



# VPN ????????????

????PacketiX VPN ?????????????? VPN ?????????????? VPN ??????????????????????  
?? PacketiX VPN ?????????????????????? VPN ??????????????????

# ??? Ethernet ???

PacketiX VPN ? Ethernet ?? VPN ??????????????????????  
?? Ethernet ??

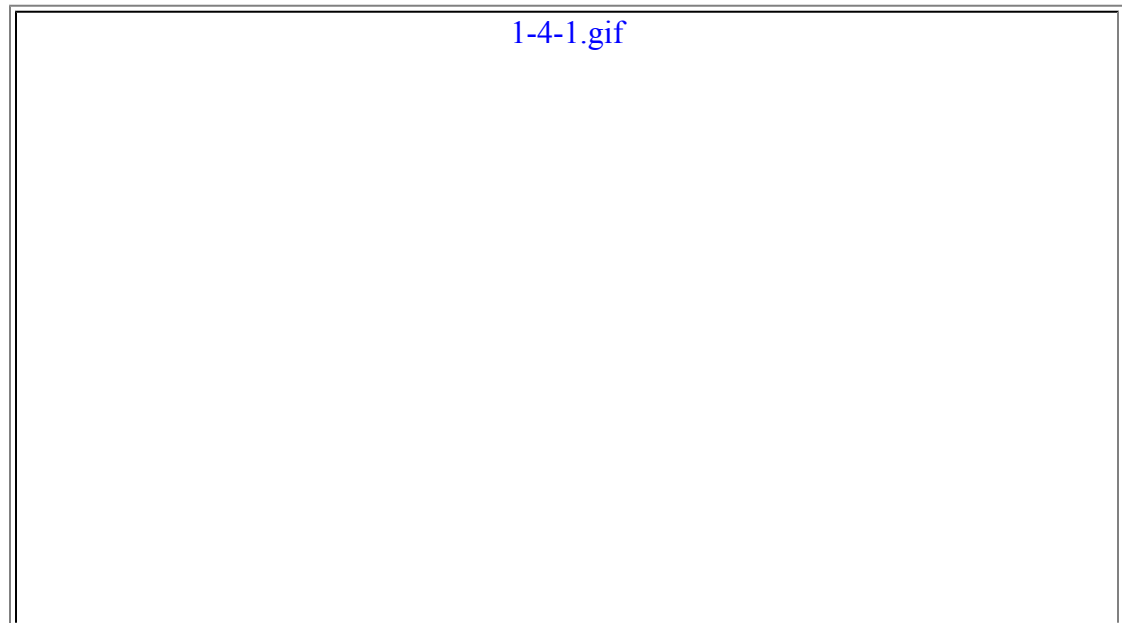
## Ethernet ???

?? 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 ???????????????  
???????????????? (PacketiX VPN ??? LAN ??????????????? LAN ??????????? MAC ????  
???)

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

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

1-4-2.gif

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

**??????????????????**

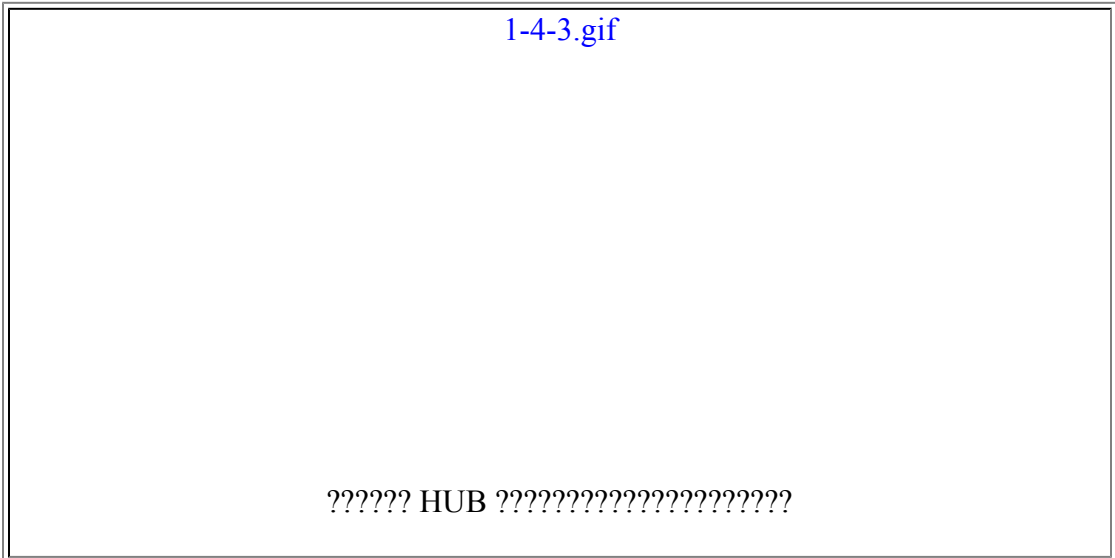
Ethernet ??????Ethernet ????????????????????????????? LAN ??? MAC ?????????????????? (?  
?????) ??Ethernet ????????????????? LAN ????????????????? (????????) ? 2 ???????????????  
??????

