entervo Workstation Configuration

/ Installation Guide

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SCHEIDT&BACHMANN SB

Author: Peter Schiffer

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Refer to chapter "Record of Revisions"

Contents

1 General

1.1 Purpose and Scope

This document describes the configuration of Java workstations (hereinafter referred to as: Client PCs) for accessing entervo cell or management computers (hereinafter referred to as: Host Systems). These may be either entervo parking management systems or entervo Access systems for leisure centres.

1.2 Functional Description

The entervo cell and management computers provide integrated web servers. Therefore, a major part of applications can be used not only locally at the Host System but also via Client PC, which accesses the Host System via TCP/IP. In addition to simple LAN networks there are also routed networks allowed.

The concurrent or multi user concept allows several Client PCs access to the Host System at the same time. Please refer to the information below.

1.3 Licensing Notice

Please note the license terms for the access to Host Systems and the End User License Agreements (EULAs) for Microsoft and Oracle products.

1.4 Information

The maximum number of Client PCs that is allowed to simultaneously access the Host System is stored on the Host System and cross checked with the license database (entervo Concurrent User Model). Should this cross check be activated at a later date, for particular installations, we reserve the right to block accesses which are not licensed. The licenses do not include any installation services. If our hotline or on-site service is required, we will invoice for service according to real costs.

2 Installation Requirements and Procedure

Depending on the software release on the Host System, the Client PCs can be started in different ways. Whereas older releases could only be started in a web browser using plugins, newer releases no longer require a web browser to run. Instead, Web Start or Getdown is used. In the following chapters, you will learn how to access which releases.

2.1 Getdown

Getdown is the preferred technology for accessing newer Host Systems. The prerequisite for using Getdown is that the OpenJDK Revision Pack has already been installed on the Host System. You can see whether this is the case when you call the entervo start page. Enter the IP address of the Host System in the browser of your Client PC. The entervo start page appears:
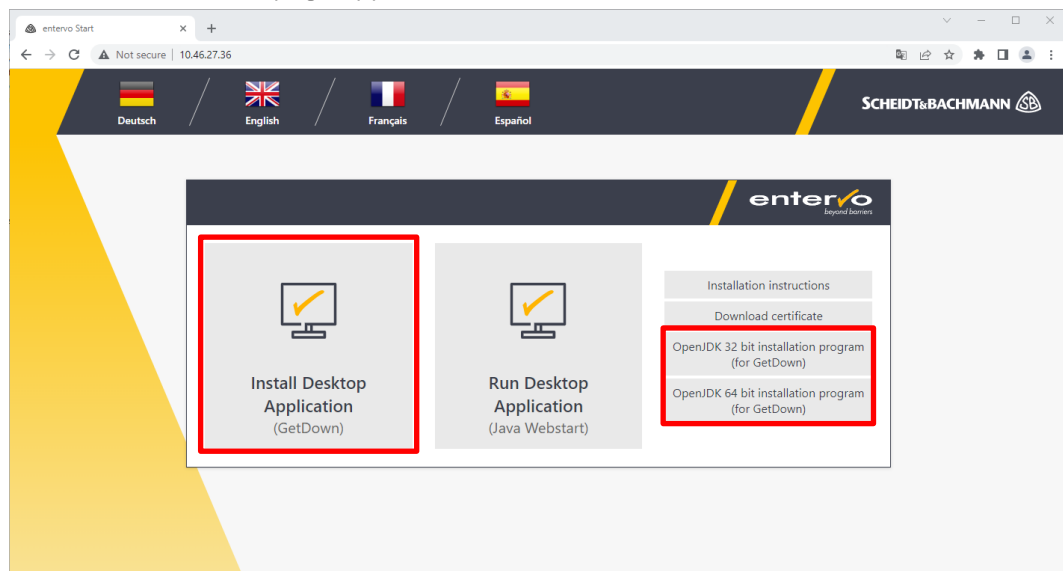
If the three links marked above appear, you can install Getdown on your Client PC. Please note the installation requirements in the next chapter.

2.1.1 Installation Requirements for Getdown

If the Host System is already prepared for Getdown, you can download all the required installation packages directly from the entervo start page.

If necessary, check in advance with the IT department whether the following prerequisites have also been fulfilled:

☐ EXE files must be downloadable over the network.

☐ Antivirus programs used must not block the EXE files. If necessary, an exception rule must be defined.

☐ It must be possible to execute setup programs on the Client PC (check authorisations).

☐ The following ports must be opened:

Client PC -> Host System:

Protocol	Source Port	Destination Port
TCP, UDP	any	1099
TCP	any	80
TCP	any	63000 - 63050
TCP	any	64000 - 64050
UDP	any	53
TCP	any	139, 445

Host System -> Client PC:

Protocol	Source Port	Destination Port
TCP	any	63000 - 63050
TCP	any	64000 - 64050
UDP	any	53

2.1.2   Installation and Start of Getdown

The installation of Getdown on a Client PC is performed in two steps:

1. **Installation of the OpenJDK package**: Install the 64-bit or 32-bit version depending on the Client PC's operating system. You only need to install this package once on your Client PC - no matter how many different Host Systems you want to access later.

2. **Installation of the Getdown package**: During the installation, you set up access to the computer whose home page you are currently viewing. Before clicking on the link, select the language by selecting a country flag.

