MSD IT Services



Making a secure Remote Desktop Connection to your Work Windows 10 Desktop PC Using the MSD ITS VPN Service and a Windows, Mac OS X, or Linux Remote Desktop

MSD IT Services

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05/02/2020

MSD IT Services February 2020

Contents

Introduction			1
	Backgro	ound	1
	Connec	ctions covered in this document	1
	Brief ov	verview of the procedure	1
	Before	you begin - Requirements for all 3 types of connections mentioned above	1
1. Enabling Re	mote De	sktop Connection on your Work Windows PC	3
2. Remote/Ho	me Wind	lows 10 PC set up	5
	Part A:	Setting up the VPN software	5
	Part B:	Setting up the Remote Desktop software and connecting	7
	Part C:	Disconnecting from your Work Desktop PC 1	.2
3. Remote/Hor	ne Apple	e Mac OS X PC set up1	.3
	Part A:	Setting up the VPN software1	.3
	Part B:	Setting up the Remote Desktop software and connecting1	.6
	Part C:	Disconnecting from your Work Desktop PC 1	.7
4. Ubuntu 14.0	4 Home	PC set up 1	.8
	Part A:	Setting up the VPN software1	.8
	(i)	Native VPN Client 1	.8
	(ii)	The Cisco AnyConnect Secure Mobility Client 2	21
	Part B:	Setting up the Remote Desktop software and connecting 2	23
	Part C:	Disconnecting from your Work Desktop PC 2	27

Introduction

Background

Medical Sciences Division IT Services (MSD IT) implements a security policy to protect the IT infrastructure of the University's Medical Sciences Division from unauthorised use and intrusion. As part of the security measures, MSD IT operates network filters, which block access to the MSD IT network on certain ports.

Those wishing to access their office (or lab) computer can do so via 'Windows Remote Desktop', having first established a connection to MSD IT's Virtual Private Network (VPN) service.

Connections covered in this document.

- (a) Remote Windows PC to a Work Desktop Windows
- (b) Remote Macintosh PC to a Work Desktop Windows
- (c) Remote Ubuntu Linux PC to a Work Desktop Windows

Brief overview of the procedure

The procedure to connect to your Work Desktop PC from your Home PC requires the following steps; they are, after connecting your Home PC to your own internet connection:

- 1. Make a connection to your local (home) network
- 2. Make a Virtual Private Network (VPN) to the MSD IT Services VPN service.
- 3. Make a Remote Desktop Protocol (RDP) connection to your Work Desktop PC.

Before you begin - Requirements for all 3 types of connections mentioned above

These requirements are needed **<u>BEFORE</u>** you attempt to access your Work Desktop PC from your Home machine. You will need:

• An MSD IT network account (aka 'Novell login account')

- A Virtual Private Network client for your local (Home) operating system (recommended client software):
 - Windows PCs: The University of Oxford's IT Services Virtual Private Network (Cisco AnyConnect VPN) client.
 - Macintosh PCs: The Apple OS X native VPN client
 - **Ubuntu PCs:** Either the University of Oxford's IT Services Virtual Private Network (Cisco AnyConnect VPN) client, or the native VPN client.
- You will also need to know the IP address of your Work PC; if you don't know this, contact MSD IT Services
- Your work computer must be switched on

<u>Please Note:</u> The following step <u>MUST</u> be completed on your Work PC <u>BEFORE</u> you attempt to connect to it from your Home PC.