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

**?????? HUB ??? MAC ?????????????????**

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

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

?? HUB ??  
MAC ???

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

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

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

?? 2 ?? Ethernet ???  
??

?? 1 ????????????????????????????????? HUB ?  
?? 2 ?????????????????????????????????????  
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?? Ethernet ????????????????????? 2 ????????????? HUB???????????????????????????????? HUB ?????????????????MAC ????????????????????? HUB?????? HUB?????? HUB ????????????? HUB ??? HUB ?? 1 ?????????????? Ethernet ??? ?? LAN ??? ? 2 ????????????? (??????) ??????2 ????????????? MAC ????????????????????????????????? ???????? 1 ?????????????????????????????????
???????????? HUB ??????????????Ethernet ??? ???????????????????? 2 ????????????????????????????????? 1 ?????????????????????????????

## ?? HUB

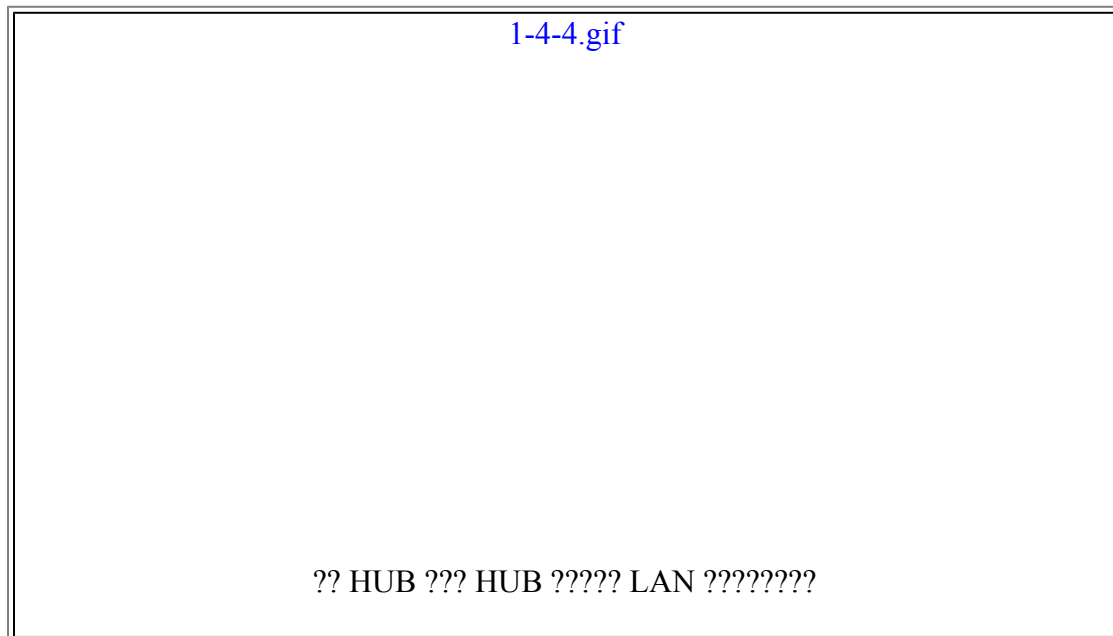
PacketiX VPN ???????????? HUB???LAN ????????????????Ethernet ?????? VPN ???  
???????????????? HUB ?????????????????[1.6 VPN ??????](#) ?????????? HUB ?????????????

## ?? HUB ???

??? HUB?? PacketiX VPN ?????????????? 1 ?????? HUB ?????????????? ?????? HUB ??????  
???????????????????????????? HUB ? MAC ???  
????? HUB ??????????????????????????????????????PacketiX VPN ??? HUB ?????????????????????  
?????????

