1 Overview

This document describes VPN server and client configuration for the NSE 3000 VPN solution.

2 VPN Server Configuration from cnMaestro

- 1. From the configuration menu, Select VPN and RADIUS Server.
- 2. Select Enable inbuilt VPN Server option and enter the details for VPN Server. Make sure to select Enable 2FA if two-factor authentication is required.

VPN Server	
Enable inbuilt VPN Server User authentication via inbuilt RADIUS s	erver
✓ Enable 2FA	
Client IP Pool Range Start	Client IP Pool Range End
192.168.100.50	192.168.100.200
IPsec Shared Secret	

3. Select Enable inbuilt RADIUS Server option and then click add new to add a RADIUS User.

RADIUS Server Enable inbuilt RADIUS Server			
RADIUS Users			
Apply Filter(s)			iii -
Email ID	= 2FA		
test@vpn.com	Enabled		(8) C 🖍 🖻
Add New		Showing 1 - 1 Total: 1 10 🗸	< Previous 1 Next >

- 4. Save the configuration.
- 5. If you have enabled 2FA, install Google Authenticator app in your phone.
 - 5.1. Open the Authenticator app.
 - 5.2. Select Scan a QR code option.
 - 5.3. On cnMaestro, click the QR code icon for the RADIUS user you have added. You will also receive the same QR code on the user email ID provided.

Scan QR ×]
Кеу	
PFGT4JB4H4UDU5BPGJSUQW22MM	
Scan this QR code with Authentication apos like Google Authenticator.	
Authy, Duo Mobile or LastPass.	
Download Close	

5.4. Scan the QR code.

- 5.5. An Account will be added on your authenticator app with a 6-digit code which changes periodically.
- 5.6. Make sure to add this 6-digit code along with your VPN Password. The code should be added after the VPN Password you have set.

If your VPN Password is xxxxxxx and the code shown in the app is yyyyyy, the new Password is xxxxxxxyyyyyy.

	: Search for account	ts
e	SecretKey	
Setup your first account Use the RR code or setup key in your 2FA settings Google or third-party service). If you're having troub to g.co/2sv	(^{ty} le.go	
Scan a QR code		
Enter a setup key		

3 WINDOWS

3.1 Registry Change

Open the Command Prompt as Administrator. Run the following command:

REG ADD HKLM\SYSTEM\CurrentControlSet\Services\PolicyAgent /v AssumeUDPEncapsulationContextOnSendRule /t REG_DWORD /d 0x2 /f

Administrator: Command Prompt	_	٥	×
Microsoft Windows [Version 10.0.19044.2006] (c) Microsoft Corporation. All rights reserved.			
C:\Windows\system32>REG ADD HKLM\SYSTEM\CurrentControlSet\Services\PolicyAgent /v AssumeUDPEncapsulationContextOnSendRule /t REG_DWORD The operation completed successfully.	/d 0	x2 /f	Ē
C:\Windows\system32>_			

Reboot your device once the registry changes are completed.

3.2 VPN Profile Configuration

1. Go to Settings \rightarrow Network & Internet \rightarrow VPN.

Settings		- 🗆 ×
බ Home	VPN	
Find a setting ρ	+ Add a VPN connection	Related settings Change adapter options
🖨 Status	Advanced Options	Change advanced sharing options Network and Sharing Center
n Wi-Fi	C Off	Windows Firewall
문 Ethernet	Allow VPN while roaming	Help from the web
ଳ Dial-up		Setting up a VPN
989 VPN		Get help
niplane mode		Give feedback
(۱۹) Mobile hotspot		
Proxy		

- 2. Click Add a VPN connection.
- 3. Choose Windows (built-in) option from drop down menu for VPN provider.
- 4. Enter a Connection name of your choice.
- 5. Enter your VPN Server IP in the Server name or address field.
- 6. Select L2TP/IPsec with pre-shared key in the VPN type drop-down menu.
- 7. Enter your VPN IPsec PSK in the Pre-shared key field.
- 8. Select User name and Password option in Type of sign-in info drop-down menu.
- 9. Enter your VPN Username in the User name field.
- 10. Enter your VPN Password in the Password field.

Edit VPN connection These changes will take effect the next time you conn Connection name TEST Server name or address	
These changes will take effect the next time you conne Connection name TEST Server name or address	Edit VPN connection
Connection name TEST Server name or address	These changes will take effect the next time you connect
TEST Server name or address	Connection name
Server name or address	TEST
Server hame of address	C
	Server name of address

- 11. Click the Save button.
- 12. A new VPN connection has been added.



3.3 Adapter Settings

1. Go to Control Panel \rightarrow Network and Internet \rightarrow Network and Sharing Center.



- 2. Select Change adapter settings from the side menu.
- 3. Right click on your VPN Connection and Select Properties.



4. Click Allow these protocols and select Unencrypted password (PAP).

TEST Propertie	s			×
General Options	Security	Networking	Sharing	
Type of VPN:				
Layer 2 Tunnelin	g Protocol	with IPsec (L2	TP/IPsec)	\sim
Data encryption:			Advance	ed settings
Optional encrypti	on (connec	ct even if no e	ncryption)	\sim
Authentication				
O Use Extensib	le Authent	ication Protoco	ol (EAP)	

5. Select OK.

3.4 Connecting to the VPN

- 1. Go to Settings \rightarrow Network & Internet \rightarrow VPN.
- 2. Select your VPN connection and click Connect.