1. Enabling Remote Desktop Connection on your Work Windows PC

• In Windows 10, right click on 'Start' icon, & select 'System':



• Select 'Remote Desktop' from the left hand column:



• Set 'Enable Remote Desktop' on. :

Settings		- 🗆 X
டு Home	Remote Desktop	
Find a setting	Remote Desktop lets you connect to and control this PC from a	Do you have a question?
System	remote device by using a Remote Desktop client (available for Windows, Android, iOS and macOS). You'll be able to work from another device as if you were working directly on this PC.	Setting up remote desktop Get help
🖵 Display	Enable Remote Desktop	
4)) Sound		Give us feedback
Notifications & actions	Keep my PC awake for connection when it is plugged in Show settings	
 J Focus assist 	Make my PC discoverable on private networks Show settings	
() Power & sleep	device	
🖽 Battery	Advanced settings	
□ Storage	How to connect to this PC	
B Tablet mode	Use this PC name to connect from your remote device: imspc34	
目† Multi-tasking	Don't have a Remote Desktop client on your remote device?	
Projecting to this PC		
% Shared experiences	User accounts	
🛱 Clipboard	Select users that can remotely access this PC	
> Remote Desktop		
① About		

• Click on 'Advanced settings' & tick the box 'Requires computers to use Network Level Authentication.....'

← Settings	-		1	×
Configure Network Level Authentication	Do you have a question Get help	?		
Require computers to use Network Level Authentication to connect (recommended)	ulaka Windows hottor			
Why allow connections only with Network Level Authentication?	Sive us feedback			
External connections				
Learn how to allow remote connections from outside your local network				
Remote Desktop port				
Current Remote Desktop Port 3389				
Learn how to change the listening port for Remote Desktop				

• Close the Settings panel & your work PC is now configured for Remote Desktop Access.

The next section deals with configuring your Home or remote PC to access your Work PC via the MSD IT VPN service.

2. Remote/Home Windows 10 PC set up

Part A: Setting up the VPN software

• If you have not already done so, download and install the Cisco AnyConnect VPN Client from the University of Oxford IT Services Registration Pages at:

https://register.ox.ac.uk

Log in with your Single Sign On (SSO) username/password and select 'Software', then 'VPN Client' from the links provided. Download the Windows 10 client and install it; this client is preconfigured for use with the University of Oxford VPN Service but you must use the MSD IT VPN service for RDP sessions.

• Once installed, start the Cisco AnyConnect VPN Client:

Start> Cisco > Cisco AnyConnect Secure Mobility Client

• Make sure the 'Ready to connect' box contains:

vpn.medsci.ox.ac.uk

...as shown:



... then click on 'Connect'.

• Following your first successful connection the login panel will look like this:



- There is no need to over type the address.
- Next enter your Novell account details in the 'Username:' and ' Password:' boxes provided:

S Cisc	o AnyConnec Please enter Group:	t MSD IT your userr MSD	Services N	VPN password.	×	×	Cisco Any	Connect Sr	ecure Mobility Client		×
	Username: Password:		OK		Cancel			VPN: Please	enter your username and p	password.	ect
						K	≱ (i)				
x 🛛 🔼	a 🥰	Ŷ	В		2	Ý	\$				13:28 04/02/2020

... then click 'OK'

Once a successful connection has been made, the VPN Client will minimise itself to the System Tray (bottom right hand corner of the desktop.)

Part B: Setting up the Remote Desktop software and connecting

• From the Start menu, find **Windows Accessories** and then **Remote Desktop Connection**:



Tip: You may like to pin this to your task bar, by a right click on the item & then select more & Pin to task bar:

	Math Input Panel	-⇔ Pin to Start	Minne & False	C	le Chrome	Firefox	Client Deskto
	Notepad	More		>	-⇔ Pin to	taskbar <	
9	Paint	Recent			🕞 Runa	s administrator	
	Print 3D	129.67.6.16			🛛 Open	file location	//
r. 📮	Quick Assist	129.67.6.5					
	Remote Desktop (
🖾 🧕	Snipping Tool						
ø 🗖	Steps Recorder						
<u>م</u>	Windows Fax and	Scan					
	Windows Media P	laver					

• In the pop panel select: **'Show <u>Options'</u>** in the bottom left hand corner

Nemote	Desktop Connection	—		×
	Remote Desktop Connection			
<u>C</u> omputer: Usemame:		~]	
You will be a	sked for credentials when you cor	Connect	н	alo
Super Strow 2	puons	Colluect	<u> </u>	eih

