# **VPN-X User Manual**

(For VPN-X Version 2.8)



## BirdsSoft

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2017-8-18

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### 1. Overview

This User Manual describes installation, and usage of VPN-X Server/Client.

### 2. Understand VPN-X

VPN-X is a cross-platform VPN solution which can help you make a secure LAN/intranet with peers over the internet.

VPN-X supports following platforms:

- 1. Windows: Windows 2000 sp4/XP /2003/Vista (32bit or 64bit), Windows 7/8/10(32bit or 64bit), Windows Server
- 2. Linux: VPN-X needs TUN/TAP kernel module. For example: Debian 3 or higher, Ubuntu 6 or higher
- 3. macOS / Mac OS X: Mac OS X 10.4.\* or higher
- 4. FreeBSD/PC-BSD:
- 5. Solaris 10(x86)

The VPN-X server supports iPhone, iPad, Android built-in VPN client. We also prepared special VPN-X client for VPN-X server.

### 3. Install VPN-X Server/Client

### 3.1. System Requirements

Before you install VPN-X, you should verify VPN-X System Requirements: **CPU main frequency**: >= 600MHZ. **Memory size** : >=512M **Disk space**: >= 512M **OS**: Please refer to platforms which VPN-X supports. **Network (only for VPN-X server)**: You should have a public IP address for VPN-X server setup, dynamic public IP also works.

### 3.2. Install on Windows

- 1) Get VPN-X installer package. You can download the latest VPN-X version on <a href="http://www.birdssoft.com">http://www.birdssoft.com</a>.
- 2) Click Next

3) Installer will help create a virtual VPN device. Please click "Continue Anyway". Notes: Sometimes the "hardware installation" dialog is hidden by another window, you can minimize other window/dialog to find the "hardware installation" dialog.

VPN-X 2.2.1.	24. Setur
-	Hardware Installation
Dirdss	The software you are installing for this hardware: vpn-x has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation
Nullsoft Install Syste	m v2,32

4) Click next until the install process is finished.

### 3.3. Install On Linux/FreeBSD

Preparation/Precheck: Run the following commands in a command terminal **modprobe tun Ismod | grep tun** If you can get a reply like this (Don't care about the number) **debian:~# Ismod | grep tun tun 10208 3** Congratulations! Your Linux kernel is ready for installing our VPN-X.

Download our VPN-X tar package and uncompress the package in some path. **debian:~#tar -xzvf vpn-x\*.tar.gz** 

start VPN-X Client by input command "**sudo runclient.sh**" start VPN-X Server by input command "**sudo runserver.sh**"

If you are using PC-BSD, please download the VPN-X-\*.PBI, and install PBI.

### 3.4. Install On macOS/Mac OS X

VPN-X supports Mac OS X Tiger, Leopard, Snow Leopard or higher.

#### **Install VPN-X Client:**

Just click the "VPN-X\_Client.pkg".

#### **Install VPN-X Server:**

Just click the "VPN-X\_Server.pkg"

VPN-X need Java SE 6 runtime to support, click "More Info..." for more information.



Click on the **Download** button on the Mac support page.



Java for OS X 2015-001 installs the legacy Java 6 runtime for OS X 10.11 El Capitan, OS X 10.10 Yosemite, OS X 10.9 Mavericks, OS X 10.8 Mountain Lion, and OS X 10.7 Lion.

This package is exclusively intended for support of legacy software and installs the same deprecated version of Java 6 included in the 2014-001 and 2013-005 releases.

Quit any Java applications before installing this update.

See http://support.apple.com/kb/HT6133 for more details about this update.

See http://support.apple.com/kb/HT1222 for information about the security content of this update.

Keep your software up to date. If you need Java, download the latest version of Java for OS X directly from Oracle https://www.java.com

Once the download is complete, click on the downloads icon on the dock to open the download folder. Then click on the file labeled **JavaForOSX.dmg** to open the download.



	📚 Install Java for OS X 2015-001	
	Standard Install on "macOS Sierra Final by TechReviews"	
<ul> <li>Introduction</li> <li>Read Me</li> <li>License</li> <li>Destination Select</li> <li>Installation Type</li> <li>Installation</li> <li>Summary</li> </ul>	This will take 76.7 MB of space on your computer. Click Install to perform a standard installation of this software on the disk "macOS Sierra Final by TechReviews".	
	Change Install Location Go Back Install	

Note: VPN-X needs super user privileges to access virtual network device, software router, Mac OS X will ask you input your password, please input correctly.

### 4. Configure VPN Server

Tips: VPN-X has the same GUI on Windows, Mac OS X, Linux, and FreeBSD/PC-BSD. So we just describe the Windows/macOS platform.

Make sure you have basic knowledge about network, or you should ask somebody to help you finish the setup. For our customers, we can provide free technical support and test services when you encounter any setup or management problems, please see the <u>Technical Support</u> section.

Warning: You should not run VPN-X client/server on the same machine.

### 4.1. Create VPN Account

If you don't want to setup a VPN server, please skip this section and read "<u>Connect to</u> <u>VPN with VPN-X Client</u>" directly.

Click Desktop VPN-X Server Shortcut to start VPN-X server.
 Vista (or higher such as Windows 7) user should use **administrator** role to run
 VPN-X (just click the right button on the VPN-X shortcut link, and you will see the menu).

Linux should also use **administrator/root** to run VPN-X.

VPN-X Server will take 10~30 seconds to prepare the first run environment on a Windows platform. For other platforms, the time is a little shorter. The waiting flower will glitter during the preparation process.

Image: Status       Image: Status<	VPN-X ServerVersion 2	.2.1.21				
Configuration       VPN Chat Room       Access Control       Log       Software Update         Status       Software Update       License         Refresh         Peer       VPN Virtual IP       Public IP       Protocol       Running Status       Private Chat       View share file	11 🖅 💬					
Status       Status       Refresh         Peer       VPN Virtual IP       Public IP       Protocol       Running Status       Private Chat       View share file	Configuration	🗇 VPN Chat Room	🔒 Access Control	Q Log	🕥 Software	Update
Peer         VPN Virtual IP         Public IP         Protocol         Running Status         Private Chat         View share file	🔍 Status	ala Use	er Management		icense 🥥	
Peer VPN Virtual IP Public IP Protocol Running Status Private Chat View share file						Refresh
	Peer VPN Virtual I	P Public IP Protoco	I Running Status	Private Chat	View share file	
BirdsSoft VPN-X: P2P Cross-platform SSL VPN solution. http://birdssoft.com or http://javavpn.com email/support@birdssoft.com	BirdsSoft VPN-X: P2P Cross-1					

2) When the preparation is finished, you can see the VPN-X server is online.

VPN-X Serve	rVersion	2.2.1	1.21					
1 🖬 🐔 🔊								
🛛 💥 Configur	ation	Þ	VPN Chat Room	🔒 Ac	cess Control	💡 Log	💿 🥥 s	oftware Update
🔍 Status			<u>&amp;</u>	User Managen	nent		μ	License
								Refresh
Peer	VPN Virtua	I IP	Public IP	Protocol	Running Status	Priva	ate Chat	View share file
SERVER	192.168.24	D.1		protocol=U				
<								
BirdsSoft VPN-> email: <u>support@b</u>	K: P2P Cross <mark>irdssoft.com</mark>	-platf <mark>1</mark>	form SSL VPN so	lution. <u>http://bi</u>	<u>rdssoft.com</u> or <u>htt</u> j	p://javavpr	<u>com</u>	

### 3) Create VPN account for VPN-X client

Click "User Management" Tab, and Click "Add" button. Fill the new user name and other fields.

🚰 VPN-X	ServerVersion	2.2.1.21							
i 📰 📲	9								
8	Configuration	🗇 VPN Chat	Room	🔒 Access	Control	QL	og	🕥 Softw	are Update
	🔍 Status		🚷 Use	r Management				icel 🎡	nse
	13				Refre	sh	Add	Delete	Modify
ID					Email		Add	ress	Group
	User Name		richard						
	Password(*)		••••	•					
	Confirm Passwor	d(*)	••••	•					
	Full Name		Richard X	ing					
	Email		support@	birdssoft.com					
	Address								
<	Detail Information								>
BirdsSoft			Ok	Cancel	<u>t.com</u> or <u>h</u>	.ttp://jav	vavpn.com	<u> </u>	
email: <u>sup</u>									

4) When finished, fill new account information and click "Ok"

M VPN	N-X ServerVers	ion 2.2.1.21			l	
XX	📲 🗭					
X	🕻 Configuration	🕞 VPN Chat Ro	om 🛛 🕒 Access	Control 🛛 💡 Log	Software U	pdate
	🔍 Status		🙈 User Management		🥌 License	
				Refresh	.dd Delete	Modify
ID	User Name	IP	Full Name	Email	Address	Group
1	richard	192.168.240.2	Richard Xing	support@birdssoft.co		0

### 4.2. Setup network for Internet access

If the VPN-X server is run on a machine which has a public address, please skip this section.

If the VPN-X server is run behind a (A)DSL modem/router or other router, you should configure the (A)DSL modem/router and setup "Port Mapping"/"Port Forwarding".

#### 4.2.1. Gather the VPN-X Server local information

By default, VPN-X listens on 25000 UDP/TCP, and 25443 TCP(SSL/TLS), and 500/4500 UDP for L2TP/IPsec.

🕻 VPN-X Server	Versi	ion 2.2.1.26									
📰 🐔 🦻			4								
🔍 Stat	us	🤷 U	ser Management						🛛 🔵 Li	cense	
💥 Configura	tion	🗇 VPN Chat Room	🕒 Access	Conti	rol	5	🛛 Log		🕥 Sof	tware	Update
General Configurat	ion VPN S	erver Setting Route Configu	ration								
											Apply
					100		100		040		
. VFN Server Virtua	l Address				192	•	160	•	240	•	1
VPN Netmask					255		255		255		0
Compression				Aut	0						~
Use Bridge											
Bridge IP					192		168		44		1
Use (Virtual)DNS											
(Virtual)DNS IP					192		168		240		1
Allow Register VP	N Account 1	From Network									
	About Mui	lti-Listener Port Setting(ne	ed to restart VPD	พ)							
							Ref	Fresh	Add		Delete
Protocol	Port										
VDP		25000									
TCP		25000									
TCP (SSL/TLS)		25443									
BirdsSoft VPN-X: ( email: <u>support@bird</u>	Cross-platfo ssoft.com	orm P2P/SSL/TLS VPN soluti or <u>Technical Support(Skype)</u>	ion. <u>http://birdsso</u> or <u>Technical Sup</u>	ft.co port(	<u>m</u> or <u>h</u> QQ)	ttp://ja	vavpn.c	om			

If your VPN-X server is behind a router, you need to get real local/LAN IP address of VPN-X server machine. Because port-forwarding need this information.

