How to Mitigate Vulnerability CVE-2024-38063 on R&S Instruments

Version 1.1 (2024-09-25)

This document describes the procedures to mitigate the security vulnerability <u>CVE-2024-38063</u> on Microsoft Windows-based R&S instruments.

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1 Affected Instruments

The following table shows an overview of affected instruments, with

- X = Disabling IPv6 is recommended
- U = Update has been tested
- n/a = not applicable

Device	Windows 10 IoT Enterprise 1607 LTSB (2016) 32-bit	Windows 10 IoT Enterprise 1607 LTSB (2016) 64-bit	Windows 10 IoT Enterprise 1809 LTSC (2019) 64-bit	Windows 10 IoT Enterprise 21H2 LTSC (2021) 64-bit
CMA180			Х	Х
CMW100CTR			U	U
CMW270, CMW280, CMW290, CMW500, CMWC, CMW-CU			U	
FPS		U		
FPL1000		U		U
EPL1000				U
FSW, FSWP, FSPN, ESW, FSWT		U		U
FSMR3000		U		n/a
FSV, FSVA, FSVR, ESR, ESRP (FMR11)	Х			
FSV3000, FSVA3000		U		n/a
ZNA		Х		U
ZVA			Х	
ZNB		Х	Х	U
ZND, ZNBT		Х		U
ZNL, ZNLE		Х		U
RTP		U		
RTO6		U		
RTO2000		U		
RTE		U		
QAR50			U	

1.1 Other devices not listed above

Please contact the R&S Customer Support.

2 Mitigation Measures

Mitigation can be achieved by either disabling IPv6 or applying the security update.

3 Disabling/Enabling IPv6

3.1 Registry Key

The IPv6 functionality can be configured by modifying the following registry key:

- Location: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip6\Parameters\
- Name: DisabledComponents
- Type: REG_DWORD
- Value:
 - o 0x00 (IPv6 enabled)
 - o 0xFF (IPv6 disabled)

3.2 Command Prompt Instruction: Disable IPv6

- 1. Open Command Prompt as administrator
- 2. Run the following command to disable IPv6:

```
reg add
"HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip6\Parameters
" /v DisabledComponents /t REG DWORD /d 255 /f
```

3. Reboot the device

3.3 Command Prompt Instruction: Enable IPv6

- 1. Open Command Prompt as administrator
- 2. Run the following command to enable IPv6:

```
reg add
"HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip6\Parameters
" /v DisabledComponents /t REG DWORD /d 0 /f
```

3. Reboot the device

4 Applying the Security Update

4.1 Download Updates to USB Flash Drive

Operating System	Update	Download Link
Windows 10 IoT Enterprise 1607 LTSB (2016) 22.bit	<u>KB5041773</u>	https://catalog.s.download.windowsupdate.com/d/msdownload/update/software/secu/2024/08/ windows10.0-kb5041773-x86_297969a6fe4a2a3f545ef49ed0f004944a5ea5e3.msu
32-bit	Prerequisite: KB5041576	https://catalog.s.download.windowsupdate.com/d/msdownload/update/software/secu/2024/08/ windows10.0-kb5041576-x86_68ac33395cfd7e042cf80b21cd131076f25c1572.msu
Windows 10 IoT Enterprise 1607 LTSB (2016)	<u>KB5041773</u>	https://catalog.s.download.windowsupdate.com/c/msdownload/update/software/secu/2024/08/ windows10.0-kb5041773-x64_9d8edb92e5824ddc53e1621da1e59c6f8f6e8455.msu
64-DII	Prerequisite: KB5041576	https://catalog.s.download.windowsupdate.com/d/msdownload/update/software/secu/2024/08/ windows10.0-kb5041576-x64_1a0ef1e10819df75d0cc5503b53caf8c9418f7ca.msu
Windows 10 IoT Enterprise 1809 LTSC (2019)	<u>KB5041578</u>	https://catalog.s.download.windowsupdate.com/d/msdownload/update/software/secu/2024/08/ windows10.0-kb5041578-x64_805a87fa976cf1a634ca916575b7896df7a646e3.msu
64-Dit	Prerequisite: KB5005112	https://catalog.s.download.windowsupdate.com/d/msdownload/update/software/secu/2021/08/ windows10.0-kb5005112-x64_81d09dc6978520e1a6d44b3b15567667f83eba2c.msu
Windows 10 IoT Enterprise 21H2 LTSC (2021)	<u>KB5041580</u>	https://catalog.s.download.windowsupdate.com/c/msdownload/update/software/secu/2024/08/ windows10.0-kb5041580-x64_b3de56748ec2ba6f57af49e58690585ed0c385ec.msu
64-bit	Prerequisite: KB5005260 (pre-installed by default)	https://catalog.s.download.windowsupdate.com/d/msdownload/update/software/secu/2021/08/ ssu-19041.1161-x64_e7e052f5cbe97d708ee5f56a8b575262d02cfaa4.msu

4.2 Boot your device with administrator privileges

Boot your R&S device in an account with administrator privileges. Please refer to the manual of the device for details.

