

## Updating the VPN certificate on Terrameter LS and LS 2

To update the VPN certificate on an ABEM Terrameter LS or LS 2 the following things are needed

1. A network connection between the instrument and your PC
2. Latest version of Terrameter LS Toolbox installed on your PC
3. The VPN certificate update file

### References and links

Link for ABEM Terrameter LS Toolbox download:

[https://www.guidelinegeo.com/wp-content/uploads/2018/09/TerrameterToolbox\\_Setup2.0.1.107.zip](https://www.guidelinegeo.com/wp-content/uploads/2018/09/TerrameterToolbox_Setup2.0.1.107.zip)

Link to ABEM Terrameter LS Toolbox User Manual:

<https://www.guidelinegeo.com/wp-content/uploads/2016/03/ABEM-Terrameter-LS-Toolbox-v2.0.1-User-Manual-1.pdf>

Link to ABEM Terrameter LS User Manual:

<https://www.guidelinegeo.com/wp-content/uploads/2016/03/User-Guide-Terrameter-LS-2016-03-14-1.pdf>

Link to ABEM Terrameter LS 2 User Manual:

<https://www.guidelinegeo.com/wp-content/uploads/2017/08/Terrameter-LS-2-User-Manual-2017-08-14-1.pdf>

Link to VPN certificate update file

[https://www.guidelinegeo.com/wp-content/uploads/2019/11/LS\\_VPN\\_update.tar](https://www.guidelinegeo.com/wp-content/uploads/2019/11/LS_VPN_update.tar)

## Setting up a network connection between the instrument and your PC

There are multiple ways to connect the instrument and a PC using a network connection. For full details on how to connect an instrument with a PC please see Terrameter LS and LS 2 User Manual chapter 4.2 and Terrameter LS Toolbox User Manual chapter 4.1

### By Ethernet cable (LS and LS 2)

There are two network modes to be chosen from, “client” and “server” mode. For both modes it is recommended that the Ethernet cable is connected only after the instrument has been powered on and the correct network mode has been activated.

#### Client mode

In client mode the Terrameter LS is connected to an existing home or office network that has a router or server supplying connected clients with IP addresses. This is the most common mode to use and, in many cases, also the easiest.

Activate the client mode from the Network view by setting “DHCP server for standalone network” to “OFF” for Terrameter LS, and “Network mode” to “LAN Client” for Terrameter LS 2. Then connect the instrument to the network using a standard Ethernet cable. The IP address will be shown on the Welcome screen and in the Network view.

#### Server mode

If no home or office network is available, or if the available network does not automatically provide IP addresses to connected clients, it is possible to use the instrument’s network server mode. The instrument will then act as a router/server and supply an IP address to clients (e.g. your PC) connected to the instrument.

Activate the server mode from the Network view by setting “DHCP server for standalone network” to “ON” for Terrameter LS, and “Network mode” to “LAN Server” for Terrameter LS 2. The instrument needs a little bit of time to initialize the server mode and when ready it will show an IP address starting with *192.168.23.xx* in the Network view and at the Welcome screen. If an IP address has not been shown in a minute go to a different view in the menu and then back to the Network view or Welcome screen. If an IP address is still not available restart the instrument and repeat the process.

Only once the IP address is shown should you connect the PC to the instrument. Use a standard Ethernet cable and connect the PC directly to the instrument. Do not connect the two devices through a hub, switch or other network device.

**Note:** If your PC has a Wi-Fi network card it is recommended to disconnect from any Wi-Fi network or temporarily disable the Wi-Fi network card. If not, the PC may try to communicate with the instrument through Wi-Fi rather than the Ethernet cable, which will not work.

### **By Wi-Fi (only LS 2)**

The Wi-Fi mode works in the same way as the Server mode only without cables. The Terrameter LS 2 will act as a wireless access point to which clients can connect. It can be convenient to use as no cables are needed and the PC can be at a distance from the instrument.

Activate Wi-Fi mode from the Network view by setting “Network mode” to “Wifi Access Point”. The access point needs to be initialized, which can take a couple of minutes, so be patient. Once initialized and ready it will show an IP address starting with *192.168.1.xx* in the Network view and at the Welcome screen.