Solutions Sections					
File Edit View Favorites Too	ols	Advanced Help			
🕝 Back 👻 🕥 👻 🏂 🔎	Se	earch 🔀 Folders	•		
Address 🔇 Network Connections					
	^	Name		Туре	Status
Network Tasks 🔅		LAN or High-Sp	eed Internet		
<ul> <li>Create a new connection</li> <li>Set up a home or small office network</li> <li>Change Windows Firewall settings</li> <li>Disable this network device</li> <li>Repair this connection</li> <li>Rename this connection</li> <li>View status of this connection</li> <li>Change settings of this</li> </ul>		Local Area C	Disable Status Repair Bridge Connections Create Shortcut Delete Rename Properties	LAN or High-Speed Inter LAN or High-Speed Inter	Connected Connected

1) Please see "Local Area Connection" properties

2) Select "Internet Protocol (TCP/IP)"

k- Local Area Connection Properties 🛛 🛛 🛛
General Authentication Advanced
Connect using:
Wware Accelerated AMD PCNet Ad Configure
This connection uses the following items:
<ul> <li>Client for Microsoft Networks</li> <li>File and Printer Sharing for Microsoft Networks</li> <li>QoS Packet Scheduler</li> <li>Internet Protocol (TCP/IP)</li> </ul>
Install Uninstall Properties
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected Notify me when this connection has limited or no connectivity
OK Cancel

3) Click the "Properties" button

ternet Protocol (TCP/IP) Proper	rties 🛛 🖓
ženeral	
You can get IP settings assigned autom this capability. Otherwise, you need to a the appropriate IP settings.	atically if your network supports isk your network administrator for
<ul> <li>Obtain an IP address automatically</li> </ul>	,
💿 Use the following IP address: —	
IP address:	192.168.1.27
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192.168.1.10
Obtain DNS server address autom	atically
✓ Use the following DNS server add	resses:
Preferred DNS server:	192.168.1.10
Alternate DNS server:	
	Advanced

4) Remember these settings in your mind. We recommend you write them down.

For the professional user, you can use Windows commands, Linux or FreeBSD or Mac OS X commands.

Windows command: **ipconfig /all** Linux/BSD/OSX command: **ifconfig** 

#### 4.2.2. Firewall settings

VPN-X can help you set Windows built-in firewall automatically. If you are using a third-party firewall, we recommend reading this section first then read the third-party user manual. Almost all firewall has the same mechanism.

Windows XP or higher versions have a built-in firewall. You should let the VPN-X listening ports be excluded, so an outside user can access the VPN-X server running on Windows. For other platforms, there may be other firewalls as well, so you should check the firewall setting on your OS platform.



Click the "Windows Firewall" to manage the security settings.

🕼 Windo	ws Firewa	11	×				
General	Exceptions	Advanced	_				
Windows Firewall is blocking incoming network connections, except for the programs and services selected below. Adding exceptions allows some programs to work better but might increase your security risk.							
Program	ns and Service	əs:					
Name Name	) 	No					
I File ■ File	e and Printer s va(TM) Platfor	m SE binaru					
I Re I Re	mote Assistar						
🗹 Re	mote Desktop	2					
UP	nP Framewor	k					
Add F	<sup>D</sup> rogram	Add Port Edit Delete					
Display a notification when Windows Firewall blocks a program							
<u>What ar</u>	e the risks of	allowing exceptions?					
		OK Cancel					

Click "Add Port..." to add VPN-X listening ports.

🕅 dd a Port						
Use these settings number and protoc want to use.	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you					
Name:	VPN-X TCP listening port					
Port number:	25000					
	⊙ TCP O UDP					
What are the risks of opening a port?						
Change scope OK Cancel						

Add a Port						
Use these settings to open a port through Windows Firewall. To find the port number and protocol, consult the documentation for the program or service you want to use.						
Name:	VPN-X UDP listening port					
Port number:	25000					
What are the risks	of opening a port?					
Change scope	OK Cancel					
Bit a Port	×					
Use these settings number and protoc want to use.	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you					
Use these settings number and protoc want to use. Name:	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you VPN-X SSL listening port					
Use these settings number and protoc want to use. Name: Port number:	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you VPN-X SSL listening port 25443					
Use these settings number and protoc want to use. Name: Port number:	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you VPN-X SSL listening port 25443 <ul> <li>TCP</li> <li>UDP</li> </ul>					
Use these settings number and protoc want to use. Name: Port number:	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you VPN-X SSL listening port 25443 TCP O UDP of opening a port?					

#### 4.2.3. Port Mapping/Forwarding

Each type of (A)DSL modem has a different operation/administration webpage. Please read your (A)DSL modem manual for more information.

If you can't understand the port forwarding or port mapping, here are some references:

- 1) <a href="http://en.wikipedia.org/wiki/Port\_forwarding">http://en.wikipedia.org/wiki/Port\_forwarding</a>
- 2) <u>http://www.portforward.com/help/pfprogression.htm</u>

Maybe you can find your route in this list: <u>http://portforward.com/routers.htm</u>

In this manual, we will use SMC (A)DSL modem to explain how to configure port mapping.

Open page: "NAT->Virtual Server".



### 4.3 L2TP/IPsec

If you want to let your iPhone/iPad/Android/Windows built-in L2TP VPN client to access VPN-X server, you should setup L2TP VPN server.

) 😑 🔵 🗸 Vi	N-X ServerVe	rsion 2.8.1.6	7(Evalua	tion l	icens	e)			
<b>**</b> 4 🛃 🦻	🙋 0.00 в	🔶 0.00 в	ps 懀 (	0.00 8	Bps				<b>i</b>
ৰ 🛛 🍨 License 🛛 🕺 C	onfiguration	VPN Characteristics	at Room		🔒 A	ccess	Cont	rol	💡 Log
◄ VPN Server Setting	L2TP/IPsec	Route Co	nfigurat	ion	DI	DNS	Ba	ackup/	Restore
					ſ	Арр	bly	R	efresh
Secret / Pre-Shared Key (	PSK)		•••••	••					
Bind IP Address			192.1	68.1.	28)				0
DNS 1			8		8		8		8
DNS 2			4		4		4		4

The default secret/Pre-shared Key(PSK): 12345678

Bind IP Address: In normal conditions, the address should be a real IP address.

DNS1 and DNS2 is just for L2TP client setting, not for VPN-X client.

### 4.4 Set DNS or DDNS for your public IP

This manual just gives a brief way to setup your own DNS or DDNS. If you have a static public IP address, you can setup DNS for the IP. If the public IP address is dynamic, you should setup DDNS, and install DDNS client for updating the public IP. If you don't have the DNS or DDNS, the client can only use public IP address to login the VPN-X server.

### 5. Connect to VPN with VPN-X Client

Warning: You should not run VPN-X client/server on the same machine.

1) Click Desktop VPN-X Click Shortcut to start VPN-X client.

Vista (or higher, such as Windows 7) user should use the **administrator** role to run VPN-X (just click the right button on the VPN-X shortcut link, and you will see the menu).

Linux should also use **administrator/root** to run VPN-X.

🕃 VPN-X Client	Version 2.2.1.26		
🔊 🏠 👯 I	<b>a</b> 0		
Q. Status 😪	Gâ Login	X	
	VPN Server Host	birdssoft.3322.org	
		araad	Refresh
Peer	VPN Server Port	25000	View share
	User Name	tony	
	Password	•••••	
	Protocol		
	Encryption	Auto	
	Compression	Auto	
		Save Password	
	Register new VPN Account	Network Proxy Login Cancel	
<			
BirdsSoft VPN-X	Cross-platform P2P/SSL/TLS VPN	I solution. <u>http://birdssoft.com</u> or <u>http://javavpn.com</u>	
email: <u>support@bi</u>	rdssoft.com or <u>Technical Support(S</u>	kype) or <u>Technical Support(QQ)</u>	

2) Fill in the VPN server host and port, user name and password and select the proper protocol.

You can obtain all of this information from your VPN-X server administrator.

3) After inputting the correct information, you can login to the VPN.

🔓 VPN-X Client	🚯 VPN-X ClientVersion 2.2.1.26(Login as "tony" using protocol UDP)							
🌂 🎧 🗮	N 🟠 🏥 📲 💬							
🔍 Status  淤	Configuration	VPN (	Chat Room  🗧	Access Control 🛛 🖓 Lo	og 🕥 Software	Update		
						Refresh	1	
Peer	VPN Virtual IP	Pu	Protocol	Traverse NAT Status	Private Chat	View share file		
tony	192.168.240.81	192	UDP	0			~	
SERVER	192.168.240.1	192		0				
DanHome	192.168.243	142	UDP	0				
wxqtm1	192.168.249	218	UDP	0				
wxqtm2	192.168.249	218	UDP	0				
rolancily1	192.168.244	222	UDP	0				
gxcxjlf	192.168.245	222	UDP	0				
gxcxhlj	192.168.245	222	UDP	0				
gjp_6708	192.168.249.78	58.2	UDP	0				
chenzn	192.168.246	121	UDP	0				
nnmrcsdxd	192.168.247	122	UDP	Θ				
gundam0079	192.168.250	218	UDP	0				
hostgx	192.168.245	220	UDP	0				
zengyan	192.168.250	218	UDP	0				
nndsjbgs	192.168.245.42	222	UDP	Θ			<b>v</b>	
BirdsSoft VPN-X: Cross-platform P2P/SSL/TLS VPN solution. <u>http://birdssoft.com</u> or <u>http://javavpn.com</u> email:support@birdssoft.com or <u>Technical Support(Skype)</u> or <u>Technical Support(QQ)</u>								

You can ping 192.168.137.1(or your Server VPN virtual IP, for example: 192.168.240.1) to verify whether the VPN works properly.

### 6. Security suggestions

- 1) If you don't want to let anyone can register a VPN account on your VPN server, please disable "Allow Register VPN Account from Network". By default, the feature is diabled.
- 2) We recommend you to use SSL/TLS or L2TP/IPsec protocol to connect VPN-X server.
- 3) Change the VPN-X server listening port to any other unpopular port number. By default, VPN-X server listen on following ports: 25000(UDP/TCP) 25443(TCP).
- 4) Generate your own SSL certification or key. BirdsSoft can provide this generation certification service for customers. Because this is a very special requirement, this service is not free. Most users need not care about how to generate SSL certification, because the built-in certification is safe until you think you are doing business with the FBI or KГБ.

You can read this section to know some VPN-X parameters for security.

### 7. Performance

This section just want to tell you, VPN-X is a high performance VPN solution. Better hardware machine or network environment will get better performance.

The following data is our test result. Test environment: Windows XP \* 2 CPU AMD 1700+ \* 1 CPU AMD 3000+ \* 1 Memory 1G \* 2 LAN speed:100Mbit/s, the real transfer speed is 64Mbit/s VPN-X: 2.2.1.26

	Speed	
UDP	56Mbps or higher	
ТСР	40Mbps or higher	
TCP(JSSE SSL/TLS)	32Mbps or higher	

In a LAN environment, the speed ranks:

UDP>TCP>SSL

If you have a better machine and network, the test data should be better.