This is how the installation is performed in detail on a Client PC:

1 Open an Internet browser on the Client PC and enter the IP address of the Host System that you want to access in the address bar. In the following example, a cell computer has the IP address 10.46.27.36:
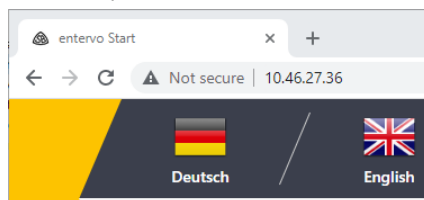
2 The entervo start page appears. Now download the appropriate OpenJDK package (32-bit or 64-bit) by clicking on one of the links:
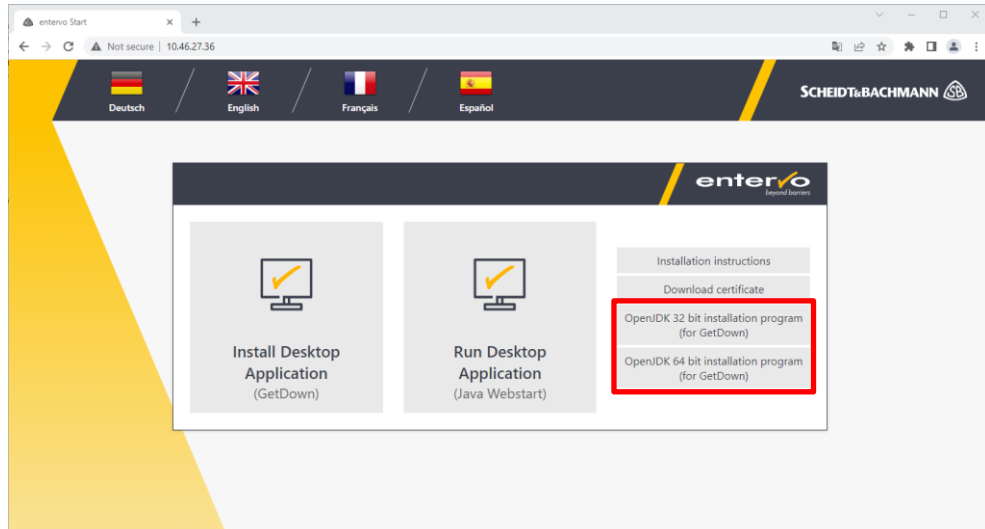
3 Install the OpenJDK package on the Client PC:
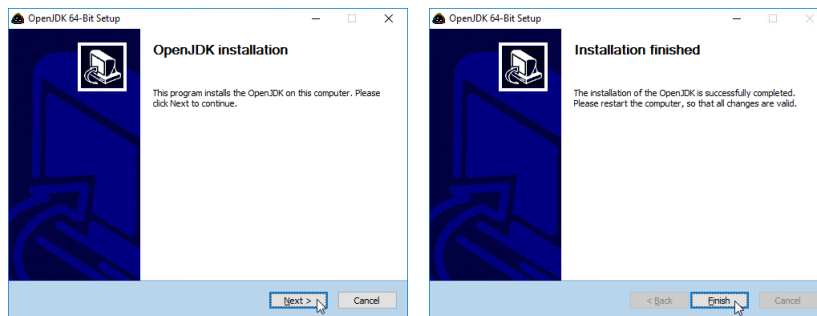
4 OpenJDK is now installed on the Client PC. The next steps are to install the Getdown package.

