

Table 1: List of TLS-based VPN apps tested.

Provider	Application Name	OS	Version	Source
Cisco	Cisco AnyConnect	Windows	4.10.00093	School website
	AnyConnect (<i>UWP Version</i>)	Windows	4.10.00072	Microsoft Store
	Cisco AnyConnect Security Mobility Client	MacOS	4.10.00093	School website
	Anyconnect	Android	4.10.03113	Google Play
	AnyConnect	iOS	4.10.04060	App Store
Pulse	Pulse Secure	Windows	9.1.13	School Website
	Pulse Secure	MacOS	9.1.13 (11723)	School Website
	Pulse Secure	Android	9.10.0 (r731457.17)	Google Play
	Pulse Secure	iOS	9.10.0.87337	App Store
	N/A	Windows	N/A	N/A
Citrix SSO	Citrix Secure Access	MacOS	1.4.1 (678)	App Store
	Citrix SSO	Android	2.5.1 (114)	Google Play
	Citrix SSO	iOS	22.02.1 (685)	App Store
	Citrix Workspace	Windows	22.2.1.0	Microsoft Store
Citrix Workspace	Citrix Workspace	MacOS	22.03.0.27	Official Website
	Citrix Workspace	iOS	22.2.5.1 (2202)	App Store
	Citrix Workspace	Android	22.5.0.5 (2205)	Google Play
	Citrix Workspace	iOS	22.2.5.1 (2202)	App Store
GlobalProtect	GlobalProtect	Windows	5.2.4-21	School Website
	GlobalProtect	MacOS	5.2.4-21	School Website
	GlobalProtect	Android	5.2.5-42	Google Play
	GlobalProtect	iOS	5.2.12-3	App Store
F5	F5 Access	Windows	1.3.0.0 (Build 71.0)	Microsoft Store
	F5Access	MacOS	2.0.1	App Store
	F5 Access	Android	3.0.8	Google Play
	F5 Access	iOS	3.0.8	App Store
F5 Big-IP Edge	Big-IP Edge Client	Windows	7220,2022,308, 1349	School Website, Updated in-app
	Big-IP Edge Client	Mac	7181.2019.0620.1	School Website
Aruba	Virtual Intranet Access	Windows	4.0.0.0.2004212	School Gateway
	Aruba VIA	MacOS	4.3.0.2111193	App Store
	ArubaVIA	Android	4.3.0.2110040	Google Play
	ArubaVIA	iOS	4.3.0.2112100	App Store
Forti old	FortiClient VPN	Windows	6.0.9.0277	Official Website
	FortiClient VPN	MacOS	6.4.6.1378	Official Website
	FortiClient 6.0	Android	6.0.3.0197	Google Play
	FortiClient 6.0	iOS	6.0.5.0218	App Store
Forti new	FortiClient	Windows	7.0.2.0090	Official Website
	FortiClientVPN	MacOS	7.0.2.0069	Official Website
	FortiClientVPN	Android	7.0.2.0031	Google Play
	FortiClientVPN	iOS	7.0.2.0036	App Store
Forti MSFT Store	FortiClient	Windows	1.0.1040	Microsoft Store
Forti Fabric	FortiClient	Windows	7.0.5.0238	Official Website
	FortiClient	Mac	7.0.3.0131	Official Website
	FortiClient	Android	7.0.3.0037	Google Play
	FortiClient	iOS	7.0.3.0043	App Store
SoftEther	Softether VPN Client	Windows	4.38, Build 9760	Official Website
Array MotionPro	MotionPro	Windows	1.2.18	Official Website
	MotionPro Plus	MacOS	2.0.2 Build 436	App Store
	MotionPro	Android	3.0.21	Google Play
	MotionPro	iOS	2.3.11 Build 6	App Store
Array MotionPro Plus	MotionPro Plus	iOS	2.0.19 Build 121	App Store
Sangfor	EasyConnect	Windows	7.6.7.201	School Website
	EasyConnect	MacOS	7.6.7	School Website
	EasyConnect	Android	7.6.8.64	School Website
	EasyConnect	iOS	7.6.8.5	App Store
WatchGuard	Mobile VPN with SSL client	Windows	12.7.2 (644702)	Official Website
	WatchGuard Mobile VPN with SSL	MacOS	12.7 (637669)	Official Website
TOPSec	Vone Client	Windows	3.3.4.13.1	Official Website
	TopVPN-Client	MacOS	3.3.0.38.3	Official Website
	TopSAP	Android	3.5.3.21.4	Official Website
	TopSAP	iOS	3.5.2.22.5	App Store
Ruijie	SSLVPN客户端	Windows	3.5.30.0	School Website
	Ruijie_VPN	MacOS	1.0.94	School Website
	SSL安全连接	Android	4.0.1	School Website
	VPNConnect	iOS	3.1.6	App Store
Enlink	Enlink	iOS	1.4.3	App Store
EnAgent	EnAgent	Windows	1.2.0.0001	School Website, updated in app
	EnAgent	Mac	1.2.2 (16)	App Store
	EnApp	Android	1.2.2.0005	School Website
	EnApp	iOS	1.4.3	App Store
SonicWall ConnTunn	Connect Tunnel	Windows	12.4.1.1026	Official Website
	Connect Tunnel	Mac	12.4.1.01026	Official Website
SonicWall MobConn	SonicWall Mobile Connect	Mac	5.0.8	App Store

