

## System requirements Vienna Test System

As at: 2 July 2022 - version 8.22

### Note on installing the Vienna Test System

The Vienna Test System must be installed by a Windows user with local administrator rights.

### Recommendations for installing the Vienna Test System

Before you install the VTS, your operating system should be fully updated – i.e. all available Windows updates should be installed. Many PC manufacturers (e.g. Dell, HP, IBM, Lenovo) supply their own drivers for graphics cards. Please check that the latest drivers for your graphics card are installed on your computer.

For smooth operation of the Vienna Test System, it is necessary to have reading and writing rights in various folders on the computer. The Windows user must therefore have adequate rights for the following folders:

| Directory                             | Path                                    |
|---------------------------------------|---|
| %ProgramData%\Schuhfried              | C:\ProgramData\Schuhfried               |
| %LOCALAPPDATA%\Schuhfried             | C:\Users\Users\AppData\Local\Schuhfried |
| %TEMP%                                | C:\Users\Users\AppData\Local\Temp       |
| %ProgramFiles%\SCHUHFRIED GmbH*       | C:\Program Files\SCHUHFRIED GmbH        |
| %ProgramFiles(x86)%\SCHUHFRIED GmbH** | C:\Program Files (x86)\SCHUHFRIED GmbH  |

Some antivirus and security programs can obstruct or disrupt the performance of the Vienna Test System. It is therefore recommended that the above-mentioned paths are defined as exceptions in whatever tool is used.

### Recommendations on maintenance of the Vienna Test System

The operating system should be well maintained: the manufacturer's latest updates and patches should always be installed (in the case of major Windows updates, it is worth asking SCHUHFRIED first whether the updates have yet been tested). In the event of faults arising from a failure to install updates, consult the manufacturer of the operating system.

Please ensure that no programs are installed on the computer which could interfere with the presentation of tests (e.g. through high CPU usage or unwanted on-screen messages).

### Recommended monitors

We recommend monitors with a screen diagonal of 14"-27" and a resolution of at least 1280 x 1024 . The resolution should not exceed 1920 x 1200. For CRT monitors the refresh rate must be at least 75 Hz.

### Note on licensing

To use the Vienna Test System 8, you must have a valid VTS license on a software or hardware dongle. The dongle can either be installed as software or provided physically in the form of a USB stick.

### Single workstation solution – local installation (VTS 8)<sup>1</sup>

| Hardware  | Minimum   | Recommended | Software         |  |
|---|-----------|-------------|------------------|--|
| Processor <sup>2</sup>  | Dual-Core | Quad-Core   | Operating system | Windows 8.1  |
| RAM   | 4 GB      | 8 GB        |                  | Windows 10 <sup>5</sup>  |
| Graphics card   | 512 MB    |             |                  | Windows 11   |
| Hard disc space   | 10 GB     | SSD         | .NET Framework   | .NET Core 3.1  |
| Keyboard  | ✓         |             |                  | .NET 4.8   |
| Mouse   | ✓         |             | Database         | SQL Server 2014 or higher <sup>3</sup>   |
| USB port for license dongle and for each additional peripheral device | ✓         |             | Miscellaneous    | Microsoft Word (version 2007 or higher) <sup>4</sup>   |
|   |           |             |                  | VTS is using various third-party plugins that are installed during setup (WebView, C++ runtimes, ..) |

\* When VTS is installed on a 32-bit version of the Windows operating system.

\*\* When VTS is installed on a 64-bit version of the Windows operating system.

1 Apple-based hardware is not supported.

2 Should be at least an Intel i5 (or equivalent). You are strongly urged not to use outdated or less powerful (e.g. i3, Celeron) processors.

3 SQL Server 2014 Express (for Windows 8/10 32-bit) or SQL Server 2017 Express (Windows 8/10/11 64-bit) is supplied or installed free of charge. Limitations of the database are to be considered (not relevant for VTS Online)

4 MS Word is needed if Word reports are to be edited.

5 It is not possible to install VTS on Windows 10 in S mode.

The N and KN versions of Windows 10 require installation of the Media Feature Pack.

## Client-Server solution (VTS 8)\*

The hardware features of the server depend on the planned number of parallel test administrations. The following configuration represents a minimum that enables up to 80 to be administered in parallel.

The Vienna Test System of course also allows for more than 80 tests to be administered in parallel. We shall be happy to advise you on possible system configurations for your purposes.