5 Click one of the country flags to preselect the language. Download the Getdown package now by clicking on the link:
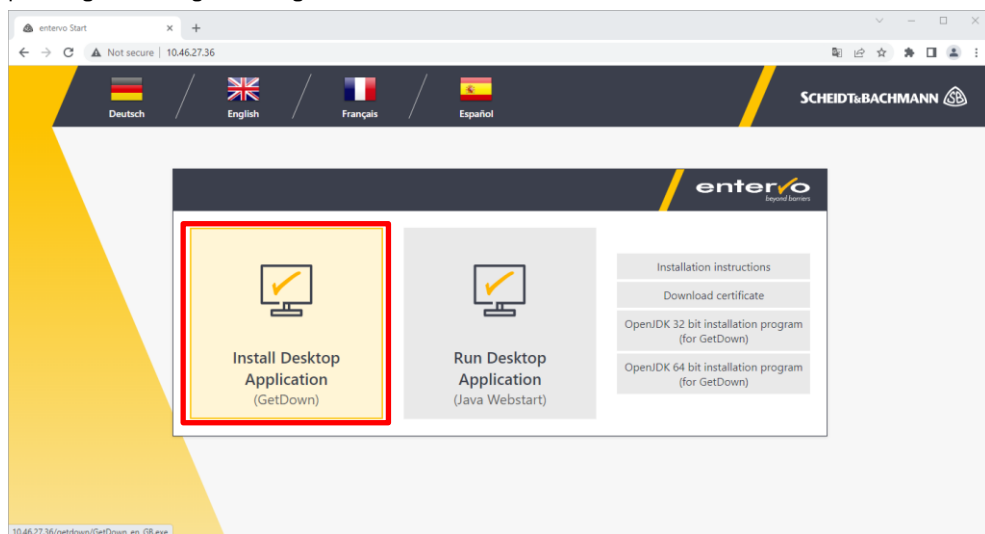
6 Install the Getdown package on the Client PC:
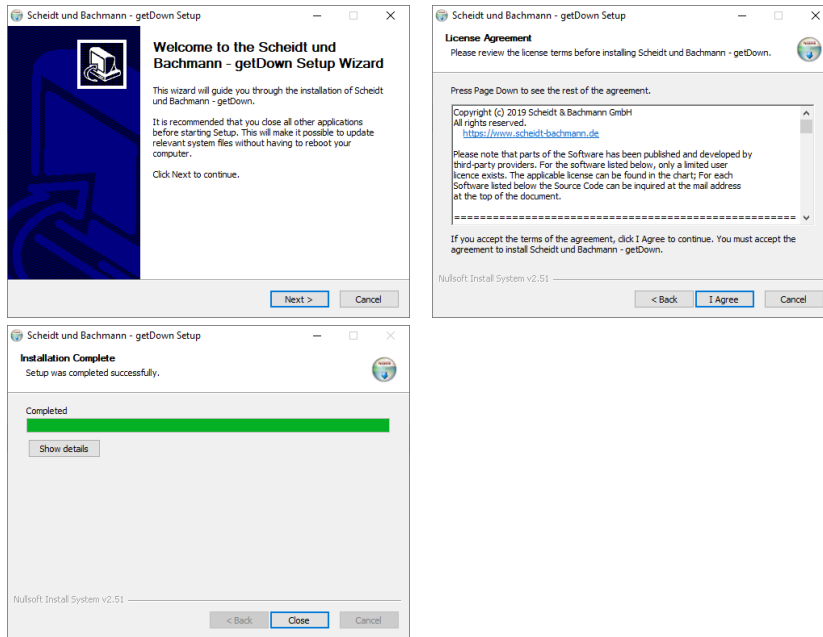
7 The installation of the Getdown package is now complete. You can establish a connection to the Host System via the Windows start menu. The corresponding entry can be found in the Scheidt und Bachmann folder:
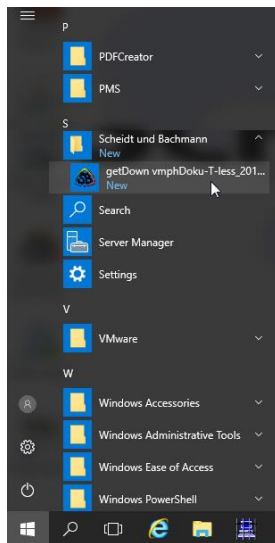
8 Click on the entry. entervo is loaded on the Client PC:
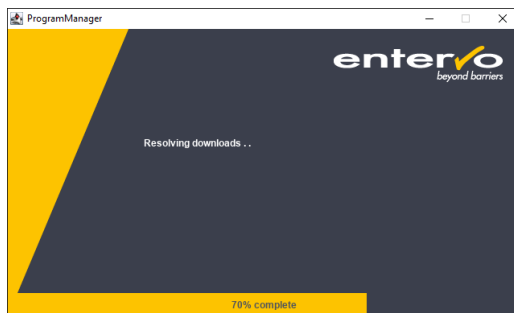
9 The entervo desktop opens:
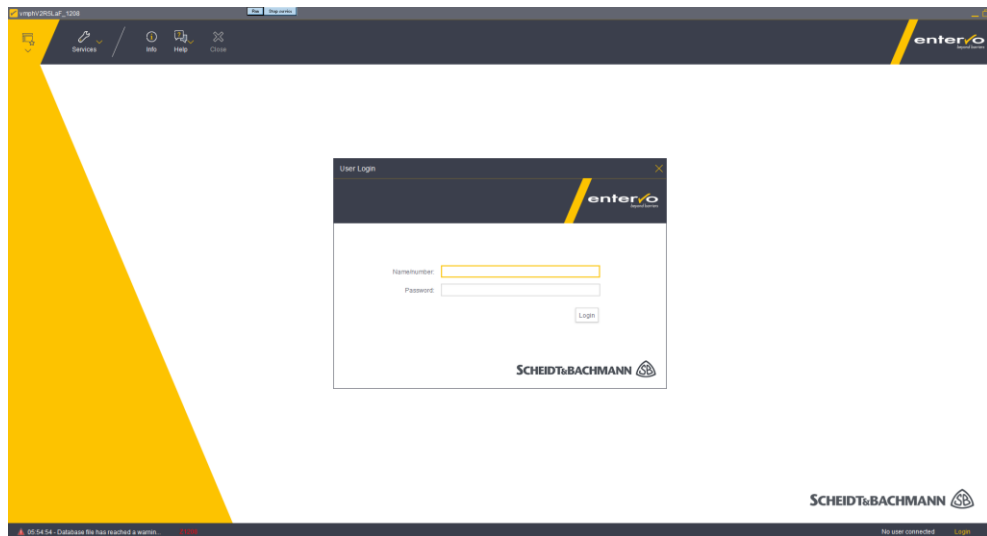
✔ You can now log on and use all functions according to your permission profile.

> ℹ️ *If you want to start entervo in another language, repeat steps 5 - 9 and click on one of the country flags to make a different preselection for the language. An additional entry is created in the Windows start menu under the **Scheidt und Bachmann** folder.*