On the Internet, the VPN transfer speed should be 92%~500% or higher of the WAN speed.

Because the VPN-X will compress the network data before transfer on the Internet. After the data reaches the target machine, the data will be uncompressed automatically.

UDP is preferred and default, if you care about VPN speed. But sometimes if your Internet connection is not stable, TCP or TCP (SSL) may be a better choice for VPN speed.

### 8. User Interface

Tips: VPN-X has the same GUI on Windows, Mac OS X, and Linux, so we just describe the Windows platform.

8.1 VPN-X Server

#### 8.1.1 VPN-X menus on start

Please refer to client menus section.

### 8.1.2 VPN-X Server Toolbar



#### 8.1.3 VPN-X Status Tab

Please refer to VPN-X client interface description.

#### 8.1.4 VPN-X Server Configuration Tab

**General Configuration** 

🕷 VPN-X ServerVersion	2.2.1.26			
📰 🜗 🦻				
🔍 🔍 Status	🦲 U:	ser Management		🙅 License
💥 Configuration	💭 VPN Chat Room	🖰 Access Control	Q Log	😡 Software Update
General Configuration VPN :	Server Setting Route Configuration	on		
				Apply
Stort with Mindows				
Start with willows				
Register As windows Servici	e			
Language			English	✓
Hide Blocked Peers			French	
Flash Main Frame on new ch	nat room message arrival		German	
Flash Private Chat Window F	Frame on new private message arr	ival	Italian	_
			Norwegian	3
			Polish	
			Russian	✓
				1
BirdsSoft VPN-X: Cross-pla	tform P2P/SSL/TLS VPN solutio	n. <u>http://birdssoft.com</u> or <u>h</u>	ittp://javavpn.com	email: <u>support@birdssoft.com</u>
or <u>recontical Support(Skype</u>	) or <u>Technical Support(UU)</u>			

- (1) Start with Windows: When Windows starts up and login is successful, it will bring up VPN-X server automatically.
- (2) Register as Windows service: VPN-X server can be installed as a Windows service on a Windows platform. When Windows starts up, it will bring up the VPN-X server. The VPN-X tray icon will show on your local console. If you are using Windows Remote Desktop service, you should connect to your local console or you will not see the VPN-X tray icon. On Windows Vista/7 the tray icon can't be shown, this is normal, please read this document "<u>VPN-X</u> <u>Vista and Windows 7 Special Document</u>".

If you run VPN-X server on the Windows 2003, you can use local monitor to view VPN server status. You can also use Windows Remote Desktop to view the server status, but you should use special option to view the remote windows internal session, or you can't see the tray icon of VPN-X server. For example, your windows 2003 server is running on 192.168.137.1, you can use following command to connect the local screen/monitor/console For windows xp sp2 client:

mstsc -v 192.168.137.1 /F -console

For windows xp sp3 or vista/7 or higher version client: mstsc /admin

(3) Language: VPN-X supports many languages.Chinese (Simplified or Traditional)Dutch

English German Italian Malay Norwegian Polish Russian Vietnamese

but only the English and Chinese languages are provided by the official . The other languages are contributed by our warmhearted customers. If you find some translation errors, please tell us ASAP.

(4) Apply: After you change something in this panel, you should apply to make it take effect.

VPN-X Serve	rVersion 2.8.1	.67(Evalı	uation Licen	ise)									-	
				đ	0.00 B	➡	0.00 Bps	1 0.	00 Bps					Þ
🔍 Status 🛛 🚷 U	ser Management	<b>≵it</b> P	roxy Server	Center	۹ 🥥	license	Ж с	onfigurati	ion	VPN Ch	at Room	🔒 Ad	cess Co	ntrol 💡 La
eneral Configura	tion VPN Server	Setting	L2TP/IPsec	Route	e Config	uration	DDNS	Backup/	Restore					
														Apply
VPN Server Virtua	al Address							192		168		137	•	1
VPN Netmask								255		255		255		0
Client can Access	Each Other							]						
Compression							Au	ito						~
Use Bridge								]						
Bridge IP								192		168		240		1
Use (Virtual)DNS								]						
(Virtual)DNS IP								127		0		0		1
Allow Register VP	N Account From N	letwork						]						
A	bout Multi-Listene	er Port Se	etting(need t	o restar	t VPN)-									
						R	efresh/C	heck VPN	ports of	n Window	s Firewa	I	Add	Delete
Protocol	Port													
UDP			25000											
тср			25000											
TCP(SSL/TLS)			25443											
L2TP(IPsec)		5	00,4500											

These settings are very important for VPN-X server. You should read this section carefully.

(1) VPN server virtual address:

#### 23

It's virtual IP address, not real IP address. The virtual address is valid in the VPN (Virtual Private Network). If you are administrator, you should not let your client peers fill in the virtual address on his/her login dialog. You should tell them to input your public real IP address. After the VPN client is logged in, he/she can use this virtual address to access the VPN service.

This virtual address is the beginning of the virtual IP address pool. All client peers' virtual addresses will be auto-generated from this address.

For example: The server virtual address is 192.168.137.1, and the first VPN account virtual address will be 192.168.137.2. The second VPN account virtual address will be 192.168.137.3, and so on. The VPN-X Server administrator has the right to change the VPN account to any other virtual address, even if the virtual address is not in the same network. For more information, please refer to the "User Management" section.

- (2) Virtual Network mask: 255.255.255.0 is preferred.
- (3) Bridge: This is an advanced setting. If you are a beginner, we suggest you don't use it.
- (4) Bridge IP: This is an advanced setting. If you are a beginner, we suggest you don't use it.
- (5) User (Virtual) DNS: VPN-X can provide DNS service or redirection. By default VPN-X disables this feature.
- (6) (Virtual) DNS IP: the default IP is the VPN-X server virtual address. You can change it to a real DNS server and let all clients use the DNS server.
- (7) Allow Register VPN account from network: This feature can help VPN client peers register his/her new VPN account on this VPN server. For security purposes, VPN-X server disables this feature by default.
- (8) Add listening port and protocol: VPN-X has a powerful feature that can allow VPN-X to listen on many ports with different or same protocols at the same time. You can click this button to add your desired port and protocol.
- (9) Delete listening port: delete your selected records.
- (10)Listening ports table: VPN-X provides an easy way to review the listening ports on this VPN-X server.

#### 8.1.5 User Management Tab

	-X ServerVersi	ion 2.2.1.21					
XX I	된 🖗						
X	Configuration	🗇 VPN Chat Room	n 🛛 🕒 Access Co	ntrol 🛛 🖓 Log	g 🛛 🌀 Software Update		
	🔍 Status		User Management		🧁 License		
				Refresh Ac	dd Delete Modify		
ID	User Name	IP	Full Name 🛦	Email	Address		
1	richard	192.168.240.2	Richard Xing	support@birdss	oft.co 0		
<		Ш			>		
BirdsSo email: <u>sı</u>	BirdsSoft VPN-X: P2P Cross-platform SSL VPN solution. <u>http://birdssoft.com</u> or <u>http://javavpn.com</u> email: <u>support@birdssoft.com</u>						

This panel will provide an easy way to create a VPN account for client peers. Clicking "Add" will pop up the new account information dialog. You should fill them in properly. All the fields labeled "\*" are required. You can tell your clients to modify other fields themselves after they login successfully.

<b>1</b>	
User Name	
Password(*)	
Confirm Password(*)	
Full Name	
Email	
Address	
Detail Information	
	Ok Cancel

VPN-X server allocates a default virtual IP address for client peers automatically. You can check these virtual addresses on the VPN account list table. If you want to change a peer's virtual address, just double click the peer record or select the peer record and click the "Modify" button. Tips: VPN-X client's virtual address can be allocated any virtual address, even if the address is not in the same network.

For example: VPN-X server virtual address is 192.168.137.1 Client Peer 1 (CP1): 192.168. 137.2 Client Peer 2 (CP2): 192.168. 137.3 Client Peer 3 (CP3): 10.10.0.2 Client Peer 4 (CP4): 10.10.0.3

Server, CP1 and CP2 are in the same network. CP3 and CP4 are in another network. CP3 or CP4 can't access the Server.

### 8.1.6 VPN Chat Room Tab

Please refer to VPN-X client interface description.

### 8.1.7 Access Control Tab

Please refer to VPN-X client interface description.

### 8.1.8 Log Tab

This tab will print all important log messages on the screen. If you want to figure out problem, you should check the log tab first and watch to see if there is something wrong with VPN-X.

This entire message will be logged in one file named "run\_server.log" located in VPN-X installed directory.

### 8.2 iPhone/iPad/Android/Windows built-in L2TP/IPsec client

### 8.2.1 iOS(iPhone,iPad)

Settings->VPN

••000	(•	12:16 PM	
<b>&lt;</b> s	ettings	VPN	
VPN	N CONFIGURAT	IONS	
Sta	atus	Not Co	nnected
	<b>LAN</b> Unknown		i
	<b>SH</b> Unknown		i
	<b>TW</b> Unknown		i
~	USA Unknown		i
Ad	d VPN Conf	iguration	

Touch "Add VPN Configuration"

•0000					89	9% <b>==</b> )			
Ca	ncel	Add Configuration					one		
Тур	be							L2TI	)>
De	script	ion ⊄	ISA						
Ser	ver								
Aco	Account (richard)								
RS	RSA SecurID								
Pas	Password								
Sec	cret	$\overline{\mathbf{\bullet}}$	••••	•••	Defa 1234	ult value: 5678			
Ser	nd All	Traffi	c				$\langle$		$\supset$
1	2	3	4	5	6	7	8	9	0
-	1	:	;	(	)	\$	&	@	"
#+=		•	,	1	?	!	'		$\langle \times \rangle$
4	ABC space				retu	rn			



Description: VPN name

Server: Your server public Internet IP address or Domain name

Account/Password: VPN-X user and password created on VPN-X Server user

management panel

Secret: 12345678 (You can change the default value on VPN-X Server L2TP configuration panel)

Send All Traffic: Use server side IP to surf the Internet.

••00		5:07 PM	89%
<b>&lt;</b> s	ettings	VPN	
VPN	N CONFIGURATIONS		
Sta	atus	Con	nected
	<b>LAN</b> Unknown		í
1	<b>SH</b> Unknown		(i)
<	TW Unknown		í
	<b>USA</b> Unknown		i

Add VPN Configuration...



Select server then touch status switch button to login VPN-X server.

