

How to deal with the effects of CVE-2018-0886

Restore Remote Access to R&S instruments

V 2.10 Document date: 26.06.2018

This document describes possible ways to access R&S instruments after the security vulnerability CVE-2018-0886 is patched on your host PC but not on the R&S instrument or vice versa.

It is important to mention that the access procedure changes for the remote desktop if the client side has the current patches installed (see section 2 for details).

Please refer to the Microsoft article for more details in regards to the vulnerability:

<https://portal.msrc.microsoft.com/en-us/security-guidance/advisory/CVE-2018-0886>

Inhalt

1	Check Applicable Instruments.....	2
2	Changes When Using Remote Desktop.....	3
3	Remote Access to R&S Instruments (Web or VNC).....	4
3.1	Instruments with Web control	4
3.1.1	To access the R&S instrument via the web browser interface	4
3.1.2	To exchange files with the R&S instrument	4
3.2	Instruments without Web control	5
3.2.1	Operation with a VNC Client	5
4	WSUS on your R&S instrument	7
4.1	Windows 7	7
4.2	Windows 8	7
4.3	Windows 10	7
5	Customer Support.....	8

1 Check Applicable Instruments

The following table shows an overview of affected instruments and the possible operating systems.

Device	Windows Embedded 7 SP1 32-bit	Windows Embedded 7 SP1 64-bit	Windows 8 32-bit	Windows 10 IoT Enterprise LTSB
ETL			X	
ESR	X			X
ESRP	X			X
ESW		X		
FPL1000				X
FPS		X		
FSV	X			
FSVA	X			
FSVR	X			
FSW		X		X
FSWT		X		
FSWP		X		X

When getting remote access to the above listed instruments, **no action** is required if:

- You are using VNC to access your device. See chapter 2 on how to use VNC on applicable devices.
- You are not using remote desktop to access your device.

2 Changes When Using Remote Desktop

The Login behavior changes slightly when connecting to an R&S instrument in case the patch was installed on your PC.

The following instructions guide you step by step on how to use Microsoft remote desktop with the R&S instrument. The changes are highlighted in red.



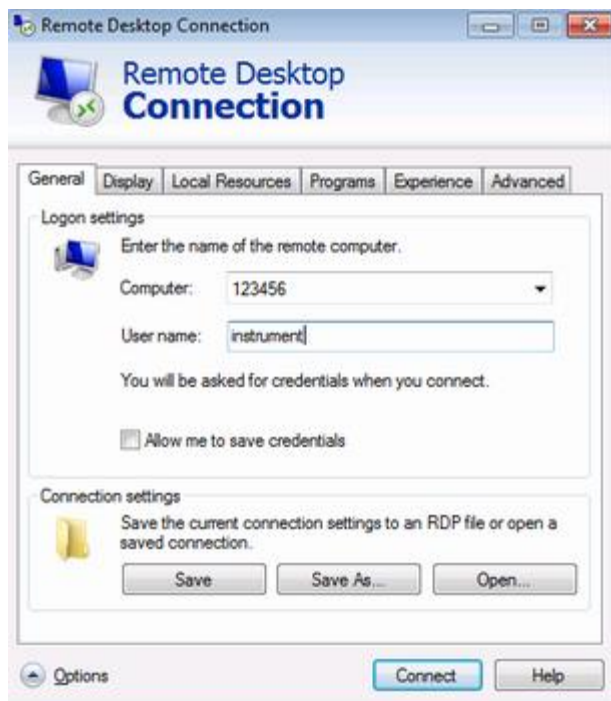
1. Select the "Windows" icon in the toolbar to access the operating system.

2. Locate the "Remote Desktop Connection" link in the "Start" menu.

The "Remote Desktop Connection" dialog box is displayed.

3. Select the "Options >>" button.

The dialog box is expanded to display the configuration data.



4. In the "Computer" field, enter the IP address of the R&S Instrument.

In the "User name" field, enter "\instrument" to log in as an administrator, or "\Normal User" to log in as a standard user. **The previous login mechanism did not require the "** at the beginning of the "User name". **Please note that the "** must be entered only once at the first access to the client instrument after the patch was installed. On subsequent remote access attempts it can be omitted.

Click "Connect" to start the connection and enter 894129 in the password field when prompted to enter the password.

3 Remote Access to R&S Instruments (Web or VNC)

Device	Web Control available	VNC available
ETL		X ¹
ESR		X ²
ESRP		X ²
ESW	X	
FPL1000		X
FPS	X	
FSV		X ²
FSVA		X ²
FSVR		X ²
FSW	X	
FSWT	X	
FSWP	X	

3.1 Instruments with Web control

Via the LXI browser interface to the R&S instrument one or more users can control the instrument remotely from another PC without additional installation. Most instrument controls are available via the front panel simulation. File upload and download between the instrument and the remote PC is also available.