2.2 Web Start

Web Start is the preferred technology for accessing Host Systems if these computers do not yet support Getdown. Web Start is supported by entervo systems from release V2R4. You can see whether your system supports Web Start when you call the entervo start page. Enter the IP address of the Host System in the browser of your Client PC. The entervo start page appears:
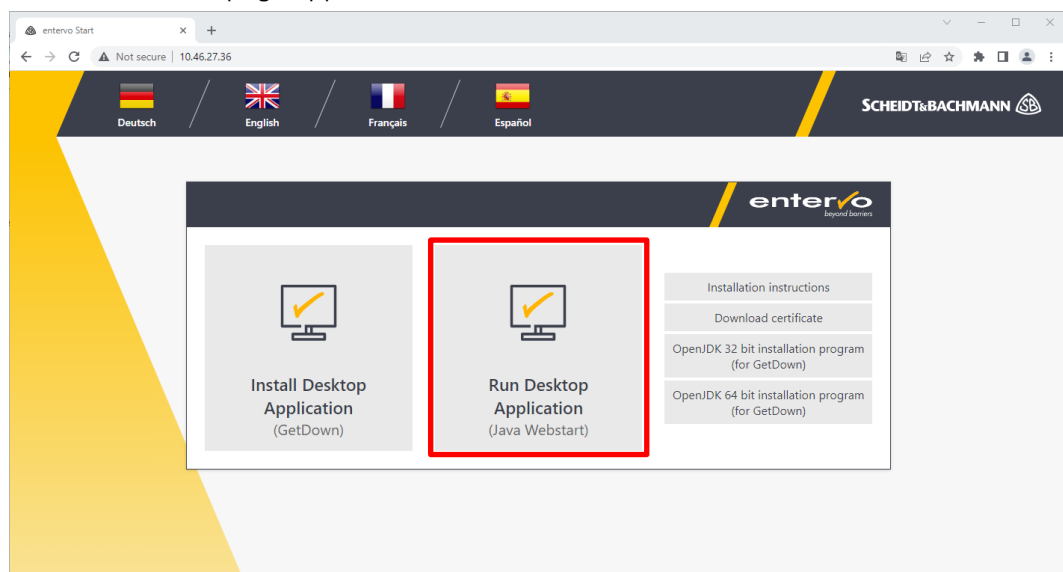
If the **Run Desktop Application** link appears, you can install Web Start on your Client PC. Please also note the installation requirements in the next chapter.

2.2.1 Installation Requirements for Web Start

Depending on the release version on the Host System, you need different minimum Java versions on the Client PC.

2.2.2 Importing the entervo Certificate

> *The installation of the entervo certificate which is described below, is necessary solely for **parking systems from release V2R4** and for **entervo Access systems (leisure centres) from release 8.12**. If the Client PC works with Java Getdown, the entervo certificate must not be installed.*

The use of entervo at a Client PC requires the installation of a digital certificate. The following steps will show how to download and import the certificate.

1 Download the certificate file from the entervo start page. To do this, click on the **Download certificate** link:
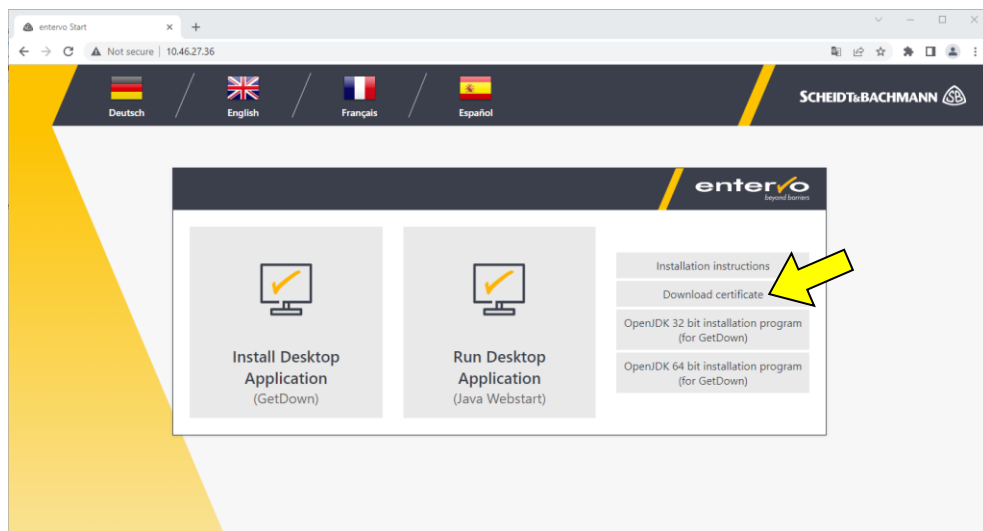
2 Depending on the browser used, you may have to specify the target directory for the certificate file. The certificate file will be located in the specified download directory of your browser.

3 Start the **Windows Control Panel** (Start -> Control Panel).

4 Click the 🍵 Java icon. The **Java Control Panel** opens.

5 Click the **Security** tab and then **Manage Certificates…**.

6 In the **Certificate type** list, select **Signer CA**:
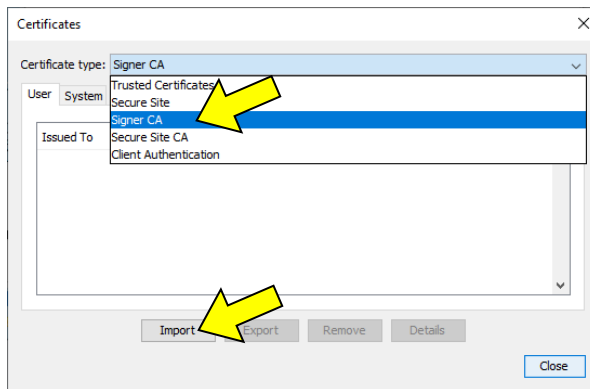
7 Click **Import**. A new dialogue opens.