The Terrameter LS 2 will create a wireless network with the same SSID as the instrument serial number, e.g. “LS216080369”. The password for the Wi-Fi is “TerrameterLS2” (case sensitive).

## Updating the VPN certificate using Terrameter LS Toolbox:

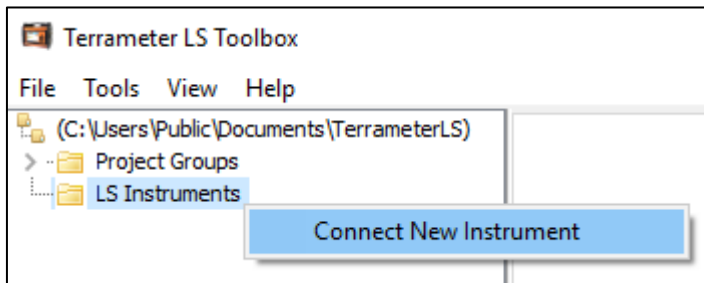
Download the VPN certificate update file (“LS\_VPN\_update.tar”) to a temporary folder.

Download and install LS Toolbox. Then start the software; it is advisable to “run as administrator”.

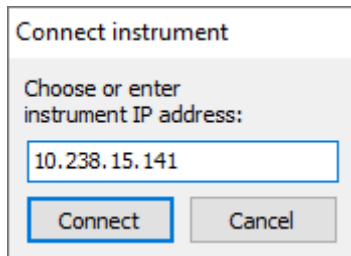
Make sure that the instrument is connected either directly to the PC (Server or Wi-Fi mode) or to the same network as the PC (Client mode).

### In Terrameter LS Toolbox follow these steps:

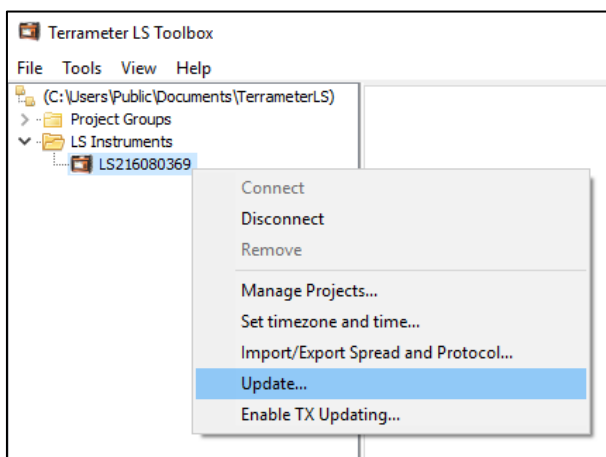
1. Right click on the “LS Instruments” folder, then select “Connect New Instrument”



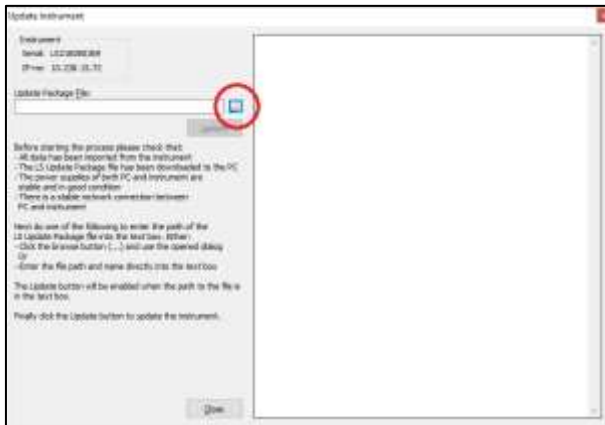
2. Enter the IP address to the instrument and press “Connect”