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

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

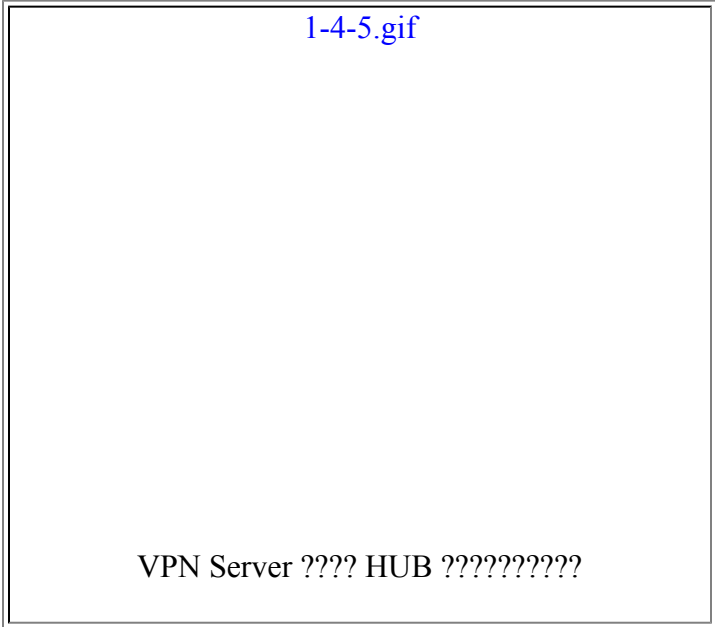


## ?????? HUB ??????????

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

PacketiX VPN ??? HUB ?????? Ethernet ????????????????? HUB ??????LAN ?????????????????  
???????? IP ?????? (?????????) ?????? TCP/IP ?????????????????? (PacketiX VPN ??????) ???  
???????????????????????? HUB ?????????????? HUB ??? LAN ?????????????????????????????

?? LAN ????????????????? PacketiX VPN ??????  
?? VPN ?????????????????



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???????? HUB ????? PacketiX VPN ???  
???????????? HUB ????????????????????????????????????? HUB ?????????????????????????????????  
?? (????????????????????????????????) ????????????????????????????????? HUB ?????????????  
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**?? HUB ???????**

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

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

**?? LAN ???**

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

PacketiX VPN Client ????? LAN ??????????? [???](#) [PacketiX VPN Client ??????](#) ???????  
??



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

1-4-7.gif

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

**????????????? 3 ????**

PacketiX VPN Server ?????? HUB ??? HUB ??????????????  
? 2 ????????????????????????????? HUB ??? HUB ???  
??

**????????**

???????????????????? VPN Server ?????????????? VPN Server ?????????? HUB ??????????????  
?? VPN ?????????????????????????????????  
[23.4.11 ????????????](#) ??? VPN ??????????[210.5 ??????](#)  
[VPN ??? \(?????????\)?](#) ??????????

**????? 3 ????**

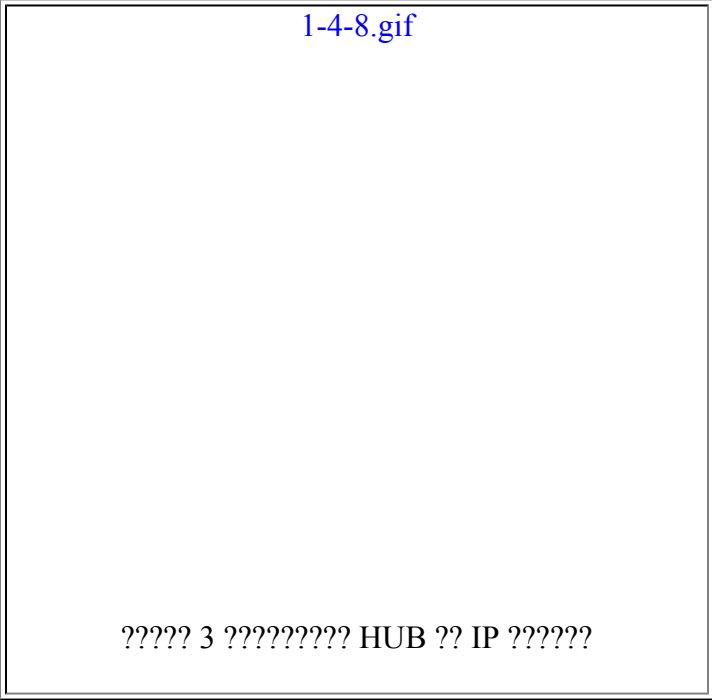
????? 3 ?????????????? 3 ?????????IP ?????????????IP ?????????? IP ?????????????????????????????????  
?????????

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



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

PacketiX VPN Server ?????? 3 ?????????????????? HUB ?? IP ?????????????????????????  
????????????????? HUB ?? IP ?????????????????? HUB ?????????????? HUB ?????????????  
Ethernet ????????????????????? 3 ?????????????????? IP ??????????????????????????PacketiX  
VPN Server ?????? 3 ?? HUB ?? IP ?????????????????  
HUB ?????????????????????????????????



???PacketiX VPN ?????????????????? VPN ???  
????????????????? VPN ?????????????? 3 ?????????? IP ?????????????????????????????????  
3 ??????????? VPN ???????????10.6 ?????? VPN ??? (IP ??????????)? ??????????

