



1.4 VPN ????????????

????SoftEther VPN ?????????????? VPN ?????????????? VPN ??????????????????????
?? SoftEther VPN ?????????????????? VPN ??????????????????

1.4.1 ??? Ethernet ???

SoftEther VPN ???Ethernet ?? VPN ??????????????????
???? Ethernet ??

Ethernet ???

?? 100Base-TX ? 1000Base-T ?????? Ethernet ?? (IEEE802.3) ????? LAN ?????
Ethernet ????????? (LAN ??) ????????????????????????????? HUB (?? 2 ??????????????) ??
??

????? HUB ? LAN ???

Ethernet ??? Ethernet ?????????????????????
?LAN ????(????????????????????) ?????????? Ethernet ????????

?????LAN ????? UTP ??????????????????LAN ????????????????????????????????? Ethernet ??
???? HUB ????????

Ethernet ?????????? HUB ? LAN ???

MAC ????

Ethernet ????????????????????? ID ????????????????????? LAN ??????? 48bit ? ID ?
?????????????? 48 bit ? ID ?????MAC ????????????????? LAN ??? MAC ?????????????????
???????????????? (SoftEther VPN ??? LAN ????????????????? LAN ?????????????MAC
??)

Ethernet ???????????? (Ethernet ????)

Ethernet ?????????????????????Ethernet ???????MAC ???????Ethernet ?????????????
(????????????Ethernet ?????????????????????)Ethernet ????????????????????????????? (????
?) ????????????????????????? 4 ???????

[1-4-2.png](#)

Ethernet ???? (MAC ????)

??? MAC ???? (48bit)???Ethernet ????????????????????????????????????? Ethernet ?????????
????????????? MAC ?????????????????Ethernet ?????????? HUB ?????????????? MAC ?????
?????? Ethernet ??????????????

???? MAC ???? (48bit)???? Ethernet ?????????????????????LAN ???? MAC ???????????????
?????

????????? (16bit)????? Ethernet ?????????? (?????) ??? 3 ????????????????????????? 16bit ??
?????????IP ??? 0x0800?ARP ?? 0x0806 ???
??

?????? (?? 1,500 Bytes)?? Ethernet ?????????????????????????????

????????????????????

Ethernet ??????Ethernet ????????????????????????????? LAN ???? MAC ?????????????????? (?
?????) ??Ethernet ????????????????? LAN ????????????????? (????????) ? 2 ???????????????
??????

?? MAC ????????? LAN ??? MAC ?????????????????????????????
???????????????????? MAC ????????????? MAC ?????????FF:FF:FF:FF:FF:FF????????????
FF:FF:FF:FF:FF:FF ??? MAC ???
????? Ethernet ????????????????????????????? (LAN ???) ????????

?????? HUB ????

Ethernet ????????????????? HUB?(??? 2 ????) ??Ethernet ?????????????????????????????????
???????? HUB ??????? (??? 8 ?????????????????????????????) ????????? Ethernet ?????????????
???? LAN ????????????????????????????? HUB ????????? LAN ????????????????????????????? 2
???? Ethernet ??????????????????

???????? HUB ????????????????? HUB ??? HUB ?????????
Ethernet ????????????????????????????? LAN ????????????????????? Ethernet ?????????????????
?????? (????????????????????)?

???????????????? 2 ????????? HUB ???

1-4-3.png

?????? HUB ?????????????????????????????

?????? HUB ??? MAC ?????????????????

?????? HUB ????????????????????? MAC ???
????????????MAC ?????????????????

?????? HUB ? Ethernet ????????????????? Ethernet ??????? MAC ????????? MAC ?????
MAC ??? IP ????? MAC ?????????????????
??

???????? HUB ??? MAC ?????????????????? MAC ?????????????????? Ethernet
???????????????? Ethernet ?????? MAC ?????????????????????

?? HUB ???
MAC ?????????????????????

Ethernet ????? (?????????????)