• Type in the IP address of your work computer (e.g. '129.67.155.131') and your MSD Network username, then click Connect

Remote Conn	e Desk ectio	top n			
lay Local	Resources	Experience	Advanced		
gs					
nter the nam	ne of the ren	note computer			
omputer:	129.67.1	55.131		~	
semame:	your-msd-	usemame			
ou will be as	ked for crea	dentials when	you connect	t.	
Allow me t	o save crec	lentials			
ettings					
ave the cum aved connec	ent connec ction.	tion settings to	an RDP file	or open a	3
Save		Sa <u>v</u> e As	(Op <u>e</u> n	
	Inter the name omputer: Isemame: Isemame: Isemame: Isemame: Isettings Isettings Isettings Isettings Isettings Isettings Isettings Isettings Isettings Isettings Isettings	Iday Local Resources Iday Local Resources Iday Local Resources Iday Id	alay Local Resources Experience inter the name of the remote computer inter the name of the remote computer iomputer: 129.67.155.131 isemame: your-msd-usemame iou will be asked for credentials when settings Allow me to save credentials settings ave the current connection settings to aved connection. Save Save As	alay Local Resources Experience Advanced igs inter the name of the remote computer. iomputer: 129.67.155.131 isemame: your-msd-usemame iou will be asked for credentials when you connect Allow me to save credentials settings ave the current connection settings to an RDP file Save Save As	play Local Resources Experience Advanced ings Advanced inter the name of the remote computer. iomputer: 129.67.155.131 ~ isemame: your-msd-usemame iou will be asked for credentials when you connect. Allow me to save credentials settings aved connection. Opgn

• You should then receive a message like this:

5	Remote Desktop Connection 🛛 – 🗆 🛛 🛛
•5	Remote Desktop Connection
٢	The identity of the remote computer cannot be verified. Do you want to connect anyway?
The re securit	mote computer could not be authenticated due to problems with its y certificate. It may be unsafe to proceed.
Certif	ficate name
-	Name in the certificate from the remote computer: imspc47
Certif	ficate errors
The	following errors were encountered while validating the remote puter's certificate:
Â	The certificate is not from a trusted certifying authority.
Do you	u want to connect despite these certificate errors?
	nt ask me again for connections to this computer
Viev	v certificate

- Tick the box 'Don't ask me for connections to this computer' and then click 'Yes'.
- If you left your username logged in to your work PC, you will then be presented with the following:



• Again select 'Yes' and you will finally be connected to your Work PC:



- If you hadn't left your remote computer logged in and you need access to your network drives, you can now log into the network
- If you see a large letter 'N' in the system tray:



• If you don't see the 'N' in the system tray, click on the caret



• Then right click-on the 'N' & click on 'OES Login...'



• You can then log in to see your network drive:



Part C: Disconnecting from your Work Desktop PC

• Close down the RDC session (do not 'Shutdown' or 'Log off' from your Work PC - unless this is actually what you want to do), simply click on the 'X' on the top central panel of the RDP Screen, titled with your Work PC's IP address, e.g.:

-129.67.155.131 a x

• Now close the VPN Session; in the System tray locate the Cisco AnyConnect icon, right click on it and select 'VPN Disconnect':





This will end your VPN session.

3. Remote/Home Apple Mac OS X PC set up

Part A: Setting up the VPN software

• To configure the Apple OS X native VPN client, from **System Preferences** (either from the Dock or the Apple Menu) select **Network**:



• In the Network Control Panel click on the '+' symbol in the lower left hand corner to add a new network connection:

Connected	«··»	Status:	Not Connected	
Wi-Fi Connected			None of the member connected. Click Adv	interfaces are anced for details.
USB Githerne Not Connected	et	Configure IPv4:	Using DHCP	\$
FireWire	14 C	IP Address:		
Bluetooth PAN		Subnet Mask:		
Not Connected		Router:		
Thundt Bridg	e	DNS Server:		
NOE CONNECTED		Search Domains:		
Not Connected	(000)	Search Domains:		
				Advanced