#### 8.2.2 Android

Settings->Wireless&networks->VPN



```
Touch "Add VPN network"
```

ରେ 🖻 147B/s 🤶 👫 🖬 🖬 12:57 PM
Edit VPN network
Name
TW
Type
Server address
L2TP secret
(not used)
IPSec identifier
(not used)
IPSec pre-shared key
Cancel
$\triangleleft$ O $\square$

Name: VPN name Type: L2TP/IPsec PSK Server address: Your server public Internet IP address or Domain name IPsec pre-shared key: 12345678 (You can change the default value on VPN-X Server L2TP configuration panel)

Touch the "Save" button to save the VPN settings.

(j d)	147B/s	🛜 🚾 12:58 PM
C	connect to	тw
Username		
richard6		
Password		
Save account info	ormation	
Cancel		Connect
$\triangleleft$	$\bigcirc$	

User name/Password: VPN-X user and password created on VPN-X Server user management panel

Save account information: select it to save your time avoid input user name and password next time

Connect: touch it to connect VPN-X server



	Network	Q Search
• Ethernet Connected	Select the interface and enter a name for the new service. Interface: VPN VPN Type: L2TP over IPSec Service Name: VPN (L2TP) USA	s the IP
	IP Address: 192.168.0.31	
	Subnet Mask: 255.255.255.0	
	Router: 192.168.0.1	
	DNS Server: 192.168.1.1, 8.8.8.8	
	Search Domains:	
+		Advanced ?
	Assist Me	Revert Apply

•			Network	Q Search
k		Loc	ation: Automatic	
	• Ethernet Connected	<··>	Status: Not Configured	
	VPN (L2TP) USA Not Configured			
			Configuration: Default	<b>\$</b>
			Server Address:	
			Account Name: richard	
			Connect	1gs>
	+ - &-		Show VPN status in menu bar	Advanced?
			Assist Me	Revert Apply

Please fill the "Server Address" with VPN-X server public Internet IP or domain name. Authentication Settings

	Network	Q Search
Ethernet Connected     VPN (L2TP) USA Not Configured	User Authentication: Password: RSA SecurID Certificate Select Kerberos CryptoCard Machine Authentication: Shared Secret: Certificate Select Group Name: (Optional) Cancel OK	• •
+ - *	Show VPN status in menu bar	Advanced ?
	Assist Me	Revert Apply

#### Advanced

0 • 0 < > III	Network	Q Search
VPN (L2TP) USA	Options       TCP/IP       DNS       Proxies         Session Options:       Image: Option of the switching user accounts       Image: Option of the switching user accounts         Image: Option of the switching user accounts       Image: Option of the switching user accounts       Image: Option of the switching user accounts         Image: Option of the switching user accounts       Image: Option of the switching user accounts       Image: Option of the switching user accounts         Image: Option of the switching user accounts       Image: Option of the switching user accounts       Image: Option of the switching user accounts         Advanced Options:       Image: Use verbose logging       Image: Option of the switching user accounts	
3		Cancel OK

After these steps, click "Apply", then connect to VPN-X Server.

	Network	Q. Search
Locati	on: Automatic	<b>O</b>
• Ethernet Connected	Status: Not Con	nected
• VPN (L2TP) USA Not Connected		
	Configuration: Default	t 🗢
	Server Address: bk.birds	soft.com
	Account Name: richard	
	Authe	ntication Settings
+ - &~	☑ Show VPN status in menu b	ar Advanced ?
		Assist Me Revert Apply

#### 8.2.4 Windows

The following is Windows 10 example.



	- [
Add a VPN connection	
VPN provider	
Windows (built-in)	
Connection name	
USA	
Server name or address	
bk.birdssoft.com	
VPN type	
L2TP/IPsec with pre-shared key $\sim$	
Pre-shared key	
•••••	
	Save Cancel
change daapter op	



Save the setting

Settir	ngs				
ŝ	Home	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	PIN Connection		
Fir	nd a setting $ ho$	w USA			
Netv	work & Internet		Connect	Advanced options	Remove
₿	Status				
臣	Ethernet	Advance	d Options	5	
ß	Dial-up	Allow VPN ov	ver metered net	tworks	
ంజం	VPN	Allow VPN w	hile roaming		
цу.	Airplane mode	Off			
Ċ	Data usage	Related s	settings		
⊕	Ргоху	Change adap	ter options		
		Change adva	nced sharing o	otions	

#### Click the "Change adapter optons"


IISA Properties	×
General Options Security Networking Sharn	g
Layer 2 Tunneling Protocol with IPsec (L2TP/IPs	ec) V
A	Jvanced settings
Data encryption:	
Optional encryption (connect even if no encryption	n) ~
Authentication	
	~
	Properties
	ropettes
O Allow these protocols	
Unencrypted password (PAP)	
Challenge Handshake Authentication Prot	
Microsoft CHAP Version 2 (MS-CHAP V2)	name and
password (and domain, if any)	
ок	Cancel
Settings	– 🗆 X
🔅 Home	/PN
Find a setting	
, include the second se	+ Add a VPN connection
Network & Internet	LAN VPN Connection
Status	~~~
記 Ethernet	TW VPN Connection
ස Dial-up	USA USA
∞ VPN	Connect Advanced options

Click "Connect" button to connect VPN-X server.

Windows 8/8.1/10 can't support built-in VPN client access VPN server behind router. So you should add and modify a parameter in register.

Click Start 💿 ,point to All Programs, click Accessories, click Run, type regedit, and then click

OK. If the User Account Control dialog box is displayed on the screen and prompts you to elevate your administrator token, click Continue.

🖅 Run		>	<	
	Type the name of a pr resource, and Window	ogram, folder, document, or Internet vs will open it for you.		
Open:	regedit	~		
	ОК	Cancel <u>B</u> rowse	]	
Registry	Editor		_	
File Edit	View Favorites Help			
	> PerfProc 🔺	Name	Туре	Data
	> PhoneSvc	(Default)	REG SZ	(value not set)
	> PimindexMainter	Mail AssumeUDPEncapsulationContextOnSendRule	REG_DWORD	0x00000002 (2)
	<ul> <li>pla</li> <li>PlugPlay</li> <li>PNMEM</li> <li>PNRPAutoReg</li> <li>PNRPsvc</li> <li>PolicyAgent</li> <li>Parameters</li> <li>TriggerInfo</li> <li>PortProxy</li> <li>Power</li> <li>Power</li> <li>PptpMiniport</li> <li>PrintNotify</li> <li>Processor</li> <li>ProfSvc</li> <li>Psched</li> <li>QWAVE</li> <li>AssAcd</li> </ul>	DependUnservice DependUnservice DependUnservice DependUnservice DisplayName ErrorControl FrailureActions DipectName DependUnservice RequiredPrivileges ServiceSidType Start Type	REG_MULTI_SZ REG_SZ REG_DWORD REG_BINARY REG_EXPAND_SZ REG_SZ REG_MULTI_SZ REG_DWORD REG_DWORD REG_DWORD	@%SystemRoot% IPsec Policy Agen 0x00000001 (1) 80 51 01 00 00 00 ( %SystemRoot%\s NT Authority\Net SeAuditPrivilege S 0x00000001 (1) 0x0000002 (2) 0x00000020 (32)
	> RasAgileVpn			
<	RasAgileVpn	<		>

1.Locate and then click the following registry subkey:

HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\PolicyAgent 2.On the Edit menu, point to New, and then click DWORD (32-bit) Value Type AssumeUDPEncapsulationContextOnSendRule, and then press ENTER. 3.Right-click AssumeUDPEncapsulationContextOnSendRule, and then click Modify. 4.Input value:2

A value of 2 configures Windows so that it can establish security associations when both the server and the Windows Vista-based or Windows Server 2008-based VPN client computer are behind NAT devices. 5. Click OK, and then exit Registry Editor and Restart the computer.

Windows 7 support this feature by default, you need not change any setting in Regitry Editor.

# 8.3 VPN-X Client

## 8.3.1 VPN-X menus on start



- (1) VPN-X Client: start VPN-X client program
- (2) VPN-X Server: start VPN-X server program (Only VPN-X server has this menu)
- (3) Add VPN-X virtual device:

If you want to run multiple virtual network devices, it is possible to do this on a Windows platform.

(4) Remove all VPN-X virtual device:

Remove all virtual network devices. Generally, VPN-X uninstaller will remove all VPN-X virtual devices automatically. Disregard this menu until you know you can deal with the result.

Login		×
VPN Server Host	(1)	YourVPNXServerDnsOrPublicIP
VPN Server Port	(2)	25000
Vser Name	(3)	tony
Password	(4)	****
Protocol	(5)	100P
Encryption	(6)	Auto
Compression	(7)	Auto
		(8) Save Password
(5	9)	(10) (11) (12
Register new	VPN Account	Network Proxy Login Cancel
(13)		

Figure 6.2.1: Login Dialog

(1) VPN server host: You should input the real server public IP address or VPN server DNS name.

(2) VPN server port: Input VPN server listening port. Our demo server port is 25000.

(3) User name: Input VPN account name created by VPN-X server or register online.

(4) Password: Input VPN account password created by VPN-X server or register online.

(5) Protocol: VPN-X supports many protocols (UDP, TCP or SSL...). You should get the server listening protocol from the VPN-X server administrator. Our demo server port is UDP.

(6) Encryption: VPN-X has the intelligence to encrypt your network data automatically.

(7) Compression: support two types: Auto (default), No compression.

Auto (default and recommend): VPN-X will judge whether the network data should be compressed or not automatically. This feature can help save your network bandwidth significantly.

No compression: VPN-X will not compress network data at all.

(8) Save password: Save the login information for next login convenience. Login password has been encrypted and stored in the configuration file. If you think it's

not safe for your environment, please uncheck this checkbox. VPN-X will not save the password.

(9) Register new VPN account: VPN-X can allow you to register a new account on VPN-X server. Before you register, you should make sure the online register feature is enabled on VPN-X server. For security purposes, VPN-X server disable this feature by default.

(10) Network Proxy: If you are behind a proxy server to access the Internet, you can use this feature to let VPN-X client use the proxy server to access the VPN-X server o. VPN-X supports almost all proxy server types. (http<only TCP>,socks 4/5<UDP or TCP>).

(11) Login: Clicking this button will send a login request to VPN-X server. Client user should wait for VPN-X server's reply result. Before clicking this button, the client user should check the data filled in this login dialog and make sure it is correct.

(12) Cancel: Just close the login dialog without any extra action.

(13) Extend panel: click the up arrow and you will see the following panel. Then you can use the Import/Export feature

Login	×
VPN Server Host	YourVPNXServerDnsOrPublicIP
VFN Server Fort	25000
User Name	tony
Password	*****
Protocol	vor
Encryption	Auto
Compression	Auto
	🔽 Save Password
Register new VPN Account	Network Proxy Login Cancel
Import (14)	Export (15)

(14) Import: Import client configuration (the export file you saved before). The postfix of the exported file is ".cfg". Please use "Export" to backup your client settings before you use the "Import" feature.

(15) Export: Export the current client configuration for backup purposes, or quick switching client settings. For example; If you want to login to different VPN-X servers at a different time or place,

you can export each login configuration to exported files and import them the next time. You need not input the long VPN IP host number, user name and password.