8 Change to the download directory of your browser and in the **File of type** list, select **All Files**. Mark the downloaded certificate file:
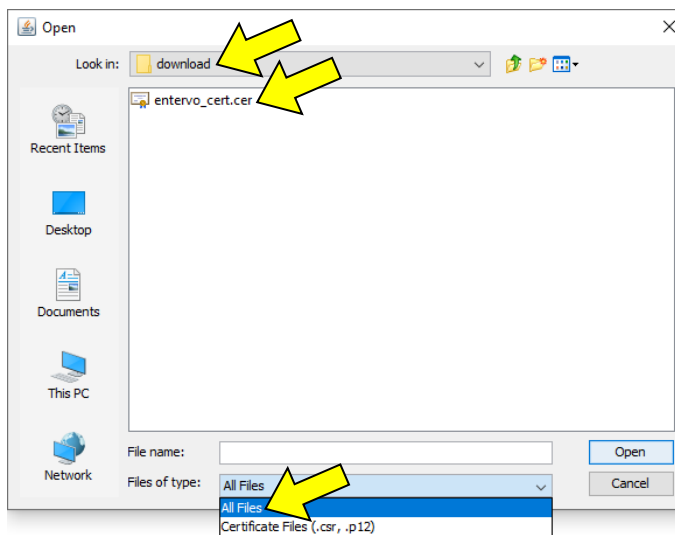
9 Click **Open**. The certificate appears in the list:
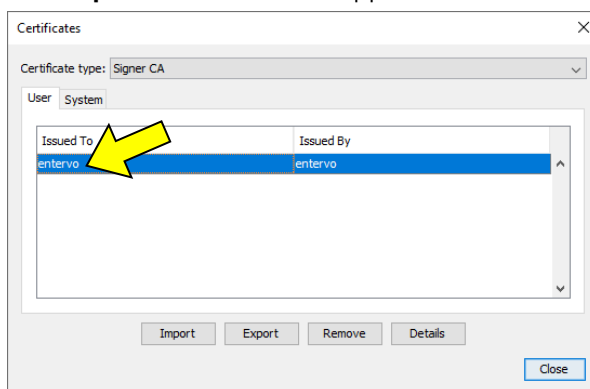
10 Click **Close**.

✔ The installation of the certificate is completed.

2.2.3   Installation and Start of Web Start

This is how to use Web Start:

1   Open an Internet browser on the Client PC and enter the IP address of the Host System that you want to access in the address bar. In the following example, a cell computer has the IP address 10.46.27.36:
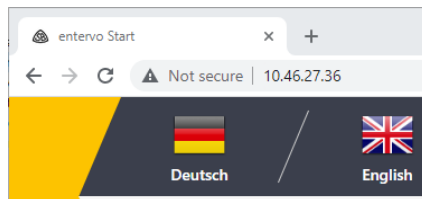
2   Click one of the country flags to preselect the language.

3   Click **Run Desktop Application**. Depending on the browser used, Web Start is either started directly or a shortcut is placed on the desktop. Double-click on the shortcut if the start is not executed automatically.

4   The entervo desktop opens:
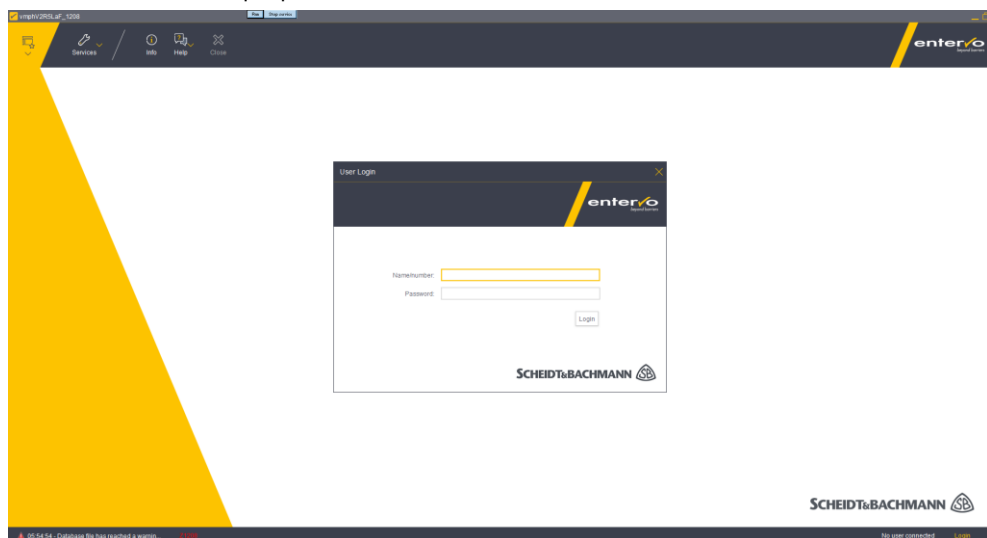
✔   You can now log on and use all functions according to your permission profile.

2.3   Browser

Access to entervo via an Internet browser is only recommended in the case of entervo releases before V2R4. Since the applet technology used is no longer supported by many browsers, we recommend using Web Start or Getdown. The following notes therefore refer to entervo releases up to and including V2R3.

2.3.1   Installation Requirements for Browser Use

Depending on the release version on the Host System, you need different minimum Java versions on the Client PC.

2.3.2 Browser Recommendation

entervo is optimised and tested for the use of Microsoft Internet Explorer (IE). Other browsers, which support the Java Runtime Environments listed in the next section, can also be used.