- 000 < > Network Select the interface and enter a name for the new service. Interface 🗸 Thunderbolt Bridge • Ethernet Thunderbolt 1 Service Name Bluetooth PAN onnected FireWire Wi-Fi FireWire Ethernet • Wi-Fi ¢ PPPoE Bluetooth PAN * 6 to 4 $\langle \cdots \rangle$ Router: DNS Server: Search Domains Advanced... ? + - ** Assist me... Revert Apply
- From the pull down 'Interface:' list, select VPN:

• Then from the 'VPN Type:' list select 'Cisco IPSec' and give the service a name (in the example below, 'MSD IT Services VPN'), then click the 'Create' button.

Interface:	VPN
VPN Type:	Cisco IPSec
Service Name:	MSD IT Services VPN

• You will now see the new service in your list of Network services (shown below as 'MSD IT Services VPN Not Connected'):

Loca	tion: Automatic ᅌ	
Ethernet Connected FireWire Not Connected Wi-Fi	Status: Not Connected	
Bluetooth PAN Not Connected MSD ITice VPN Not Connected	Server Address: Account Name: Password: Connect on demand Authentication Setting: Connect	
+ - &-	Show VPN status in menu bar	Advanced

- It now needs to be configured for access. Click on the 'Authentication Settings...' button; you will see the screen below, in the 'Shared Secret:' box enter: Medicine
- in the 'Group Name:' box enter: MSD

Shared Secret:	
Certificate S	elect
Group Name:	MSD

... then click 'OK'

• Next make sure you enter:

vpn.medsci.ox.ac.uk

in the 'Server Address:' box

• You can also add your MSD IT Services Novell username; we would **NOT** recommend adding your password at this stage.

	Location.	Automatic	<u> </u>
Ethernet Connected FireWire Not Connected Wi-Fi	<>	Status:	Not Connected
Off Bluetooth PAN Not Connected Thundet Bridge Not Connected MSD ITice VPN Not Connected		Server Address: Account Name: Password:	vpn1.imsu.ox.ac.uk msdit_username Connect on demand Authentication Settings Connect
+ - &-		Show VPN status in	n menu bar Advanced ?

• Tick the box 'Show VPN Status in menu bar'. Once all these changes are made click on the 'Apply' button to save them. You will now see a new icon in the Status Menu bar (near the top right) as shown below:



• You can use this to pull down the options menu to select 'Connect', once connected successfully a counter to the right of the icon may start counting up the connection time, if you have enabled this option.

Part B: Setting up the Remote Desktop software and connecting

• Open 'Remote Desktop Connection' either from the Dock or via Go > Applications > Remote Desktop Connection, and in the 'Computer:' box type the IP address of your work PC (we will use '129.67.155.131' as an example here) as shown below:



• You will then be presented with another dialog:

Enter your creden	tials
These credentials	will be used to connect to 129.67.143.54.
User name:	msdit_username
Password:	
Domain:	129.67.155.131
	Add user information to your keychain
	Cancel

• Enter your Novell User name and Password (leave the domain field blank) and click 'OK.'

You should now have a Remote Connection to your work desktop:



Part C: Disconnecting from your Work Desktop PC

• To disconnect the remote connection, simply close RDC.



• Now click on the VPN icon in the Apple Menu and select 'Disconnect'



You are now disconnected from your Work PC.

4. Ubuntu 14.04 Home PC set up

This guide has been compiled using Ubuntu 14.04 'Trusty Tahr'; other flavours of Ubuntu (and indeed linux) may vary.

Ubuntu offers the opportunity to use an inbuilt (with a plugin installation) VPN Client or the Cisco AnyConnect VPN Client. We deliberately skirt the issue of installation of the AnyConnect Client here and recommend using the native VPN client on 64-bit Ubuntu - unless you find solving multiple dependency issues an enjoyable challenge.