????????Ethernet ??? 1 ??????????????
?Ethernet ???1 ????????? HUB ??????
Ethernet ?????? 1 ????????????????????????????????????? 2 ?????????? LAN ??????????????????????????
1 ?????????????????????

???????

?????????????????2 ????????? HUB ????????????? 2 ?????????????????1 ??????????????????????????
????????????????????????Ethernet ???
????? Ethernet ????????????????????? 1 ????????????????????????????????? HUB ?????????? HUB ????
??

???????

?? 2 ? Ethernet ???
??

?? 1 ????????????????????????????????? HUB
?? 2 ?????????????????????????????????????
?????????

1.4.2 ?? HUB

SoftEther VPN ????????????????? HUB??LAN ?????????????????Ethernet ?????? VPN ???
???????????????? HUB ?????????????????[1.6 VPN ??????](#) ????????? HUB ?????????????

?? HUB ???

?? HUB??SoftEther VPN ????????????? 1 ?????? HUB ?????????????2 ?????? HUB ????
???????????????????????????? HUB ? MAC ???
?????? HUB ?????????????????????????????????????SoftEther VPN ?? HUB ?????????????????
??????????

?? HUB ??? VPN ?????????????? ?[1.6 VPN ??????](#) ??? ?[3.4 ?? HUB ????](#) ??????????

SoftEther VPN Server ???1 ?????????? HUB ?????????????? HUB ???????????? CPU ??
?? HUB ? VPN ?????????????? Ethernet ??????????
MAC ?????????????????????????? VPN ?????????????????? Ethernet ??????????????????????
? 2 Ethernet ??????????????????

[1-4-4.png](#)

?? HUB ??? HUB ????? LAN ??????????

?????? HUB ??????????

1 ?? VPN Server ??????? HUB ?????????????????? HUB ?????????????????????????????????
HUB ???????VPN Server ?????????? Ethernet ?????????????????????

SoftEther VPN ??? HUB ?????? Ethernet ?????????????????? HUB ??????LAN ?????????????????
???????? IP ?????? (?????????) ?????? TCP/IP ?????????????????? (SoftEther VPN ??????) ???
???????????????????????? HUB ?????????????????? HUB ??? LAN ?????????????????????????????
?? LAN ?????????????????? SoftEther VPN ???
????? VPN ??????????????????1 ?? VPN Server ????????? HUB ?????????????????? HUB ???????
???????????????????????????? HUB ???????VPN Server ?????????? Ethernet ??????????????????
??

VPN Server ??? HUB ??????????

??????

???????? HUB ?????? SoftEther VPN ???
???????????????? HUB ????????????????????????????????????? HUB ?????????????????????????
???????? (????????????????????????????????????) ????????????????????????????????????? HUB ??
??
???

???????????? HUB ???VPN Server ?????
???????????? HUB ??? HUB ?????????????????????????
?? HUB ????????????????????? HUB ?????????????????

?? HUB ??????

?? HUB ??? VPN Server ????????????? VPN Server ????????? HUB ?????????????????????
???????????????????? HUB ????????????????????????????????????? 1 ?????????????????????

???? VPN Server ????????? HUB ????????? 3 ?????????????IP ????????????? HUB ?????
???????? 3 ?????????????

1.4.3 ?? LAN ??

SoftEther VPN ????????????? HUB ????????? HUB ????????????????????? LAN ?????????
???????????? LAN ????????????????? LAN ?????TCP/IP ??? SoftEther VPN ?????????????
???????????????? SoftEther VPN Server ????????? HUB ?????????????

SoftEther VPN Client ????? LAN ?????????? ?4. [SoftEther VPN Client ?????? ??????????](#)

1-4-6.png

???????????????? LAN ????????????????? *SoftEther VPN* ??? LAN ???

?? LAN ?????? Windows ?? Linux ?????????????SoftEther VPN Client?????????????
SoftEther VPN Client ?????????????????VPN ?????????? VPN Server ??????????????????
SoftEther VPN Client ?????????????? LAN ??????????????????????????????????????
LAN ??????Windows ??
LAN ?????? 1 ?? LAN ?????????????????????? Ethernet ??????????????????????????
TCP/IP ?????? SoftEther VPN ?????????????? HUB ??????VPN ??????????????????????