Settings		- D ×
命 Home	VPN	
Find a setting	+ Add a VPN connection	Related settings Change adapter options
Network & Internet	TEST	
Status		Network and Sharing Center
<i>ifi</i> , Wi-Fi	Connect Advanced options Remove	
문 Ethernet	Advanced Options	Help from the web
ි Dial-up	Allow VPN over metered networks	
% VPN	Off	Get help
	Allow VPN while roaming	Give foodback
타는 Airplane mode	Off Off	Give recuback
^(၂)) Mobile hotspot		
Proxy		

3. Your device has been successfully connected to VPN.

4 LINUX

4.1 Ubuntu Linux

Ubuntu 18.04 (and newer) users can install the network-manager-l2tp-gnome package using apt, then configure the IPsec/L2TP VPN client using the GUI.

Run the following command in the terminal.

sudo apt-get install network-manager-l2tp-gnome

1. Go to Settings \rightarrow Network \rightarrow VPN. Click the + button.

۵		
A	Settings	
O Netv	work	
B Blue	tooth	
[] Pack	recound	
U Back	ground	
떶 App	earance	
0 Noti	ifications	
Q Sear		
III Appl	lications	
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☐ Rem Golo ⊕ Colo ⊕ Region ★ Union	on & Language	

2. Select Layer 2 Tunneling Protocol (L2TP).

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Bluetooth			
🛛 Background			
Appearance			
0 Notifications			
G. Search			
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🚊 Privacy 🔰		A Add VPN	
Online Accounts	Layer 2 Compati	Tunneling Protocol (L2TP) ble with Microsoft and other L2TP VPN servers.	
\preccurlyeq Sharing	OpenV	PN	
∬ Sound			
Power	Point-Compation	o-Point Tunneling Protocol (PPTP) ble with Microsoft and other PTTP VTN servers.	
😡 Displays	Import	from file	
Mouse & Touchpad			
Keyboard Shortcuts			
Printers			
📋 Removable Media			
🔒 Color			
Region & Language			
+ Universal Access			
🙊 Users			

- 3. Enter the VPN Name in the Name field.
- 4. Enter Your VPN Server IP for the Gateway.
- 5. Enter Your VPN Username for the User name.
- 6. Enter Your VPN Password for the Password.

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Q Settings			Ne	twork	
Bluetooth		Wired			
			Add VPN		
	Identity				
		Test			
	General				
		Gateway	10.110.235.133		
	User Au	thenticatio	n		
1 Sound					
			user@vpn.com		

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Ĵ Sound	* Advanced *	i i i i i i i i i i i i i i i i i i i
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	✓ Phase2 Algorithms: aes128 sha1	i i i i i i i i i i i i i i i i i i i
igJ Displays	Phaset Lifetime: 3:00 (HE:MM)	i da se
	Phase2 Lifetime: 1:00 (HEIMM)	l i
	Enforce UDP encapsulation	i i i i i i i i i i i i i i i i i i i
	Use IP compression Use IKEv2 key exchange	
+ Universal Access		

11. Expand the Auvanced section.

- 12. Enter aes128-sha1-modp2048 for the Phase1 Algorithms.
- 13. Enter aes128-sha1 for the Phase2 Algorithms.
- 14. Click Apply.
- 15. Click OK, then click Add to save the VPN connection information.
- 16. Turn the VPN switch ON.

5 MacOS

1. Open System Preferences and go to the Network section.



- 2. Click the + button in the lower-left corner of the window.
- 3. Select VPN from the Interface drop-down menu.
- 4. Select L2TP over IPSec from the VPN Type drop-down menu.
- 5. Enter name of the VPN in the Service Name field.
- 6. Click Create.

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	• • < > III Network	
	Location: Automatic 🗘	
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- 7. Enter Your VPN Server IP for the Server Address.
- 8. Enter Your VPN Username for the Account Name.
- 9. Click the Authentication Settings button.
- 10. In the User Authentication section, select the Password radio button and enter Your VPN Password.
- 11. In the Machine Authentication section, select the Shared Secret radio button and enter Your VPN IPsec PSK.
- 12. Click OK.

Ketwork	
Location: Automatic	
W-Fi User Authentication: Belkin USB-C Password: Thunderbolt B RSA SecuriD Image: Securid Securi	

- 13. Check the Show VPN status in menu bar checkbox.
- 14. Click the Advanced button and make sure the Send all traffic over VPN connection checkbox is checked.

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- 16. Click OK to close the Advanced settings, and then click Apply to save the VPN connection information.
- 17. Click connect.
- 18. The VPN has been connected.

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6 iOS/ iPadOS

- 1. Go to Settings \rightarrow General \rightarrow VPN.
- 2. Tap Add VPN Configuration...

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- 3. Click Type and Select L2TP.
- 4. Enter the Description of your choice.
- 5. Tap Server and enter Your VPN Server IP.
- 6. Tap Account and enter Your VPN Username.
- 7. Tap Password and enter Your VPN Password.
- 8. Tap Secret and enter Your VPN IPsec PSK.
- 9. Set the Send All Traffic switch to ON.
- 10. Tap Done.
- 11. Turn ON the VPN.
- 12. The VPN has been connected.

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7 ANDROID

- 1. Open Settings.
- 2. Navigate to VPN.

*VPN settings location may vary depending on device manufacturer. The device represented here is a Samsung device.

3. Tap : icon at top-right of screen.





- 4. Enter the name of the VPN in the Name field.
- 5. Select L2TP/IPSec PSK in the Type drop-down menu.
- 6. Enter Your VPN Server IP in the Server address field.
- 7. Enter Your VPN IPsec PSK in the IPSec pre-shared key field.
- 8. Enter Your VPN Username in the Username field.
- 9. Enter Your VPN Password in the Password field.
- 10. Tap Save.



- 11. A new VPN profile has been added.
- 12. Click the VPN profile that has been created.
- 13. Check the Save account information checkbox.
- 14. Click Connect.
- 15. The VPN has been connected.