### Server

| Hardware               | Minimum   | Recommended |
|------------------------|-----------|-------------|
| Processor <sup>2</sup> | Quad-Core |             |
| RAM                    | 8 GB      | > 16 GB     |
| Hard disc space        | 10 GB     | SSD         |
| Network                | 100 Mb/s  | 1000 Mb/s   |

| Software         |   |
|------------------|---|
| Operating system | Windows Server 2012 latest Update Rollup 2021<br>Windows Server 2012 R2<br>Windows Server 2016<br>Windows Server 2019 |
| .NET Framework   | .NET Core 3.1<br>.NET 4.8   |
| Database         | SQL Server 2014 or higher <sup>3</sup><br>Dedicated SQL Server for extensive workloads                                |

### Client

| Hardware               | Minimum   | Recommended |
|------------------------|-----------|-------------|
| Processor <sup>2</sup> | Dual-Core | Quad-Core   |
| RAM                    | 2 GB      | 4 GB        |
| Graphics card          | 512 MB    |             |
| Hard disc space        | 1 GB      | SSD         |
| Keyboard               | ✓         |             |
| Mouse                  | ✓         |             |

| Software         |   |
|------------------|---|
| Operating system | Windows 8.1<br>Windows 10 <sup>6</sup><br>Windows 11  |
| .NET Framework   | .NET 4.8  |
| Miscellaneous    | Microsoft Word (version 2007 or higher) <sup>5</sup><br>VTS is using various third-party plugins that are installed during setup (WebView, C++ runtimes,..) |

## Special system components

To ensure that times are measured exactly, the following time-critical tests and test sets need to be presented using a USB response panel:

Tests: COG, DAUF, DT, DTKI, INHIB, MDT, MMG-C, NBN, NBV, RT, SIGNAL, STROOP, SWITCH, VIGIL, WAF, WAFA, WAFF, WAFG, WAFR, WAFS, WAFV, WAFW, ZBA

Test sets: CFADHD, CFD, CFSD, COGBAT, COGBATSV, DRIVE-AT, DRIVE-PL, DRIVEPLS, DRIVESC, DRIVESTA, FEV, SAAIR, SAMINE, SARAIL, SAROAD, SFMOTOR, SFTEAM, SLEEP, TAKIDS, TATEENS, TATEENS2

WAF, WAFA, WAFG/S3 and CFD can also be presented using a touchscreen (Windows 8 or higher). The use of a capacitive touchscreen is required.

The PP-R test needs a USB port for the Peripheral Perception device. In addition, the screen size should not be larger than 22".

The WG test requires a screen size larger than 16".

## VTS Online

In general, the latest version of the browsers listed below is supported. Using browsers in an older version may cause (minor) changes in the way the test is presented.

|                | Windows | Mac OS X | Android & iOS |
|----------------|---------|----------|---------------|
| Microsoft Edge | ✓       | X        | X             |
| Firefox        | ✓       | ✓        | X             |
| Chrome         | ✓       | ✓        | ✓             |
| Safari         | X       | ✓        | ✓             |

If the client-programs (VTS Testplayer and VTS AdminClient) of VTS Online are used, the requirements of the client mentioned in client server solution must also be met (see chapter: Client-Server solution (VTS 8)).

## Network requirements

If the Vienna Test System is used on a network, a good, stable internet connection is required. The connection speed should be 100 Mbits p/s or more. At slower speeds the functionality of the Vienna Test System cannot be guaranteed. To ensure that the Vienna Test System works perfectly, it is also important to ensure that the cabling of the network and other network components is sound.

The Vienna Test System uses HTTPS to connect the client and server. The system installs a self-signed SSL certificate by default. Those self-signed certificate are supporting typical dns namens ending .local, but should not be used with official domains. However, using a fully-fledged SSL certificate (RSA 2048 bit) is recommended when utilizing the system via the internet. VTS 8 uses multiple ports for communication that must be configured correspondingly/opened in the firewall.

\* Apple-based hardware is not supported.

<sup>2</sup> Should be at least an Intel i5 (or equivalent). You are strongly urged not to use outdated or less powerful (e.g. i3, Celeron) processors.

<sup>3</sup> SQL Server 2014 Express (for Windows 8/10 32-bit) or SQL Server 2017 Express (Windows 8/10/11 64-bit) is supplied or installed free of charge. Storage is limited.

<sup>5</sup> MS Word is needed if Word reports are to be edited.

<sup>6</sup> The N and KN versions of Windows 10 require installation of the Media Feature Pack.

## Safety features

If the Vienna Test System is used within the healthcare service, the use of the following devices may be required:

- ✓ Medical grade isolation transformer in accordance with EN 60601
- ✓ Galvanic medical network insulation in accordance with EN 60601 (if the computer is connected to a data network)

**Please ask your in-house health and safety officer.**

Input and output devices of SCHUHFRIED are developed and produced in accordance with the requirements of EU Directive 93/42/EEC, even if the Vienna Test System is not declared as a medical device. The CE mark confirms that our products comply with technical safety regulations, electro-magnetic compatibility guidelines (EN 60601), bio-compatibility guidelines (EN 30993), product-specific requirements and underlying quality management standards.

**Please consult us before purchasing new equipment; we shall be pleased to help you select the most appropriate items for your purposes.**