ??? IPsec ?????????????????????? L2TPv3 ???
???????????? VPN ????????????
```

```
FastEthernet 0 ??? WAN ? (?????????)FastEthernet 1 ? VPN ?????? (VPN ??????????????????????) ???????????
FastEthernet 1 ?????????????????? PC ??Ethernet ?????? (L2) ?? SoftEther VPN Server ??? HUB ?????????????????
????????????????????
```

### Cisco ??????????? #3 (PPPoE ??? IP ??????)

```
1 ???????? Cisco ?????????????????????? SoftEther VPN Server ??? VPN ??????????????????????
```

```
????????????????Cisco ?????????????????? PPPoE ??? ISP ?????????????????? ISP ??? IP ??????????????????????
```

```
????????????????????????????????????????????????????????????
```

- **Ethernet ??????**

```
FastEthernet 0: WAN ? (PPPoE ??? IP ??????????NAT ??????)
```

```
FastEthernet 1: ?????
```

- **???????????? (?????????????????) ????? IP ????**

```
FastEthernet 0 ??? Ethernet ?????? NTT ?????????????? ONU ?????????????????????? NTT ??????
PPPoE ?????????? ISP ??????ISP ?? IP ?????????????????????????????????????????????????????????????
```

- **Cisco ?????????????? PPPoE ????????????**

```
ID: abc12345 @ isp.ad.jp
```

```
?????: nekojamu
```

- **?????? SoftEther VPN Server ?????? IP ????**

```
1.2.3.4
```

- **ISAKMP SA ????????????**

```
AES-256 / SHA / DH Group 2 (1024 bit)
```

- **IPsec SA ????????????**

```
AES-256 / SHA
```

- **IPsec Pre-Shared Key (?????) ???**

```
vpn
```

```
?????????? Cisco ?????????????????????????????????????????????
```

### Cisco Configuration Sample

```
conf t
```

```
ip classless
```

```
ip subnet-zero
```

```
no ip domain-lookup
```

```
no bba-group pppoe global
```

```
spanning-tree mode mst
```

```
spanning-tree extend system-id
```

```
vtp mode transparent

interface FastEthernet 0
no ip address
duplex auto
speed auto
arp timeout 300
no shutdown
exit

interface FastEthernet 1
no ip address
duplex auto
speed auto
arp timeout 300
no shutdown
exit

ip routing
ip cef

no cdp run

interface FastEthernet 0
ppoe enable
ppoe-client dial-pool-number 1
exit

interface FastEthernet 1
no ip address
exit

interface Dialer 1
ip address negotiated
encapsulation ppp
dialer pool 1
dialer-group 1
ip mtu 1454
keepalive 15 6
ppp authentication chap callin
ppp chap hostname abc12345@isp.ad.jp
ppp chap password 0 nekojama
dialer idle-timeout 0
dialer persistent
exit

ip route 0.0.0.0 0.0.0.0 Dialer1 permanent

pseudowire-class L2TPv3
encapsulation l2tpv3
```



```
ip local interface Dialer 1
exit
```

```
crypto isakmp policy 1
encryption aes 256
hash sha
authentication pre-share
group 2
exit
```

```
crypto isakmp key vpn address 0.0.0.0 0.0.0.0
crypto isakmp keepalive 10 2 periodic
crypto ipsec fragmentation after-encryption
crypto ipsec transform-set IPSEC esp-aes 256 esp-sha-hmac
mode transport
exit
```

```
crypto map MAP 1 ipsec-isakmp
set peer 1.2.3.4
set transform-set IPSEC
match address IPSEC_MATCH_RULE
exit
```

```
ip access-list extended IPSEC_MATCH_RULE
permit 115 any any
exit
```

```
interface Dialer 1
crypto map MAP
exit
```

```
interface FastEthernet 1
no cdp enable
xconnect 1.2.3.4 1 pw-class L2TPv3
bridge-group 1
exit
```

????????????Cisco ???SoftEther VPN Server (IP ????: 1.2.3.4) ??? IPsec ?????????????????????? L2TPv3 ?????  
 ?????????? VPN ??????????

FastEthernet 0 ??? WAN ? (?????????)FastEthernet 1 ? VPN ?????? (VPN ??????????????????????) ??????????  
 FastEthernet 1 ?????????????????? PC ??Ethernet ?????? (L2) ??? SoftEther VPN Server ??? HUB ??????????????????  
 ?????????????????????

[SoftEther VPN ? Cisco ?????????????????????????????????](#)