Older entervo versions can only be used via Java applets with browser plug-ins. Please note the following:

⚠️

- *Browsers that no longer support Java plug-ins (Microsoft Edge, Mozilla Firefox from version 52 or Google Chrome from version 45) can NOT be used with older entervo releases, since Java applets via browser plug-ins have been deactivated!*
- *Microsoft Internet Explorer 11 (IE11) is NOT suitable for use with older entervo releases, as it no longer supports the browser plugin version required by older entervo releases.*
- *Check the table in the following chapter. Here you can find detailed information about which entervo releases are to be started in which way.*

2.4 Further Information about Web Start and Browser

2.4.1 Required Java Versions for Web Start and Browser

The freely obtainable Java Runtime Environment (JRE) has to be installed on the Client PC. Depending on the entervo release on the Host System, the Client PCs have to be equipped with different Java versions:

Software / Release on host system	Browser-Support*	Java Web Start*[1] Support	Required Java Version for the Client PC
Parking systems: entervo **prior to** Release V2R3	✅	❌	Java SE Runtime Environment 6 (JRE-6u45) **JRE-7 (1.7) or higher is NOT possible!**
Parking systems: entervo Release V2R3	✅	❌	Min. Java SE Runtime Environment 6 (JRE-6)
Parking systems: entervo **from** Release V2R4	✅	✅	Min. Java SE Runtime Environment 6 (JRE-6)
Parking systems: entervo **from** Release V2R4M17/V2R5M3	✅	✅	Min. Java SE Runtime Environment 8 (JRE-8) or OpenJDK 8
Parking systems: entervo with Geutebrück G-Scope CCTV	❌	✅	Min. Java SE Runtime Environment 8 (JRE-8)
Access Systems: entervo Access **prior to** Release 8.10	✅	❌	Java SE Runtime Environment 6 (JRE-6u45) **JRE-7 (1.7) or higher is NOT possible!**

Software / Release on host system	Browser-Support*	Java Web Start*¹ Support	Required Java Version for the Client PC
Access Systems: entervo Access Release 8.10 and 8.11	☑	☒	Min. Java SE Runtime Environment 6 (JRE-6)
Access Systems: entervo Access **from** Release 8.12	☑	☑	Min. Java SE Runtime Environment 6 (JRE-6)
Access Systems: entervo Access **from** Release 8.23	☑	☑	Min. Java SE Runtime Environment 8 (JRE-8) or OpenJDK 8

* Please observe the notes on Java plugin support in the previous chapter!

*¹ Java Web start allows starting Java applications outside the browser.

- *Java is under continuous development and not all versions are backwards compatible. To prevent incompatibilities, please only use the above-recommended versions.*
- *Any older JRE version must be uninstalled!*
- *Automatic updates have to be deactivated in the system as they may potentially cause incompatibilities with our application. Furthermore, from experience: the settings described under point 5 may become overwritten and have to be regularly applied.*

2.4.2 64-Bit or 32-Bit?

The variant to be used depends on various factors. Observe the following rules:

Generally, the **32-bit variants** of browser and Java JRE are to be used. There are the following exceptions:

☐ If only Java Web Start or Getdown is used and **NO** CCTV system with Geutebrück **Multiscope** is installed, the 64-bit Java JRE can also be used.

☐ If you are using a CCTV with the Geutebrück **G-Scope** system, you must use the **64-bit Java JRE** in combination with **Java Web Start**!

- *64-bit variants of Java and browser are only executable on 64-bit operating systems!*
- *32-bit variants of Java and browsers can also be run on 64-bit operating systems.*

2.4.3 Configuration Adjustments

> ℹ *The following settings do not have to be made if only Java OpenJDK (Getdown) is installed on the Client PC.*

1 Due to the very large range of features of the entervo.com Client PC in comparison to smaller Java Applets on the Internet; you need to assign some more resources to the standard Java Environment.

Please open the Java settings on the Client PC:

*Control Panel -> Java -> **Java** tab -> **View**:*

and add the value **–Xmx1024M** to the entry **Runtime Parameters**:
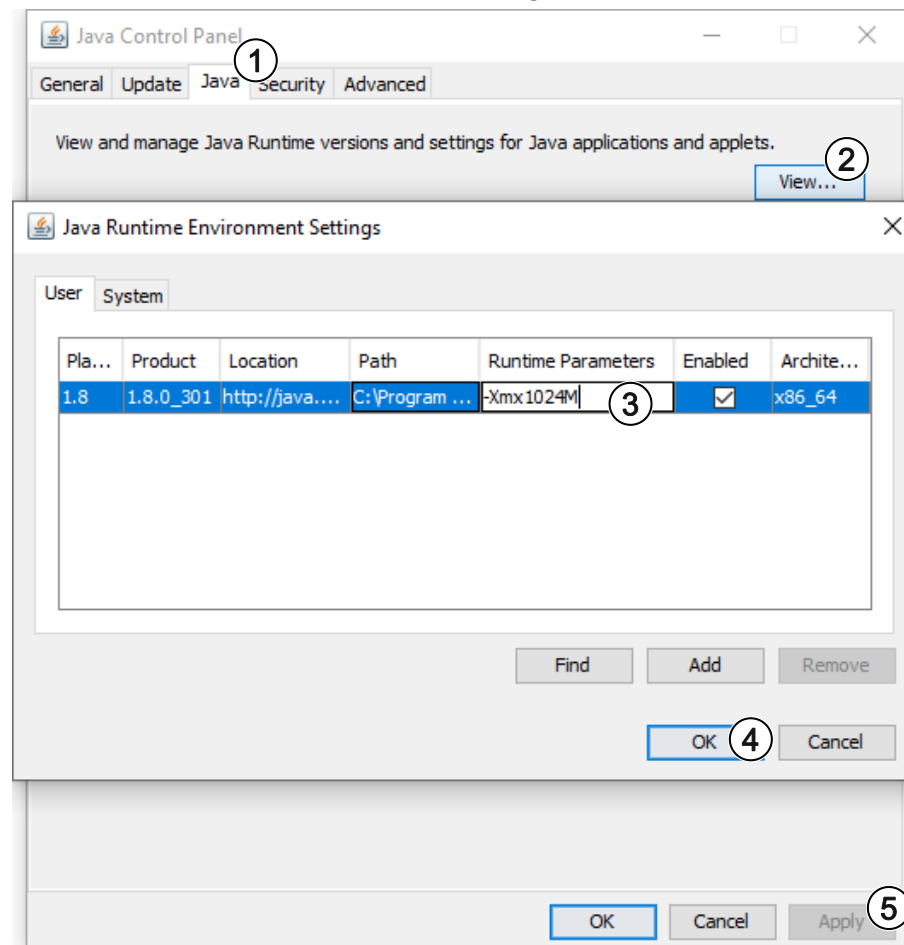
Example: Windows Server 2008