SonicWall NetExt CP EndSec	SonicWall Mobile Connect	Android	5.0.17	Google Play
	SonicWall Mobile Connect	iOS	5.0.9 (5052)	App Store
	SonicWall NetExtender	Windows	10.2.315	Official Website
	Check Point Endpoint Security VPN	Windows	E86.10 (986103610)	Official Website
CP CapConn	Endpoint Security VPN	Mac	E84.70 (986200225)	Official Website
	Check Point Capsule VPN	Android	1.600.78	Google Play
CP CapWork	Check Point Capsule Connect	iOS	1.600.86	App Store
	Check Point Capsule Workspace	Android	8.1.0.395	Google Play
DPTech	Check Point Capsule Workspace	iOS	1010.1	App Store
	Safe Connect	Windows	9.1.17.0	School Website -> Official Download
	SafeConnect	Mac	9.1.6.0	School Website -> Official Download
	SafeConnect	Android	9.1.14.0	Official Download
Huawei Anyoffice	SafeConnect	iOS	9.1.8.0	Official Download -> Update in App
	Huawei SSL VPN	Windows	3.1.2.79	School Website
	SVNClient	Mac	3.1.2.38	School Website
	/	Android	/	/
Huawei Seco	AnyOffice Agent	iOS	2.5.0501.0250	App Store
	SecoClient	Windows	7.0.2	School Website
	secoclient	Mac	7.0.2.26	School Website
	SecoClient	Android	5.0.2.13	School Website
UniVPN	SecoClient	iOS	7.0.6	App Store
	UniVPN	Windows	10781.2.555.0330	Official Website
	UniVPN	Mac	10781.2.549.0329	Official Website
	UniConnect	Android	1.0.1	Google Play
Clavister OneConn	UniConnect	iOS	1.0.0	Official Website
	Clavister Oneconnect	Windows	3.3.2	Microsoft Store
	Clavister Oneconnect	Mac	3.1.3 (33)	App Store
	Clavister Oneconnect	iOS	3.1.1	App Store
Clavister OneConn Classic Hillstone	Clavister Oneconnect Classic	Mac	2.0.2	App Store
	Hillstone Secure Connect	Windows	1.4.9.1283	Official Website
	SCVPN	Mac	1.1.9	Official Website
	Hillstone Secure Connect	Android	4.6	Official Website
H3C	HSAccess	iOS	2.0.6	App Store
	iNode Client	Windows	7.3 (E0538)	School Website
	iNodeClient	Mac	7.3 (E0583)	Official Website
	iNode	Android	7.3.28	Official Website
WeGuardia OpenVPN	iNode-SSL	iOS	7.3.25	App Store
	WeGuardia SSLplus	Windows	2.1	School Website
	OpenVPN Connect	Windows	3.3.4 (2600)	Official Website
	OpenVPN Connect	MacOS	3.3.5 (4310)	Official Website
OpenVPN GUI Forcepoint	OpenVPN Connect	Android	3.2.7 (7957)	Google Play
	OpenVPN Connect	iOS	3.2.3 (3760)	App Store
	OpenVPN GUI	Windows	11.26.0.0	Official Website
	Forcepoint VPN Client	Windows	6.6.1.6606	School Website
V5	Forcepoint NGFW VPN Client	MacOS	2.0.2.1017	School Website
	Forcepoint SSL VPN Client	Android	2.0.3.1023	Google Play
	V5VPN	Windows	5.3.3.36	School Website, updated in software
	PowerVPN	MacOS	1.1.0 (1108)	School Website
Qianxin	TrustAccess	iOS	2.5.1	App Store
	TrustAccess	Android	2.1.10	Third-party App Store
	Qianxin VPN	Windows	0.0.7.2	Official Website
	QianxinVPN	MacOS	5.6.9 (15)	Official Website
ZyXEL	Qianxin VPN	Android	v774 (2011091453)	Official Website
	QianxinVPN	iOS	5.0.7	Official Website
	ZyWall SecuExtender	Windows	4.0.4.0	Official Website
	ZyWall SecuExtender	Mac	1.2.4	Official Website
AhnLab	AhnLab TrusGuard SSL VPN	Windows	2.7.5.1	School Website
Barracuda CloudGen	CudaLaunch	Windows	2.6.4 (Build 1378)	Microsoft Store
	CudaLaunch	MacOS	2.6.4 (Build 1378)	App Store
	CudaLaunch	Android	2.6.4 (Build 1378)	Google Play
	CudaLaunch	iOS	2.6.2 (Build 1342)	App Store