Part A: Setting up the VPN software

(i) Native VPN Client

• Firstly you need to install the native Ubuntu Cisco Compatible VPN 'plugin.' Go to the Ubuntu Software manager, type in vpnc and highlight 'Cisco-compatible VPN Client' and select 'Install'

🍘 🗇 🕫 Ubuntu Software Centre	
All Software Installed History Progress	Q, vpnc (图
All Software	By Relevance 💌
Image: Second	
More Info	Install
KVpnc 大学会会(8) GUI for various VPN clients	

If you can't find this in the Ubuntu Software manager, open a terminal and type

sudo apt-get install network-manager-vpnc

and press Enter. Provide your password when prompted and allow apt-get to install the necessary software.

• Once installed, go to the Network Manager near the top right hand corner (the \hat{T} , icon) and select 'VPN Connections' then 'Configure VPN':



• Then from the Network Connection box click 'Add' and from the drop-down box scroll down to 'Cisco Compatible VPN (vpnc)' and select it:

Ethernet	Last Used +	Add		
▶ Wi-Fi		Delete		
		_		
		Close		_
Choose	a Connection Type			
Select the	type of connection you v	vish to create.		
If you are appear in	creating a VPN, and the V the list, you may not have	PN connection yo the correct VPN	u wish to create do plugin installed.	oes not
Ethern	et			~

• Once selected click on the 'Create' button to configure the client:

Name	Last Used 🔺	Add		
Ethernet Wi-Fi		Edit Delete		
		Close		
2 Choose	a Connection Type			
Select the	type of connection you	wish to create.		
If you are appear in t	creating a VPN, and the the list, you may not hav	VPN connection y e the correct VPM	ou wish to create does not I plugin installed.	
Cisco C	Compatible VPN (vpnc)			Ŧ
Compatibl	e with various Cisco, Juni	iper, Netscreen, a	nd Sonicwall IPsec-based VPN	1

• In the Connection Name field enter something like 'MSD ITS VPN'; for the other boxes:

Gateway:	= vpn1.imsu.ox.ac.uk
User name:	= Your MSD IT Novell username
User password:	= Leave blank
	(select 'Always Ask' from the menu options)
Group name:	= MSD
Group password:	= Medicine
	(select 'Save' from the menu options)

🛛 🖨 🖪 Editing VP	N connection 1		
Connection name:	VPN connection 1		
General VPN IP	4 Settings		
General			
Gateway:			
User name:			
User password:			Always Ask 🔻
Group name:			
Group password:			Always Ask 🔻
	Show passwords		
🗌 Use hybrid au	thentication		
CA File:	(None)	P	
			Advanced
Export		Ca	ancel Save

- Then click 'Save' and close all the windows
- To connect, select the VPN Service you created from the list in the Network Manager in the top right hand corner; you will be asked to enter your MSD ITS Network/Novell account password, as shown below:

8 🔿 🖌	Authenticate	VPN
R	You need to Virtual Priv	authenticate to access the ate Network 'MSD ITS VPN'.
	Password:	
		Show passwords
		Cancel OK

• Once this is done you should now have established a VPN connection to the MSD Network.

(ii) The Cisco AnyConnect Secure Mobility Client

• If you have not already done so, download and install the Cisco AnyConnect VPN Client from the University of Oxford IT Services Registration Pages at:

https://register.ox.ac.uk

Log in with your Single Sign On (SSO) username/password and select 'Software', then 'VPN Client' from the links provided. Download the 'Client for Linux' and install it; this client is preconfigured for use with the University of Oxford VPN Service but must use the MSD ITS VPN service for RDP sessions

• Once the Cisco AnyConnect VPN Software has been downloaded and installed, start the Cisco VPN Client from the Ubuntu Search Box:



Hint: Right click on the Cisco Icon and select 'Lock to Launcher' for future use.



• Once started up, you can configure it as you would the Windows and Mac versions, as shown below:

Connection	Statistics	🔒 About	
	ciso	() CO	
Connect to:			•
	th Con	nect	

• Enter **vpn1.imsu.ox.ac.uk** in the 'Connect to:' box:



• Then enter your Remote Access Account username and password in the appropriate boxes and click 'Connect'.