#### 8.3.3 Register new VPN Account online

Before you register, you should make sure VPN-X server has enabled the online register feature. For security purposes, VPN-X server should close this feature at daily running.

🕆 Register new VPN Account					
VPN Server Host	YourVPNXServerDNSOrPublicIP				
You are ready to registe Server.Please fill some	er one VPN account on the above VPN information, the "*" is required.				
User Name(*)					
Password(*)					
Confirm Password(*)					
Full Name(*)					
Email(*)					
Address(*)					
	Ok Cancel				

- a. VPN server host: This field can't be edited. If you want to change it, you should fill in your desired value in "Login Dialog".
- b. User name: Client can choose his /her VPN account user name.
- c. Password: Password for this account.
- d. Confirm password: Should be same as password.
- e. Full name: Input your real name.
- f. Email: Input your email address.
- g. Address: Input your home or company address.
- h. Click Ok to send the registration request. If the server enabled the online feature, VPN-X server will process the request.

# 8.3.4 VPN-X Client Title and Tray Icon

VPN-X client title:
VPN-X Client---Version 2.2.1.26(Login as "tony" using protocol TCP(SSL/TLS))
VPN-X client tray icon:
2:43 PM

After logging into the VPN, the VPN-X title and tray icon will tell the VPN user which account

and protocol he/she is using. "Title" can also tell you which VPN-X version you are using. You should move the mouse to the VPN-X tray icon, and the tray icon will show the same message. Double clicking the tray icon will show the VPN-X main frame/window.

# 8.3.5 VPN-X Client Toolbar



# 8.3.6 VPN-X Status Tab

😚 VPN-X C	lientVersion 2.4	.1.43(Login a	s "sun" using prote	ocol TCP(SSL/TLS))		
<b>\$</b>	🗄 🛃 🖗					
🔍 Status	💥 Configuration	🗇 VPN C	hat Room 🔒 Ac	cess Control 💡 Log /	😡 Software Up	date
						Refresh
Peer	VPN Virtual IP	Public IP	Protocol	Traverse NAT Stat	Private Chat	Windows/Samba Shared File
sun	10.10.10.10	112.105.1	TCP(SSL/TLS)	0		
SERVER	10.10.10.1	123.204.4		0		
vpnx	10.10.10.4	112.105.1	UDP	0		
people	10.10.10.100	112.105.1	UDP	0	ġ.	
BirdsSoft V Support(Sk	PN-X: Cross-platfo ype) or <u>Technical (</u>	orm P2P/SSL/ Support(QQ)	TLS VPN solution	1. <u>http://birdssoft.com</u> en	nail: <u>support@birc</u>	dssoft.com or <u>Technical</u>

(1) Peer: Peer VPN account name

- (2) VPN Virtual IP: Peer VPN virtual IP.
- VPN users can use this IP to access the peer machine.
- (3) Public IP: Peer public IP address. You can use this information to know where the peer comes from.

(4) Protocol: This information indicates which protocol the peer is using to connect to

the VPN-X server. VPN-X supports UDP, TCP, JSSE SSL, TLS and (OpenSSL) protocols.

(5) Traverse NAT Status: VPN-X supports UDP traverse NAT. VPN-X does not support TCP traverse NAT. In other words, with TCP or TCP (SSL) protocol logins, client peers can't traverse other peer's NAT device. That is not an error, it's normal.

• Traverse NAT successfully. All network data will be sent to this peer directly.

et al. Traverse NAT unsuccessfully. All network data will be relayed by VPN-X

server. So you should not worry about this status.

• You deny the peer access to your computer.

Traverse NAT success will help VPN-X server save the server bandwidth. For example; Richard and Tony are two client peers. If the peers can traverse NAT successfully, Richard can send share files to Tony without the server in an active state, even if the server now is not online or down.



Figure 6.2.3.2: VPN-X UDP P2P work mode.

Traverse NAT fail doesn't mean the connection between two peers is bad. All network data can be relayed by the server. It's also a good status for VPN communication.

There are many reasons that can cause the status to become yellow.

1) The peer forbids access to his/her computer.

2) You and your peers should use UDP to connect VPN-X server for traversing NAT, or the status will always be yellow.

3) Wait two minutes, then check the status to see if it turns green.

4) Both you and your peer have un-traversable NAT devices. Disregard this, because VPN-X server will transfer/relay the network data for you and your peer.

- (6) Private chat: Chat with somebody. Only your chatting peer can see the chat messages. Other peers can't see them. All chat messages are encrypted automatically. Don't worry about some monitor detecting it, because the message was encrypted, and VPN-X will not store them on disk.
- (7) View share file: For Windows peers, you can click this button to view the peer's Windows share folder. For Linux, MAC OS X and BSD peers, the share is

"SAMBA". All Unix-like OS's call Windows shares as "SAMBA".

(8) Refresh peer list: This button can help you retrieve a peer list from VPN-X server. Tips: Double clicking the table records will show the peer's detail information.

# 8.3.7 VPN-X Client Configuration Tab

# **General Configuration Panel:**

🐂 VPH-X ClientVersion 2.4.1.40 (Login as "International" using	protocol TCP 💶 🗖 🗙
💭 VPN Chat Room 📐 🕒 Access Control 🛛 💡 Log	🕥 Software Update 💧
🔍 Status 🕺 🔀 Configur	ation
General Configuration Proxy Configuration Personal Information	
	Apply
Start with Windows	
Login automatically	
Register As Windows Service	
Language	English
Hide Blocked Peers	
Flash Main Frame on new chat room message arrival	
Flash Private Chat Window Frame on new private message arrival	
Update Notification	
BirdsSoft VPN-X: Cross-platform P2P/SSL/TLS VPN solution_http://bird	ssoft.com
email:support@birdssoft.com or Technical Support(Skype) or Technical S	Support(QQ)

- (1) Start with Windows: If the checkbox is checked, VPN-X client will start with Windows.
- (2) Login automatically: If the checkbox is checked, VPN-X client can login automatically. The precondition is that you should set "save password" in "Login Dialog".
- (3) Language: VPN-X supports many languages.
  - Chinese (Simplified or Traditional) Dutch English German Italian Malay Norwegian Polish

# Russian Vietnamese

but only the English and Chinese languages are provided by the official. The other languages are contributed by our warmhearted customers. If you find some translation errors, please tell us ASAP.

(4) Hide Blocked Peers: This will help you hide your denied peers. They will not be shown on the status panel.

- (5) Flash Main Frame: Only for Windows users.
- (6) Flash Private Chat Frame: Only for Windows users.
- (4) Apply: After you change something in this panel, you should apply to make it take effect.

#### **Proxy Configuration Panel:**

You can configure the client side proxy setting here. You can also change client proxy setting on the Login Dialog.

🚯 VPN-X ClientVersion 2.2.1.26(Login as "tony" using protocol 1	TCP (SSL/TLS))
🚿 🎧 🇮 📲 🦻	
🔍 Status 💥 Configuration 🗇 VPN Chat Room 🔒 Access Control	🖓 Log 😡 Software Update
General Configuration Proxy Configuration Personal Information	
	Apply
Proxy Type	None
Proxy Host	127.0.0.1
Proxy Port	80
User Name	default
Password	
Confirm Password	
Use Windows domain in HTTP NTLM authentication	
Domain	defaultdomain
BirdsSoft VPN-X: Cross-platform P2P/SSL/TLS VPN solution. <u>http://birdemail.support@birdssoft.com</u> or Technical Support(Skype) or Technical	<u>lssoft.com</u> or <u>http://javavpn.com</u> Support(QO)

VPN-X supports Socks. VPN-X has the intelligence to select socks type. Just input what you know and don't care about the socks type.

VPN-X supports HTTP proxy, and supports the following authentication methods:

Digest, BAISC, NTLM and NONE

VPN-X also has the intelligence to select authentication method automatically.

If you don't want to use a Proxy server just select "None" proxy type.

After your configuration, don't forget to click "Apply".

## **Personal Information Panel:**

You can change your personal information stored on the VPN-X server.

General Configuration	Proxy Configuration	Personal Information	
			Apply Refresh
User Name		tony	
Password(*)		••••	••
Confirm Password(*)		••••	••
Full Name(*)		tony	
Email(*)		tony	@birdssoftl.com
Address(*)		USA	

BirdsSoft VPN-X: Cross-platform P2P/SSL/TLS VPN solution. <u>http://birdssoft.com</u> or <u>http://javavpn.com</u> email:<u>support@birdssoft.com</u> or <u>Technical Support(Skype)</u> or <u>Technical Support(QQ)</u>

## 8.3.8 VPN Chat Room Tab



(1) Message display area: Display public chat messages.

- (2) Message input area: Input message and press "Enter" key to send the message.
- (3) Split bar: You can drag this bar to make two areas more comfortable for you.

## 8.3.9 Access Control Tab

🐚 VPH-X Client	Version 3	2.4.1.40 (Login as 1	<b>The Bong"</b> usin	g protocol IC 💶 🗖 🗙
	<b>V</b>			
Q. s	Status		🔄 💥 Configu	ration
🗇 VPN Chat	t Room	😑 Access Control	Q Log	😡 Software Update
	[	Refresh Ad	l Delete	Work Mode Blacklist 💌
Peer		Action		
BadGuy		😝 Deny		
BirdsSoft VPN-X email: <u>support@bi</u>	: Cross-platfo: <u>rdssoft.com</u> o	rm P2P/SSL/TLS VPN r <u>Technical Support(S</u>	solution. <u>http://bi cype)</u> or <u>Technica</u>	rdssoft.com 1 Support(QQ)

(1) Add access control rule: Clicking this button will pop up an input dialog for the peer user name.

1		×
Peer	Ba	d_Guy_2
	)k	Cancel

After inputting or selecting a peer user name, you should click ok. Then you will see he/she are listed on the Access Control list table. If you don't want to add another peer, click "Cancel".

- (2) Delete access control rule: Delete your selected rule.
- (3) Work mode: VPN-X supports two Access Control work modes.Blacklist (default): This mode will deny all peers listed in the Access Control table. They will not be able to access your computer at all from the VPN.Whitelist: This mode will allow all peers listed in the Access Control table. Only the listed peers can access your computer from the VPN.
- (4) Peer column: VPN account user name
- (5) Action column: You should always check whether the action is proper for the peer.

# 8.3.10 Log Tab

This tab will print all important log messages on the screen. If you want to figure out problem, you should check the log tab first and watch to see if there is something wrong with VPN-X.

This entire message will be logged in one file named "run\_client.log" located in VPN-X installed directory.