2 In case there are also features such as e. g. CCTV (cameras with live view) or Intercom functions offered on the Client PC, you possibly need to install certain drivers by using the "Java Web Client Setup" installation CD on the client PC. Please do not hesitate to contact the S&B service technician on site.

3 The Client PC needs to access the Host System via its IP address. For interconnection of the Scheidt & Bachmann entervo.com systems with the existing company or administration networks, you have to pay attention that there will be no network address translation (NAT) on the IP addresses on Gateway Router /Firewalls and also ensure that no Proxy servers are in use.

4 The Host System also needs to be reachable by its unique NS/NetBIOS name. A customer WINS or DNS server could be used or the name resolution can be defined via a so-called "host" entry, manually entered on the Client PC.

As follows is an example of how to set up the "host" file in Windows operating systems:

Open the following folder on the Client PC to find the file "hosts":

C:\<windows installation folder>\system32\drivers\etc

These entries need to be added:

<IP-address of the server><server (computer) name>

Example:

```
127.0.0.1       localhost
192.34.16.5     ZR-XY
```

The Host System name (here ZR-XY) needs to conform to the configured computer name of the Host System (ZR/LR). The entervo.com Host System names are generic; that means they are automatically according to a specified model. These default names contain a unique Scheidt & Bachmann ZR or LR number. Ask your Scheidt & Bachmann service technician to find out which computer name is used in your project.

5 This step is not necessary if you have an entervo parking system from release V2R4 or entervo Access system for leisure centres from release 8.12! For all other systems, these settings must be made.

You will find the file "java.policy" at the Client PC in folder:

C:\PROGRAM FILES\JAVA\JRE[ver.]\LIB\SECURITY

The following entries are to be added to the very beginning of the file (example):

```
grant codeBase "http://Host-System-IP/*" {
        permission java.security.AllPermission;
        };
grant codeBase "http://Host-System-Name/*" {
        permission java.security.AllPermission;
        };
grant codeBase "http://Host-System-IP/newsys/classes_shared/*" {
        permission java.security.AllPermission;
        };
grant codeBase "http://Host-System-Name/newsys/classes_shared/*" {
        permission java.security.AllPermission;
        };
```

Exchange the value "`Host-System-IP`" with the correct IP address and the value "`Host-System-Name`" with the correct name of the entervo.com Host System.

6 Please enable the following ports if a firewall is already installed:

80 *(TCP)*, **1099** *(TCP/UDP)* (Browser -> entervo.com Webserver (ZR/LR))

63000-63999 *(TCP / bidirectional)*, which means in particular:

You need one destination port going to the Client PC per Client PC (e. g. when using 5 Client PC licenses, you need ports 63000 to 63004).

For every Client PC you need one destination port per service connection going to Host System (allocate at least 20) (e. g. when using 5 Client PC licenses, which is 20*5 ports = 63000 to 63099).

64000-64999 *(TCP / bidirectional)*, which means in particular:

You need one destination port going to the Client PC per Client PC (e. g. when using 5 Client PC licenses, you need ports 64000 to 64004)

For every Client PC you need one destination port per service connection going to Host System (allocate at least 20) (e. g. when using 5 Client PC licenses, which is 20*5 ports = 64000 to 64099).

3 Troubleshooting

3.1 General Connection Issues

The entervo.com Java Applet, which is running on the Client PC, advises the Host System services which IP address needs to be used to create a reversed socket connection to the Client PC. It is important that the Client PC provides the correct IP address to be reached by the Host System.

⚠️ *For these reasons, the Client PC must have **exactly one IP-Address**. If there are additional network adapters installed in the Client PC or if there are multiple IP addresses assigned to one network adapter, these additional IP addresses must be disabled!*

3.2 Java Security Settings block entervo Startup

The following message may occur during entervo startup:

First possible reason: You are using an entervo parking system from release V2R4 or an entervo Access system for leisure centres from release 8.12 and the entervo certificate has not been imported. Download and import the certificate as described in section .

Second possible reason: You are using Java of version 7 update 51 or above in combination with an older entervo release. This issue can be fixed by adding the address of the Host PC (cell or management computer) to the Java settings:

Open the Java settings on the Client PC:

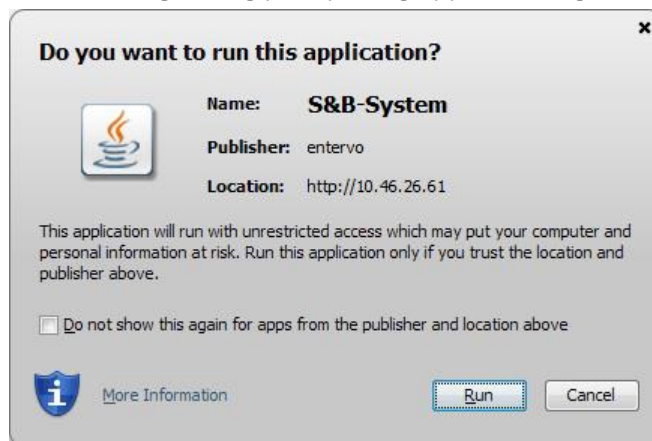*Control Panel -> Java -> **Security** tab -> **Edit Site List** button*