3.1.1 To access the R&S instrument via the web browser interface

1. Start a web browser that supports html5 (W3C compliant).
2. Enter the IP address of the R&S instrument in the browser's address bar.
The R&S instrument's Welcome page is displayed.
3. In the navigation pane, select "Instrument Control > Web Control".
The instrument's display is shown in a new browser window, with a software front panel displayed beside or below it.
4. Use the mouse cursor to access the functionality in the software front panel or in the display as you would directly on the instrument's front panel.

3.1.2 To exchange files with the R&S instrument

You can download files, for example stored measurement data, from the R&S instrument to the remote PC, or upload files, for example limit line definitions, from the PC to the R&S instrument.

1. In the web browser, select the Welcome page window.
2. In the navigation pane, select "Instrument Control" > "File Upload" or "File Download".

¹ Not preinstalled, but can be installed when required (Windows 8)

² Preinstalled for instruments with Windows 7 and Windows 10



The most commonly used folders on the instrument are displayed, for example those that contain user data, as well as the top-most My Computer folder, from which you can access all other folders on the instrument.

3. To download a file from the R&S instrument, select the file from the displayed folders and then select "Download File".
4. To upload a file to the R&S instrument:
 - a) From the displayed folders in the web browser window, select the folder on the R&S instrument to which you want to copy a file.
 - b) Under "File to Upload", select "Browse" to open a file selection dialog box and select the required file on the PC.
 - c) Select "Upload" to copy the file from the PC to the defined folder on the R&S instrument.

3.2 Instruments without Web control

3.2.1 Operation with a VNC Client

Virtual Network Computing (VNC) allows you to control the R&S instrument (the VNC server) from a remote computer (the VNC client), for example to monitor the instruments in a production line. The handling of a VNC system is similar to using the Windows Remote Desktop, but VNC has some advantages compared to the Remote Desktop.

- You can view the contents of the instrument display on more than one client.
- VNC clients are available for many operating systems. Thus, a VNC is independent of the platform you are using.
- You can still control the instrument itself when a remote connection has been established, and see what is happening on both the instrument display and the client. With the display running, you can also change settings both on the instrument and with the client simultaneously. (Using the Remote Desktop turns off the display and viewing the display contents is only possible on the controlling computer.)

- The complete mini soft front panel is available on the client ("Alt-M" opens the mini soft front panel).
- Monitoring real time measurements is possible with the VNC client (this does not work with the Remote Desktop).

All listed instruments support a VNC and are delivered with a version of the TightVNC software. On the client side, you can use a web browser or a VNC client to access the instrument.

3.2.1.1 Using a web browser

If you are using a web browser (for example Microsoft Internet Explorer), enter the IP address of the instrument and the port you are using for the connection into the address bar to establish a connection (for example "192.0.2.0:5800").

The browser then opens an interface that allows you to control the instrument after you have entered the password.

The default port is 5800 and the default password is 894129, but you can change this on the VNC software that comes with the instrument if required.

Note that using a browser requires you to install Java in order to run properly.

3.2.1.2 Using a VNC client

Alternatively, you can install a VNC client on your computer (for example a program like TightVNC) and use that to access the instrument. In that case, start the client and enter the IP address of the instrument to establish a connection.

4 WSUS on your R&S instrument

The following white papers describe how to install Windows updates on R&S instruments:

4.1 Windows 7

[1DC01: Malware Protection II White Paper Windows 7](#)

4.2 Windows 8

[1EB01: Malware Protection Windows 8](#)

4.3 Windows 10

[1EF96: Malware Protection Windows 10](#)

5 Customer Support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz equipment, contact one of our Customer Support Centers. A team of highly qualified engineers provides telephone support and will work with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz equipment.

Up-to-date information and upgrades

To keep your instrument up-to-date and to be informed about new application notes related to your instrument, please send an e-mail to the Customer Support Center stating your instrument and your wish. We will take care that you will get the right information.

Europe, Africa, Middle East

Phone +49 89 4129 12345

customersupport@rohde-schwarz.com

North America

Phone 1-888-TEST-RSA (1-888-837-8772)

customer.support@rsa.rohde-schwarz.com

Latin America

Phone +1-410-910-7988

customersupport.la@rohde-schwarz.com

Asia/Pacific

Phone +65 65 13 04 88

customersupport.asia@rohde-schwarz.com

China

Phone +86-800-810-8828 / +86-400-650-5896

customersupport.china@rohde-schwarz.com