# 8.3.11 Software Update Tab(deprecated)

YPH-X ClientVersi	on 2.4.1.40	(Login as	<b>"Ningin</b> a	" using	proto	- 🗆 ×
) 🔊 🟠 📰 🛃 🧐	$\mathbb{P}$					
🔍 Status			💥 Confi	guration	ı	
💭 VPN Chat Room	🔒 Access	Control	💡 Log		Software Upd	late
		Update M	anually (Off	line)	Check Upd	ate
Current Version (2.4.1.40	)					
						_
						÷
	• •	•	, ,			
BirdsSoft VPN-X: Cross-pi	latform P2P/S	SL/TLS VP	N solution.	http://bir	<u>dssoft.com</u>	
email:support@birdssoft.co	om or <u>Technic</u>	al Support(	<u>Skype)</u> or <u>T</u>	'echnical	Support(QQ	2
,						

If you installed a latest VPN-X version, the panel will look like this.

If the VPN-X detected a higher VPN-X version, VPN-X will tell you the latest version information which includes:

1) Version number;

2) Where to download the latest update package. The update process is automatic, so you don't need to worry about this.

P VPN-X ClientVersion 2.2.1.19(Login as "tony" using protocol UDP)	×
🌂 🞧 🎛 📲 🦻	
🔍 Status 💥 Configuration 🗇 VPN Chat Room 🔒 Access Control 🗛 Log 🦕 Software Update	
(5 Check Update Update is available for current version(2.2.1.19). Please select the download site.	
Note:       1)VPN-X RC4/6 should not select 2.2* update package.It's designed for 2.2.1.8 Beta2 or higher.       (1)         VPN-X RC4/6 update route : VPN-X RC4/6>> 2.2.1.8 Beta3>> 2.2.1.19 or higher       (1)         2)Wait for VPN-X online update package is your best choice, if you are not familiar with VPN-X.       (1)	
2.2.1*Upgrade to2.2.1.21(701 Kb)	
BIRDSSOFT.COM (2) O Download and Upgrade	
JAVAVPN.COM O Download and Upgrade	
VPN-X 2.2.1.21 Release notes	
Enhanced Features: 1)make connection more quick when you are using DNS/DDNS name to connect VPN-X server	~
(3)	
(4)	
BirdsSoft VPN-X: P2P Cross-platform SSL VPN solution. http://birdssoft.com or http://javavpn.com email:support@birdssoft.com	

- (5) Announcement area: BirdsSoft will post announcements here.
- (6) Download site selection list: You can check the radio box to start the update process with the web site.
- (7) Progress bar: In the process of an update, this bar will show the download progress.
- (8) Update progress information output area.

After an update is finished, you should restart VPN-X to make the new version take effect.

# 8.4 CLI (Command Line Interface)

For remote control VPN-X server, we provide CLI for VPN-X. The administrator can use SSH to connect CLI service.

₽ 127.0.0.1 - PuTTY	_	$\times$
login as: admin		$\sim$
SSH server: Password authentication		
Using keyboard-interactive authentication.		
Password:		
#help		
createuser create user		
queryuser query user		
deleteuser delete user		
modifyuser modify user		
status show system status		
clipassword change CLI admin password		
history show CLI command input history		
help show all supported commands		
quit quit CLI		
		$\sim$

To enable CLI service, please stop VPN-X server first, then you set "cli.enable=true" in configure\_server.properties, restart VPN-X server.

#### cli.enable=true

The service default port is 2222, you can use "cli.port" in configure\_server.properties to change the default value. For example,

#### cli.port=2222

The default user name: admin, the default password: admincli

You can use clipassword to change the default password.



Please use help to show each command usage. The CLI support history command, you can



to view command history.

# 9 Advanced Topic

Warning: This section is not for the VPN-X beginner.

# 9.1 Tune VPN-X performance

There are some parameters that can help VPN-X work in your way. Important: All parameters are case sensitive. You should stop the VPN-X program before setting these advanced parameters in the configuration file.

VPN-X client configuration file: **config\_client.properties** VPN-X server configuration file: **config\_server.properties** 

**Heartbeat (Server Side):** heartbeat interval. Default value is 30 seconds, it's the minimum value. This parameter was introduced in version 2.2.1.25. For a small scale VPN, 30 is the better choice, but for a large scale (supports 20 concurrent clients or more), the value should be 60 or more.

Notes:

Server side: The parameter can only be configured on server.

Both sides: The parameter must be configured on server and client side.

Parameters Default Value Tabl
-------------------------------

	Windows	Linux	Mac OS X
heartbeat	30	30	30

# 9.2 Tune VPN-X security

There are some security parameters to tune and make VPN more secure.

Example:

javassl.keyStore=default/serverkeystore

javassl.keyStorePassword=ENC\:e7OtWalJVcg\=

javassl.needClientAuth=false

javassl.sslName=SSLv3

javassl.trustStore=default/clienttruststore

javassl.trustStorePassword=ENC\:e7OtWalJVcg\=

If you generated your own SSL certification or key, you should change those parameters.

Tips: javassl.keyStorePassword and javassl.trustStorePassword can be inputted plain-text word. VPN-X will encrypt the password automatically.

# **10 Examples**

Here are some examples for special cases. You can use these examples to understand VPN-X better. Please read "Section 4" carefully first before you study the following advanced examples.

# 10.1 VPN-X Server configuration (For advanced VPN system administrator)

**Purpose**: Use the VPN-X server IP address to access the Internet or remote LAN.

# Typical cases:

- 1) I live in the USA and work in Australia, but I want to use a USA IP address to surf the Internet, because some USA websites only accept native customers.
- 2) Our employees want to access a company LAN resource from home or other places.

#### Network assumed topology:

The LAN network: 192.168.1.0 (192.168.1.1 ~ 254) Network mask: 255.255.255.0 LAN/WAN gateway: 192.168.1.1 VPN-X Server LAN IP: 192.168.1.28 VPN-X Server Virtual IP address: 192.168.137.1 or 192.168.240.1 The public IP address for this LAN is: 66.154.119.75 (assumed)

Run VPN-X server on your platform

Setup Port Mapping (Forwarding) on your route:

No	LAN IP	LAN Port	Public Port	Protocol
1	192.168.1.28	25000	25000	UDP
2	192.168.1.28	25000	25000	ТСР
3	192.168.1.28	25443	25443	ТСР

You can use commands to test whether your PORT Forwarding/MAP operation is successful . You should run the following Test commands on the client side

telnet 192.168.1.28 25000 telnet 66.154.119.75 25000

The first command should be run on another machine in your LAN. That command will check whether VPN-X is working properly in your LAN.

The second command should be run in another place (not in same LAN with VPN-X server), The second command will check whether the VPN-X is working properly on the Internet. If it fails, you should check your firewall settings (both your router or hardware firewall or other type network device, your Server Operation System), and port mapping/forwarding on the router. If all of these ports work, it's time to configure your VPN-X NAT server. We prepared two platforms examples for you.

Image: Configuration     Icense     Configuration     VPN Chat Room     Access Control     VPN Server Setting     L2TP/IPsec     Route Configuration     DDNS     Backup/Resto     Apply     Refresh     Add     Delete     Modify	License License VPN Server So Act as a NAT Serve NAT External Inter	X Confi etting er face	© 0.00 B guration d	<ul> <li>0.00 Bps 1 0</li> <li>VPN Chat Room</li> <li>Route Configurati</li> <li>an0(/192,168</li> </ul>	0.00 Bps	ess Control S Back Apply	Q Log up/Restore Refresh
<ul> <li>License Configuration VPN Chat Room Access Control</li> <li>VPN Server Setting L2TP/IPsec</li> <li>Route Configuration DDNS Backup/Resto</li> <li>Apply Refresh</li> <li>Act as a NAT Server</li> <li>NAT External Interface</li> <li>en0(/192.168.1.28)</li> <li>NAT Internal Interface</li> <li>tap0(/192.168.137.1)</li> <li>Act as a Gateway</li> <li>Client Route Table</li> <li>Refresh</li> <li>Add</li> <li>Delete</li> <li>Modify</li> </ul>	License VPN Server S Act as a NAT Serve NAT External Inter	X Confi etting er face	guration d	VPN Chat Room Route Configurati	on DDN	ess Control S Back Apply	Q Log up/Restore Refresh
✓ VPN Server Setting L2TP/IPsec Route Configuration DDNS Backup/Resto          Apply       Refresh         Act as a NAT Server       ✓         NAT External Interface       en0(/192.168.1.28)         NAT Internal Interface       tap0(/192.168.137.1)         Act as a Gateway       ✓	<ul> <li>VPN Server S</li> <li>Act as a NAT Server</li> <li>NAT External Inter</li> <li>NAT Internal Inter</li> </ul>	etting er face	L2TP/IPsec	Route Configurati	ion DDN	S Back	up/Restore Refresh
Act as a NAT Server       Image: Control of the server of th	Act as a NAT Serve NAT External Inter NAT Internal Inter	er face		✓		Apply	Refresh
Act as a NAT Server       NAT External Interface     en0(/192.168.1.28)       NAT Internal Interface     tap0(/192.168.137.1)       Act as a Gateway     ✓      Client Route Table	Act as a NAT Serve NAT External Inter NAT Internal Inter	er face		✓			
NAT External Interface en0(/192.168.1.28) NAT Internal Interface tap0(/192.168.137.1) Act as a Gateway Client Route Table Refresh Add Delete Modify Network Netmask Gateway Metric	NAT External Inter NAT Internal Inter	face		en0(/192.168			
NAT Internal Interface tap0(/192.168.137.1) Act as a GatewayClient Route Table Refresh Add Delete Modify Network Netmask Gateway Metric	NAT Internal Inter	r		610(/192.100	3.1.28 )		\$
Act as a Gateway Client Route Table Refresh Add Delete Modify Network Netmask Gateway Metric		face		tap0(/192.16	8.137.1)		<b>\$</b>
Client Route Table     Refresh Add Delete Modify      Network Netmask Gateway Metric	Act as a Gateway						
Refresh         Add         Delete         Modify           Network         Netmask         Gateway         Metric		Client	Route Table				
Network Netmask Cateway Metric				Refresh	Add D	elete	Modify
Hernork Hernask Bateria	Network N	etmask	Gateway	Metric			
0.0.0.0 0.0.0.0 192.168.137.1 1	0.0.0.0	0.0.0.0	192.168.137.	1 1			
	L						

#### 10.1.1 How to configure NAT and L2TP/IPsec VPN server on macOS

VPN-X on macOS screenshot

Open VPN-X "route configuration" panel and do the following configuration.

Act as gateway: checked Act as NAT server: checked NAT external interface: en0 NAT internal interface: tap0

In normal conditions, the NAT external interface should be your LAN interface name, and the internal interface should be virtual interface name, for example tap0. You can use the command "ifconfig" to check.