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PacketiX VPN Server ??? PacketiX VPN Bridge ?????????????????????????????????????  
?????? HUB ?????? LAN ?? HUB ?????????????????  
????? 2 ?? 23.6 ?????????? ??????????

????????? HUB ?????????? LAN ?????????????????????????? HUB ?????????????????????????  
????????????????????? LAN ??? 1 ?????????????????????????????????? VPN ????????????????

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PacketiX VPN ?????????

**??????? VPN**

PacketiX VPN ????????????????????????????????? 3 ?????????

- ??????? VPN
- ??????? VPN
- ?????? VPN

??[??10? VPN ?](#)  
[??](#) ??????????

????????? VPN?? PacketiX VPN ???  
??VPN ???

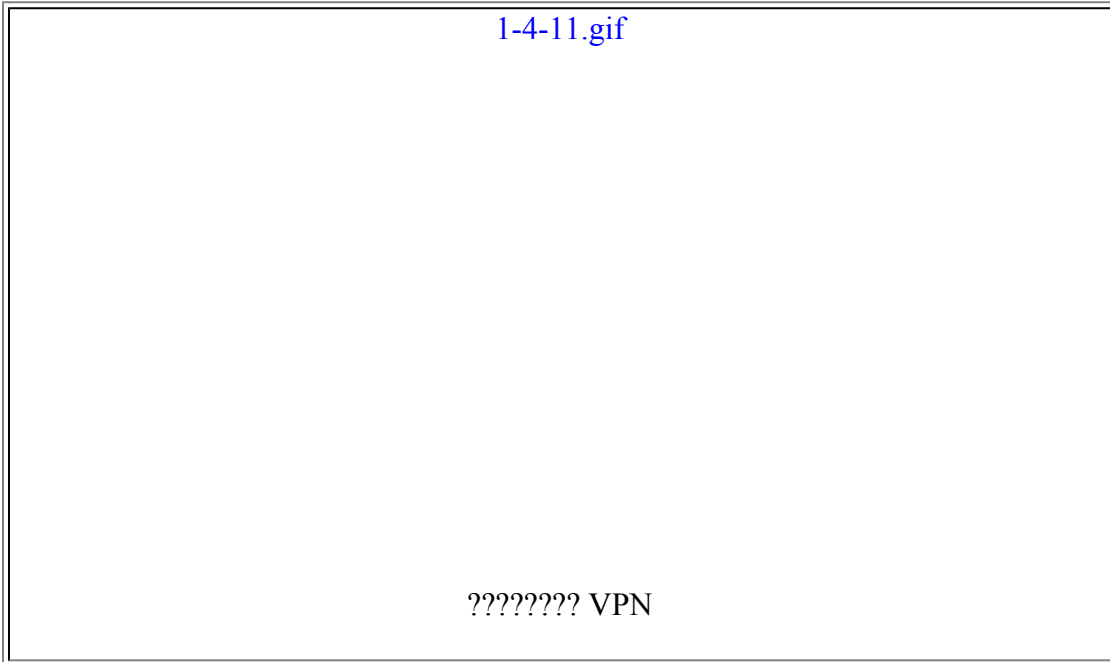
????????? VPN ????????????????????? PacketiX VPN Server ??? HUB ????????????????????? PacketiX  
VPN Client ??? LAN ?????????? HUB ? VPN ?????????????????????VPN ?????????????????????????  
Ethernet ???  
????????????????????????????????????

????????????????? VPN ?? PacketiX VPN Client ???  
?????????? VPN ??????????????????????

????????????????????[10.3](#) ?????????? VPN ??? ??????????



?????????????10.4 ??????????? VPN ??? ????????



## ????????????? VPN

????????? VPN???1 ?????????????????????????????????????? VPN Client ??????????????????????????????????????  
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????????????????? VPN??? VPN ??????????2 ??????????????????????????????????????  
??? VPN ??????????

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

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?????????????????10.5 ?????? VPN ??? (?????????)? ??????????

1-4-12.gif

?????????? VPN

## ?????????? VPN

???????????? VPN???????????????????? Ethernet ????????? VPN ?????????VPN ?????????  
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- ??????????????????ARP ? NetBIOS ???  
VPN ??????????????
- ?? 2 ??? 1 ?????????????????????????????  
???????????????????? IP ???  
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????????????????????PacketiX VPN Server ?????? 3 ?????????? 2 ?????????????????  
????????? 3 ?????????????????????????????????????? 2 ?????????????????????????? 3 ? IP ?????????  
???????????????????? VPN ??? IP ?????????  
?????????????????????????????????????10.6 ?????? VPN ??? (IP ??????????)? ??????????

????????????? PPTP ? L2TP/IPSec ??? VPN ????????????????? IP ?????????????????? VPN ???  
? VPN ?????????? PacketiX VPN ?????????????????????????????????

1-4-13.gif

????????? VPN