?? LAN ????????????

1.4.4 ?????????????? 3 ????

SoftEther VPN Server ??????? HUB ??? HUB ?????????????
??? 2 ??? HUB ?????????????????
?? HUB ?
??

????????

???????????????????????? VPN Server ????????????????? VPN Server ????????????? HUB ?????????????
??
? [3.4](#) ?? HUB ??? ???? ??? VPN ????????????? [10.5](#) ?????
[VPN ??? \(?????????\)](#) ??????????

????? 3 ????

????? 3 ?????????????? 3 ?????????IP ?????????????IP ?????????????IP ?????????????????????????????
???????????

??? 3 ????? IP ??? 3 ? IP ?????
?? 3 ?????????????????????????IP ????????????????????????? 2 ?????????????? 3 ?

?????? VPN

1.4.7 ??????? VPN

?????? VPN?? SoftEther VPN ??????????? VPN ?????????? LAN ???????????
??

?????? LAN ??????????????????? ISDN ?????????????????? PPP ??????????????????
??

SoftEther VPN ??????????? VPN????SoftEther VPN Client ??????????????????????
?? LAN ????? SoftEther VPN Server ? VPN ??
??? LAN ???

???????? VPN ?????????????? LAN ? SoftEther VPN Server ?????? VPN Server ???????
HUB ????????? Ethernet ??? HUB ???????
VPN Client ??? LAN ?????????????????

??? VPN ????????????????? TCP/IP ????????????????????? Ethernet ?????????????????
?? VPN ??? NAT ?????? VPN ?????????????????
?????

????????????????[10.4 ????????????? VPN ???](#) ?????????

???????? VPN

1.4.8 ?????????? VPN

???????? VPN???1 ????????????????????????????????? VPN Client ?????????????????????????
???????????????????????? VPN ??????

???????????????? VPN?? VPN ??????????2 ?????????????????
?? VPN ??????????????

????? VPN ?????????? VPN Server ??? VPN Bridge ????????????????????????????????? VPN
Server ??? VPN Bridge ??? HUB ?????????????????? Ethernet ?????????????????????????????????
????????????? 1 ?????? VPN Server ?????????? VPN Bridge ?????? HUB ?????????????????????????
????????????????????? 2 ?????????? 1 ???SoftEther VPN ??
?? 1 ??? LAN ?????????????????????
?? VPN ???

???????????????????????? VPN ???
????????????????????????????

????????????????????[10.5](#) ?????? VPN ??? (?????????)? ??????????

?????????? VPN

1.4.9 ?????????? VPN

???????????? VPN???????????????????? Ethernet ?????????? VPN ??????????VPN ??????????
??
??

- ??????????????????ARP ? NetBIOS ???
VPN ??????????????
- ?? 2 ??? 1 ?????????????????????????????????????
???????????????????????????? IP ???
?????????????

????????????????????????????????????SoftEther VPN Server ?????????? 3 ????????????????? 2 ?????????????????
?? 2 ????????????????????????????????? 3 ? IP ???
?? IP ?????????
??[10.6 ?????? VPN ??? \(IP ??????????\)](#)? ??????????

???????????????? PPTP ? L2TP/IPSec ??? VPN ????????????????? IP ????????????????????? VPN ?????
?? VPN ????????????? SoftEther VPN ?????????????????????????????????

1-4-13.png

?????????? VPN

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- [1.6 VPN ?????](#)
- [3.4 ?? HUB ???](#)
- [3.6 ????????](#)
- [4. SoftEther VPN Client ?????](#)
- [10. VPN ??????????????????](#)
- [10.3 ??????? VPN ???](#)
- [10.4 ?????????????? VPN ???](#)
- [10.5 ?????? VPN ??? \(?????????\)](#)
- [10.6 ?????? VPN ??? \(IP ??????????\)](#)