# ifconfig

For example: In our Test Mac OS X, we get the following information

apple-computer:~ root# ifconfig

lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384

inet6 ::1 prefixlen 128 inet6 fe80::1%100 prefixlen 64 scopeid 0x1 inet 127.0.0.1 netmask 0xff000000

- gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
- stf0: flags=0<> mtu 1280
- en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500 inet 192.168.1.28 netmask 0xffffff00 broadcast 192.168.1.255 ether 00:0c:29:18:9d:70 media: 10baseT/UTP <full-duplex> status: active supported media: 10baseT/UTP <half-duplex> 10baseT/UTP <full-duplex> tap0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1400 inet 192.168.240.1 netmask 0xffffff00 broadcast 192.168.240.255

ether d2:63:3a:d9:22:4f

open (pid 217)

Add a route rule in"Client Route Table"

network: 0.0.00 netmask: 0.0.00 gateway: 192.168.137.1 metric: 1

For iPhone/iPad/Android clients:

	VPN-X ServerVe	rsion 2.8.1.6	7(Evalua	tion Lie	cense)			
<b>**</b> 4	🙋 0.00 в	🔶 0.00 в	ps 懀 0	.00 Bp	95			1
🔺 🍦 License	X Configuration	I VPN Cha	at Room	Ű	Acces	s Cont	rol	♀ Log
✓ VPN Server Set	ting L2TP/IPsec	Route Co	nfigurati	on	DDNS	Ba	ckup/	Restore
					Ap	ply	Re	fresh
Secret / Pre-Shared	Key (PSK)		•••••	••				
Bind IP Address			192.16	8.1.2	8)			
DNS 1			8		8.	8		8
DNS 2			4		4.	4		4
BirdsSoft VPN-X: Cross-n	latform P2P/SSL/TLS V	PN solution	http://bir/	dssoft (	om emai	l:suppo	rt@hird	issoft com or
Technical Support(Skype)	or Technical Support(O	0)	integritoine	2000111	onia onia	an <u>suppo</u>	re one	<u>133011100111</u> 01

The default secret/Pre-shared Key(PSK): 12345678

Don't forget to click "**Apply**" in each configuration panel. After change settings, you should tell your clients to restart client to make sure the new settings is working.

# 10.1.2 How to configure NAT server on Windows 10

Right click the real network device on VPN-X server, this example is Ethernet0



In sharing properties, select "Allow other network users to connect through this computer's Internet connection". Click ok to save the setting.

# 10.1.3 How to configure NAT server on Windows 2003

If you are using Windows 2003, please follow these steps:

1) Stop Windows Firewall/Internet Connection Sharing (ICS), and disable it.



3) Control Panel-> Administrative Tools-> Routing and Remote Access

Open the configuration window like this.

A Routing and Remote Access	
Eile Action View Help	
Routing and Remote Access       TEST-LSZYAZX4VI (local)         Server Status       Configure and Enable Routing and Remote Access         Disable       Disable         View       Delete         Refresh       Properties         Help	<ul> <li>and Remote</li> <li>ccess, on the Action menu, click nd Remote Access.</li> <li>ing up a Routing and Remote and troubleshooting, see <u>Help</u>.</li> </ul>
Configures Routing and Remote Access for the selected server	

4) Configure Routing and Remote Access

Ryuting and Remote Acces	s Server Setup Wizard
Acces	Server Setup Wizard Welcome to the Routing and Remote Access Server Setup Wizard This wizard helps you set up your server so that you can connect to other networks and allow connections from remote clients. To continue, click Next.
	< Back Next > Cancel

## Next

Select network address translation (NAT), then Next

Routing and Remote Access Server Setup Wizard
Configuration You can enable any of the following combinations of services, or you can customize this server.
<ul> <li><u>Remote access (dial-up or VPN)</u>         Allow remote clients to connect to this server through either a dial-up connection or a secure Virtual Private Network (VPN) Internet connection.</li> <li><u>Network address translation (NAT)</u>         Allow internal clients to connect to the Internet using one public IP address.</li> <li><u>Virtual Private Network (VPN) access and NAT</u>         Allow remote clients to connect to this server through the Internet and local clients to connect to the Internet using a single public IP address.</li> <li><u>Secure connection between two private networks</u>         Connect this network to a remote network, such as a branch office.</li> <li><u>C</u>ustom configuration         Select any combination of the features available in Routing and Remote Access.</li> </ul>
< <u>B</u> ack <u>N</u> ext > Cancel

Keep in mind, the VPN-X virtual device is a virtual Network interface connection (NIC), but you can deal with it just like a real NIC.

Choose the real NIC to be the public interface to the Internet. Windows will use the VPN-X NIC to be the private connection automatically.

Routing	and Remote Access Ser	ver Setup Wizard	
RAT I Yo cli	nternet Connection ou can select an existing interf ent computers to connect to t	ace or create a new demar he Internet.	nd-dial interface for
¢	Use this public interface to c	connect to the Internet:	
	Name	Description	IP Address
	Local Area Connection	Intel(R) PR0/1000 MT	192.168.1.28
	Local Area Connection So	VENY VIIGH NEWOK	132,100,240,1
C	Create a new <u>d</u> emand-dial in	iterface to the Internet	
	A demand-dial interface is a option if this server connects over Ethernet. The Demand	ctivated when a client uses s with a modem or by using -Dial Interface Wizard will s	the Internet. Select this the Point-to-Point Protocol tart at the end of this wizard.
Г	Enable security on the selec	ted interface by setting up I	Basic Firewall.
	Basic Firewall prevents unau through the Internet.	uthorized users from gaining	access to this server
For	more information about netwo	ork interfaces, see <u>Routing</u>	and Remote Access Help.
		< <u>B</u> ack	Next > Cancel

Routing and Remote Access Server Setup Wizard
Name and Address Translation Services You can enable basic name and address services.
<ul> <li>Windows didn't detect name and address services (DNS and DHCP) on this network. How do you want to obtain these services?</li> <li> Enable basic name and address services Routing and Remote Access assigns addresses automatically and forwards name resolution requests to a DNS server on the Internet. </li> <li> I will set up name and address services later Choose this option if you have set up the Active Directory on your network, or if you have DHCP or DNS servers in your network. </li> </ul>
< <u>B</u> ack <u>N</u> ext > Cancel

Ro	Routing and Remote Access Server Setup Wizard						
2	Address Assignment Range Windows has defined a range of addresses for your network.						
	Routing and Remote Access will provide an address to any computer on your network which requests one. These addresses will be selected from the range defined below. Network Address: 192.168.240.0 Network Mask: 255.255.255.0 This address range was generated from the IP address of your network adapter. You can change the address range by defining a new static address for this network adapter through the Network Connections Folder. Click Next if the address range is acceptable. Click Cancel if you wish to exit the wizard in order to define a new static address.						
-							
	< <u>B</u> ack <u>Next</u> Cancel						



Next, finish the Windows NAT configuration. You can disable the NAT firewall or write an exception rule to make your NAT work properly. Note: The NAT firewall is not the same thing as Windows built-in general ICS firewall.

The client does not know how to access the remote LAN through the VPN server, so you should add a route configuration for clients, and click "Apply"

😽 VPN-X ServerVers	ion 2.2.1.26			
📰 📲 🦻				
🔍 Status	🤷 Us	er Management		icense 🖳
💥 Configuration	🗇 VPN Chat Room	🖰 Access Control	🛛 💡 Log	🥥 Software Update
General Configuration V	PN Server Setting Route Cor	nfiguration		
				Apply
Act as a Gateway				
Client Rout	te Table			
		Refres	h Add	Delete Modify
Network Netn	nask Gateway	Metric		
192.168.1.0 255.	255.255.0 192.168.240.1	20		
BirdsSoft VPN-X: Cross-	platform P2P/SSL/TLS VPN	I solution. <u>http://birdssof</u>	<u>. com</u> or <u>http</u>	://javavpn.com

email:<u>support@birdssoft.com</u> or <u>Technical Support(Skype)</u> or <u>Technical Support(QQ)</u>

Add a route rule on "Client Route Table" for your VPN clients.

network: 192.168.1.0 netmask: 255.255.255.0 gateway: 192.168.240.1 metric: 20

if you want to surf internet with server side IP, you should add route rule like this:

network: 0.0.00 netmask: 0.0.00 gateway: 192.168.240.1 metric: 1

Don't forget to click "**Apply**". After change route setting, you'd better tell your clients to restart VPN-X client to make sure the new route rule is working.

#### 10.1.4 Test your NAT server from VPN-X client

Run VPN-X client. Assumed your VPN-X server public/Internet IP is 66.154.119.75

For SSL VPN: VPN Server host: 66.154.119.75 VPN Server port: 25443 protocol: TCP(SSL/TLS) user name and password

For P2P VPN: VPN Server host: 66.154.119.75 VPN Server port: 25000 protocol: UDP user name and password

After your VPN-X clients logon VPN-X server, they will access your remote LAN easily. ping 192.168.240.1 ping 192.168.1.1

# **10.2 Bridge** (For advanced VPN system administrator)

**Purpose**: Lets you use a remote LAN IP address, and you can use that IP to communicate with other machines in the remote LAN directly.

#### **Typical cases**:

I need to access our office LAN from an airport or other place, and also let remote LAN computers access my laptop.

VPN-X server on the Windows platform supports Bridge operation.

Network topology:

Note: You should have a very special LAN ip address to avoid conflicting with another local network. It's a bad idea to use bridge mode with 192.168.1.0 or 192.168.0.0 network, because your coffee bar or airport local wireless network may also be using this network address.

The office LAN ip range: 192.168.100.1~254. 192.168.100.1~199 for real machine IPs 192.168.100.200~254 for VPN users.

The VPN-X Server LAN IP : 192.168.100.50 Gateway: 192.168.100.1 The public IP address for this LAN is : 66.154.119.75 (assumed)

After the network interface cards (NIC keep in mind, VPN-X is a Virtual NIC) are installed and connected, go to the bridging computer and open Control Panel, click Network and Internet Connections, and then click Network Connections.

😂 Control Panel 📃							
Eile Edit View Favorites Tools Help							
🔇 Back 🔻 🕥 🕆 🏂 🔎 Search 陵 Folders 🕼 🎯 🗙 🏹 🛄 🗸							
Address 📴 Control Panel			💙 🔁 Go				
Folders ×	Name 🔺	Comments	<u>^</u>				
🕝 Desktop 📃 🔼	GM Folder Options	Customize the displ					
🗉 🛑 My Documents	🔁 Fonts	Add, change, and					
🖃 😼 My Computer	≽ Game Controllers	Add, remove, and c					
표 🍶 3½ Floppy (A:)	Internet Options	Configure your Inte					
🗄 🥯 Local Disk (C:)	a Keyboard	Customize your key					
🗉 🥝 DVD Drive (D:)	두 Licensing	Changes licensing o	=				
🖃 🔂 Control Panel	Mouse	Customize your mo	=				
🙀 Administrative Tools	Network Connections	Connects to other c					
🛅 Fonts	bone and Modem Options	Configure your tele					
🔍 Network Connection:	Captions	Configure energy-s					
强 Printers and Faxes	Note: Second Faxes	Shows installed prin					
🗉 Š Scanners and Camer 🗕	🤶 Regional and Language Options	Customize settings					
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Solutions States Network Connections			
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> o	ols Adva <u>n</u> ced <u>H</u> elp		<b>1</b>
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Address 🔇 Network Connections			🖌 🄁 Go 🛛 Links 🎽
Name	Туре	Device Name	Status
LAN or High-Speed Internet			
Local Area Connection	LAN or High-Speed Internet LAN or High-Speed Internet	Intel(R) PRO/1000 MT N VPN-X Virtual Device Inte	Connected Network cable unplugged
New Connection Wizard	Wizard		
<	Ш		>

**Note:** To create a network bridge you must select at least two network connections that are not being used by Internet Connection Sharing (ICS) or the Internet Connection Firewall (ICF).