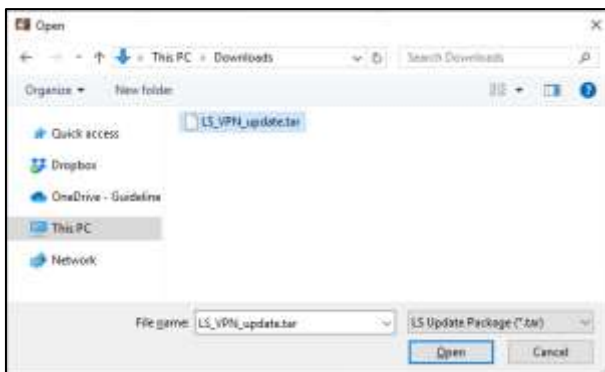
3. In the folder “LS Instruments” there should be an LS icon with your instrument’s serial number, right click it and then select “Update”



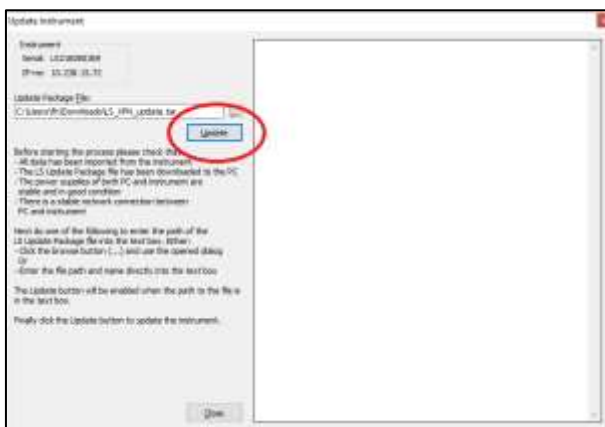
4. Press the button labeled “...” to select the file to use for the update



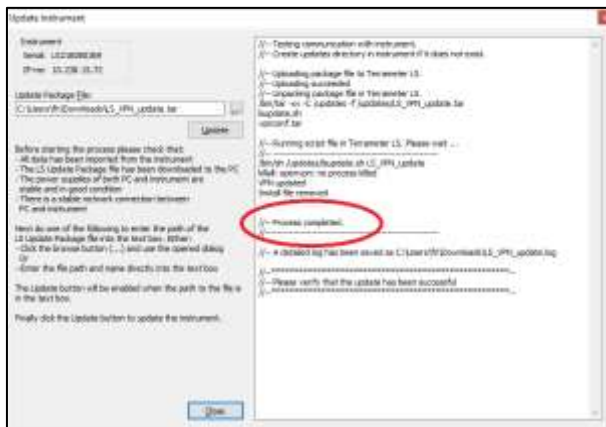
5. Browse to the folder where you downloaded the VPN certificate update file, select it and press “Open”



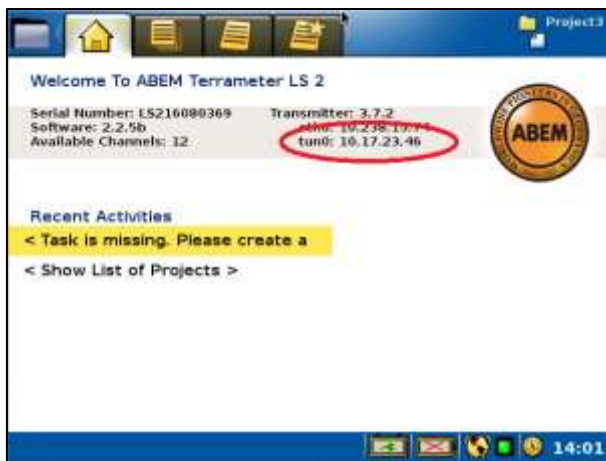
6. Press the “Update” button



- As the update process starts text will be added continuously to the right section of the Update dialogue. Once finished, "Process completed" will be displayed.



- After the installation is finished the instrument will automatically reboot
- When the instrument has booted it will show the Welcome screen. If an internet connection is available it should now show a tunnel VPN address starting with 10.17.23.xx



**Note:** if Server mode or Wi-Fi mode has been used the instrument will not have an internet connection and subsequently can not get a VPN tunnel address. Connect the instrument to a network with an internet connection to verify that the VPN works correctly. Remember to change to the correct network mode on the instrument.