4.3 Determine the operating system

Some instruments are available with different operating system variants. On Windows 10 devices, determinate the specific version of Windows 10 by hitting the Windows-Key (III) and "R" at the same time. Type "winver" into the Run dialog and press <ENTER>.

You should see the Windows Version in the About Windows Dialog:

About Windows X	About Windows X
Windows 10	Windows 10
Microsoft Windows Version 1607 © 2016 Microsoft Corporation. All rights reserved. The Windows 10 Enterprise operating system and its user interface are protected by trademark and other pending or existing intellectual property rights in the United States and other countries/regions.	Microsoft Windows (Version 1809) OS Build 17763.720) © 2018 Microsoft Corporation. All rights reserved. The Windows 10 Enterprise operating system and its user interface are protected by trademark and other pending or existing intellectual property rights in the United States and other countries/regions.
This product is licensed under the <u>Microsoft Software License</u> <u>Terms</u> to: Rohde & Schwarz Rohde & Schwarz	This product is licensed under the <u>Microsoft Software License</u> <u>Terms</u> to: Rohde Schwarz KG Rohde Schwarz KG
ОК	ОК

4.4 Windows Update

Before installing the update, the Windows Update service needs to be enabled.

Note: This is particularly relevant for Windows 10 IoT Enterprise 1607 LTSB devices, as the Windows Update functionality is often disabled by the service rather than through a policy.

Windows 10 might try to download all available updates from a WSUS server. Please disconnect the device from the network in order to assure that only the relevant updates listed above are installed.

4.5 Enable Windows Update Service

• To open the "Services" Management Console press the Windows-Key (IP) and "R" at the same time, type "services.msc" into the Run dialog and press <ENTER>.

💷 Run	×
٨	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc 🗸
	OK Cancel Browse

• Scroll down to the "Windows Update" entry and verify that the service is started.

🤐 Windows Search	Provides co	Running	Automatic (D	Local Syste
🎑 Windows Time	Maintains d		Manual (Trig	Local Service
🖏 Windows Update	Enables the	Running	Automatic (T	Local Syste
🥋 WinHTTP Web Proxy Auto	WinHTTP i	Running	Manual	Local Service
🖏 Wired AutoConfig	The Wired		Manual	Local Svite

- If the service is not started, double-click on the "Windows Update" entry.
- Select Startup type: "Automatic" and then press the "Apply" button.
- Start the service by clicking on the "Start" button.

Windows Update Properties (Local Computer)						Х
General	Log On	Recovery	Dependencies			
Service	name:	wuauserv				
Display	name:	Windows (Jpdate			
Descrip	tion:	Enables th updates fo	e detection, dow r Windows and o	nload, and inst ther programs.	allation of f this	
Path to C:\WIN	executab IDOWS\s;	le: ystem32\svc	host.exe +k netsv	vcs		
Startup	type:	Automatic	:		~	
Service	status:	Running				
S	Start	Stop	Pa	use	Resume	
You can specify the start parameters that apply when you start the service from here.						
Start pa	arameters:					
			ОК	Cancel	Apply	

4.6 Install the Update

Connect a keyboard, mouse and the USB flash drive to the R&S device, use Windows Explorer to navigate to the USB Flash Drive and install the update.

4.7 Verify the Installation

After installing the update on the R&S device, a final verification is possible via the "View update history" dialog in Windows 10.

Select "Start" > "Settings" > "Update & Security" > "View update history".

Check if all necessary updates are installed.

Note: Please be aware that coming monthly rollups may lead to the situation that the KB is no longer listed. Upcoming monthly rollups may already include previous updates.

4.8 Disable Windows Update Service

Restore the default setting of the Windows Update Service:

• To open the "Services" Management Console, press the Windows-Key (IP) and "R" at the same time, type "services.msc" into the Run dialog and press <ENTER>.

🖅 Run	×
۵	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	services.msc 🗸
	OK Cancel Browse

• Scroll down to the "Windows Update" entry and double-click on it.

🥋 Windows Search	Provides co	Running	Automatic (D	Local Syste
🥋 Windows Time	Maintains d		Manual (Trig	Local Service
🥋 Windows Update	Enables the	Running	Automatic (T	Local Syste
🥋 WinHTTP Web Proxy Auto	WinHTTP i	Running	Manual	Local Service
Wired AutoConfig	The Wired		Manual	Local Svite

- Select Startup type: "Deactivated"" and then press the "Apply" button.
- Stop the service by clicking on the "Stop" button.

Windows Update Properties (Local Computer)						×		
General Lo	g On R	ecovery	Dependencies					
Service na	me: w	uauserv						
Display nar	ne: W	Windows Update						
Description	: E 4	nables th pdates fo	e detection, dow r Windows and o	nload, and ins other programs	stallation of , a. If this	~		
Path to exe C:\WINDO	Path to executable: C:\WINDOWS\system32\svchost.exe +k netsvcs							
Startup typ	e: [Disabled				~		
Service status: Stopped Start Stop You can specify the start parameters that apply when you start the service from here. Start parameters:								
			OK	Cancel	Appl	у		

5 Customer Support

Technical support - where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

Contact information

Contact our customer support center at <u>www.rohde-schwarz.com/support</u> or follow this QR code:



Figure 5-1: QR code to the Rohde & Schwarz support page