Next click both network connections (if you have several segments, hold down the Ctrl key and click all the connections that correspond to all the LAN segments you want to bridge), right-click one, and then click **Bridge Connections**.

Solutions Network Connections			
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> o	ols Adva <u>n</u> ced <u>H</u> elp		<b>1</b>
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Name	Туре	Device Name	Status
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Local Area Connection	LAN or High-Speed Internet	Intel(R) PRO/1000 MT N VPN-X Virtual Device Inte	Connected Network cable unplugged
Disable Wizard Status			
New Connection Wiz	nnections		
Delete     Repare			>

After the bridge configuration is complete, you'll end up with a Network Connections window that looks like the one below.

Solutions Network Connections			
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> o	ols Adva <u>n</u> ced <u>H</u> elp		<b>**</b>
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Name	Туре	Device Name	Status
Network Bridge			
Metwork Bridge (Network Bridg Local Area Connection 25 Local Area Connection	Network Bridge Network Bridge Network Bridge	MAC Bridge Miniport VPN-X Virtual Device Inte Intel(R) PRO/1000 MT N	Connected Network cable unplugged Connected, Bridged
Wizard			
🗟 New Connection Wizard	Wizard		
<			>

We should set the Network Bridge manually. Because we want to use the same IP address as the Local area connection setting: 192.168.100.50.

Right-Click the **Network bridge** and select the "Properties", then select "Internet Protocol (TCP/IP)", and change the IP address and gateway... click "Ok" and close all configuration windows.

	🕹 Network Bridge (Network Bri	dge) 2 Properties ? 🗙	
8	General Authentication Advanced		
Network Connections	Adapters: Select the adapters you want to us on your local network.	e to connect to computers	
🔇 Back 🔻 🕥 🕆 🧊 🔎 Search	Local Area Connection	5	
Address 🔇 Network Connections			Links 🐣 🗧
Name		Internet Protocol (TCP/IP)	) Properties 🛛 🛜 🔀
Network Bridge		General	
Network Bridge (Network Bridge) 2     Local Area Connection 25     Local Area Connection	This connection uses the following ite	You can get IP settings assign this capability. Otherwise, yo for the appropriate IP setting	ned automatically if your network supports u need to ask your network administrator s.
Wizard	<ul> <li>File and Printer Sharing for M</li> <li>Internet Protocol (TCP/IP)</li> </ul>	Obtain an IB address au	tomatically
New Connection Wizard		- Use the following IP add	ress:
	I <u>n</u> stall <u>U</u> ninsta	IP address:	192.168.100.50
<	Sho <u>w</u> icon in notification area whe	Subnet mask:	255.255.255.0
		Default gateway:	192.168.1.1
		Obtain DNS server addr	ess automatically
		• Us <u>e</u> the following DNS se	erver addresses:
		Preferred DNS server:	192 . 168 . 1 . 1
		<u>A</u> lternate DNS server:	
			Advanced
			OK Cancel

Startup VPN-X server and change the VPN server setting as follows:

You should use the same network address to the VPN virtual Address as the LAN IP.

🐞 VPN-X Server	-Version 2	.2.1.26									
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💥 Configurat	tion	🗇 VPN Chat Room	🕒 Access (	Ionti	ol	<b>Q</b>	Log		Sof	tware	Update
General Configuration	on VPN Ser	ver Setting Route Configura	tion								
											Apply
VPN Server Virtual	Address			Г	192		168		100		200
VBN Notroack				i-	255		255		255		0
Compression					*-	•	200		200	•	
Compression				Au							×
Use Bridge											
Bridge IP					192		168		100	•	50
Use (Virtual)DNS											
(Virtual)DNS IP					192		168		240		1
Allow Register VPN	N Account Fr	om Network									
Abou	ut Multi-Liste	ner Port Setting(need to rest	tart VPN)								
							Ref	resh	Add		Delete
Protocol	Port										
UDP		25000									
ТСР		25000									
TCP(SSL/TLS)		25443									
				_							
BirdsSoft VPN-X: (	Cross-platfo	rm P2P/SSL/TLS VPN solut	ion. <u>http://birdsso</u> i	ft.co	m or <u>ht</u>	tp://jav	avpn.co	om en	nail: <u>suppo</u>	ort@b	irdssoft.com
or recumcal suppo	<u>лц экуре)</u> о	r <u>recumcal support(QQ)</u>									

Click "Apply" to make your VPN server use the new settings.

Create a new VPN account in **User Management Panel.** The first account IP should be 192.168.100.201. The second account IP should be 192.168.100.202, and so on. You can change the IPs as needed, but you should make sure all VPN accounts' addresses are in the same network, for example: 192.168.100.0 netmask 255.255.255.0

You can use the VPN account to login VPN-X from the remote VPN-X client.

Run this command on your client after client login: Ping 192.168.100.1

If you receive a response, your VPN-X server with a Bridge office network is configured successfully.

Note: In this example, you should use 192.168.100.50 to access the VPN-X server. Don't use 192.168.100.200, because the "192.168.100.200" is a dummy address for starting the VPN account IP pool.

# 10.3 Proxy server

**Purpose**: Let you access remote LAN computers with the special ports for example FTP, Web Server and Remote Desktop...

Note: With this method, you can only access some special applications.

**Typical cases:** 

1) I just want to access the web server in our office LAN. When need to configure a proxy server before accessing that resource.

You can use third-party software to do that. VPN-X just helps you create a VPN for you and your proxy server. There is a great software to do that, but not easy to configure:

Squid (http://www.squid-cache.org/)

BirdsSoft can provide a Proxy solution for customers.

Proxy server provided by BirdsSoft supports:

HTTP Proxy, FTP Proxy, Socks 4/5, Telnet, Proxy,SMTP Proxy POP3 Proxy,TCP Map and UDP Map...

If you need this solution please contact us.

# **10.4 Route (gateway)**

Note: The Gateway feature should always be worked in conjunction with a NAT

server, or you will have to configure a route rule for each computer, and tell them where to send the Ethernet packages. We don't recommend using this method to make a network.

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💦 VPN-X Server	-Version 2.2.1.	26			
🔛 🌗 💬					
🔍 Status		🙈 Us	er Management		🚔 License
💥 Configuratio	n 🗇 VI	PN Chat Room	🖰 Access Control	🛛 🖓 Log	😡 Software Update
General Configuration	on VPN Server S	Betting Route Cor	nfiguration		
					Apply
Act as a Gateway					
Client	t Route Table				
			Refrest	n Add	Delete Modify
Network	Netmask	Gateway	Metric		
192.168.1.0	255.255.255.0	192.168.240.1	20		
BirdsSoft VPN-X: 0	Cross-platform F	2P/SSL/TLS VPN	I solution. <u>http://birdssoft</u>	.com or <u>http://</u>	/javavpn.com
email: <u>support@bird</u>	<u>ssoft.com</u> or <u>Te</u>	<u>chnical Support(S</u>	<u>kype)</u> or <u>Technical Supp</u>	<u>ort(QQ)</u>	

VPN-X gives a GUI for all platforms about this. VPN-X can help OS act as a Gateway easily.

Click "Apply", Linux, FreeBSD and Mac OS X will take effect without rebooting the machine, but Windows needs to reboot to take effect.

# 11 Self Diagnoses

# **11.1 Open Virtual Network Device Error!**

FLLOL	
8	Open Virtual Network device error! Please check VPN virtual device status and number! Possible reason: 1)The VPN virtual device don't exist. 2)Need more VPN virtual device(if you want run more than one VPN programe) 3)You don't have the privilege to run VPN-X on system .You should use administrator role to run VPN-X. For example: administrator(Windows),root(Linux,Mac OS X,FreeBSD)
	For detail error message, please view log file "vpnx_core.log" which in INSTALL DIR.

Basic knowledge: Each VPN-X program should use one virtual network device (named "vpn-x") with **administrator** role.

Ask yourself following questions before report us this is a bug:

1) Are you the administrator user or user with administrator/root role on this platform/OS?

Tips: Windows Vista (or higher, such as Windows 7) user should use administrator role to run VPN-X (just click the right button on the VPN-X shortcut link, and you will see the menu).

Mac OS X users should not care about it, because VPN-X can help you to detect the user role.

Linux users should use command "sudo" or root role to launch the VPN-X server or client.

2) Do you have enough virtual devices for each VPN-X program.

Windows users:

By default, VPN-X Windows installer will help you install a virtual network device on Windows.

Mac OS X users: Please refer to "Understand VPN-X" section.

Linux users: Please refer to "Understand VPN-X" section.
# 11.2 VPN-X client always reports "Can't connect to VPN-X

### server, and report time out error!

There are two methods to check whether your VPN-X server is on the Internet, or can be accessed by clients.

#### • Method 1: Using Telnet to check

Please run the following command from a remote machine (Please don't run this command in the same network of VPN-X server. You should run it at another place or network ):

telnet <your vpn-x server public/internet IP> 25000

You can find the public IP from the VPN-X server status panel or visit this page <u>http://checkip.dyndns.com</u> from VPN-X server machine.

For example:

telnet 74.125.127.100 25000

If you got a response from the VPN server side, then you can access your VPN-X from anywhere. In other words, your VPN-X server is on the Internet.

This method can't detect UDP protocol. If you want to check UDP, please use method 2.

#### • Method 2: Using VPN-X client to check the network status

Input public IP of VPN-X and port, corresponding protocol, and random user name and password.

You can find the public IP from VPN-X server status panel or visit this page <u>http://checkip.dyndns.com</u> from VPN-X server machine.

By default:

Port 25000, the protocol can be UDP or TCP Port 25443, the protocol should be TCP(TLS/SSL)

After filling in all of these with a random password and user name, please click the login button. If you receive a password or user name error dialog, congratulations! Your VPN-X server is on the Internet/public. You can use the correct user name and password to login. If you receive a timeout error dialog, the VPN-X server is not on the Internet/public.

## **12 Technical Support**

Email: <u>support@birdssoft.com</u> (Recommended) SKYPE: birdssoft QQ: 184058240 WeChat: xyrichard