& connection	U Statistics	Hout Hout		
		ilia 👘		
	CIS	co		
Connect to:	vpn1.imsu.ox.ac	uk	•	00
Group:	ISD			
Username:				
Password:				

• Once a successful connection has been made, the client will minimise itself to the Launcher. To check your 'Connection Status', click on the 'Cisco AnyConnect Secure Mobility Client'



• You can then see the connection details as shown below:



Part B: Setting up the Remote Desktop software and connecting

- Install (if not already present) the Remote Desktop software called 'Remmina' This can be done from the 'Ubuntu Software Centre'
- Once installed, from the Ubuntu Search box type:

Remmina

and click on the 'Remmina Remote Desktop Client' application icon:



This will open Remmina in the Launcher

(Tip: Right Click on the Remmina icon and select 'Lock to Launcher' for later use)



• Once Remmina is open on the desktop, click the 'Create a new remote desktop file' button (the icon with a green + symbol):

😣 🖨 🗊 Remmina Remote D	esktop Client
	*
Create a new remote desktop file	Server
Total 0 items.	

• On the 'Basic' tab:

lame *	Group Se	rver	
1	©⊜© Rem	ote Desktop Preference	
	Profile		
	Name	Quick Connect	
	Group	*	
	Protocol	💠 RDP - Remote Desktop Protocol 🔹 👻	
fotal O	Basic Server User name Password	Advanced @_SSH	
	Domain		1
	Resolution	Use client resolution Custom 640x480	
	Colour dept	h 256 colours (8 bpp)	
	Share folder	(None)	

... give the Profile a name like 'Work Desktop' and fill in the fields as shown below:

Server:	IP address of your Work PC
User name:	Your MSD IT Network/Novell username

Alama D	Mark Decktor			-	
Name	work Desktop	,			
Group				Ŧ	
Protocol	RDP - Remote Desktop Protocol				
Basic 🔒 A	dvanced 🧠	SSH			
Server	129.67.155.131)	
User name	msdit_user	msdit_username			
Password)	
Domain)	
Resolution	O Use client resolution				
	O Custom	1280x960	*].	•	
Colour depth	True colour	True colour (32 bpp)			
Share folder	(Nor	ne)	-		

• In the 'Advanced' tab you can change the video Quality setting, from fastest to slowest as necessary:

ofile	
Name	Workdesktop
Group	
Protocol	🚸 RDP - Remote Desktop Protocol 🔹
Sound	Medium Good
Security	Best (slowest)
Client name	2
Start-up pro	ogram
Startup pat	h

• Click on the 'Connect' button and enter your MSD IT Services Network/Novell Account password. The very first time you connect you will see a dialog similar to the one below:

001011			
8 🔵 Co	onnecting to '	'WorkDesktop'	
R	Certificate D Subject: Issuer: Fingerprint:	Details: CN = imsvpc2k CN = imsvpc2k ef:35:93:1d:ef:ab:06:ce:c6:e7:58:0e:1d:81:a2: Accept o Cancel	68:e6:c2:a9 Certificate? OK
R	Certificate D Subject: Issuer: Fingerprint:	Details: CN = imsvpc2k CN = imsvpc2k ef:35:93:1d:ef:ab:06:ce:c6:e7:58:0e:1d:81:a2: Accept o Cancel	68:e6:c2:a9 Certificate? OK

- Click OK
- If you left your username logged in to your work PC, you will then be presented with the following:



• Click 'Yes' and your Remote (Work PC) Desktop will be displayed.



Part C: Disconnecting from your Work Desktop PC

• To disconnect simply click on the X on the tab for the name you saved the connection as (in this case 'Work Desktop'):



• Then disconnect the VPN Connection, either via the Network Manager > VPN Connections > Disconnect, or via the Cisco AnyConnect client, whichever was used.

The MSD IT Services Team.