The following dialogue comes up:
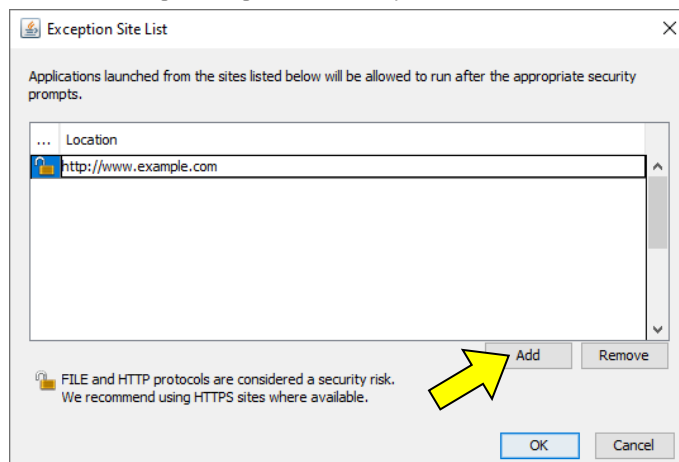
Click **Add** and enter the address of the Host System, e.g.:

http://10.46.27.149

3.3 Needless Safety Prompts / Java does not start

The following safety prompt may appear during entervo startup:

Reason: This safety prompt only appears on the first start of entervo. Select the **Do not show this again...** checkbox and click **OK**.

Depending on the used version of Java a second prompt will appear, which also has to be confirmed (**Run** button):
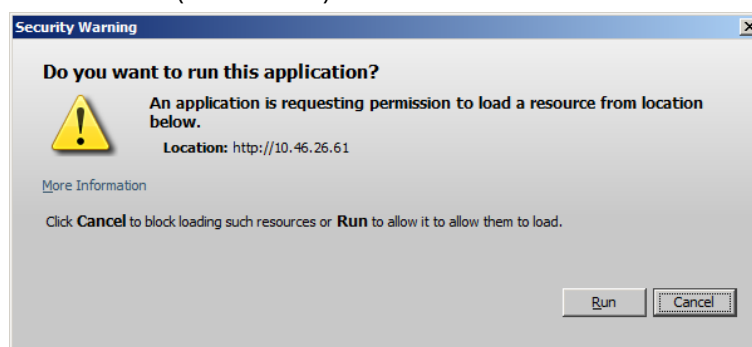
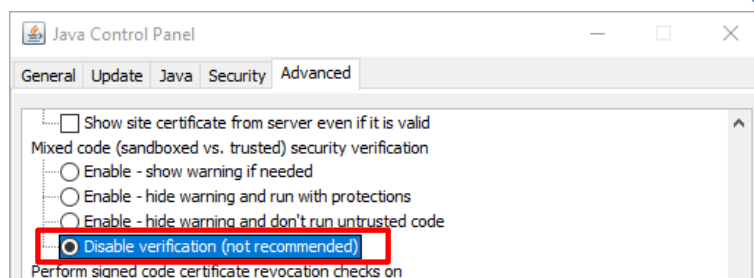## 3.4 Warning of "Potentially Unsafe Components"

The following message may occur during entervo startup via browser:
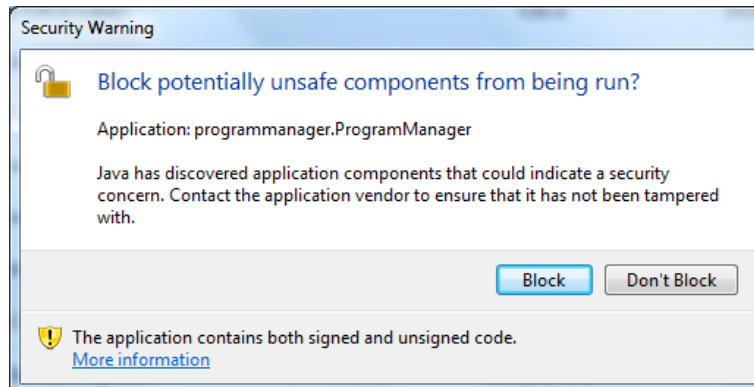
Reason: Java blocks running signed and unsigned code simultaneously. This issue can be fixed by optimising the Java security settings:

Open the Java settings on the Client PC:

*Control Panel -> Java -> **Advanced** tab -> **make the following settings**:*

3.5 Java Web Start Issues

Once you have double-checked that the on-site parking network matches the S&B requirements, please also check the Java Web Start performance.

In one case, it happened that the client's CPU load dramatically increased when the client PC tried to connect to the cell computer via Java Web Start (e.g. 10% normal operation to more than 70% with Java Web Start).

If you observe this behaviour as well, please perform a quick test with a standalone network setup (completely separated from the parking network). This test should consist of a standard switch (e.g. standard S&B KTI switch) connected only to the client PC and the S&B cell computer. If this isolated test shows normal client CPU load, then you have proven an incorrect network configuration or defective network components. These problems have to be corrected by the party that is in charge of the network.

3.6 CCTV Issues

If your system is operable via browser but CCTV / Geutebrück Multiscope problems occur, this may be due to the usage of the 64-bit version of the Microsoft Internet Explorer. These problems should normally not occur if you use the 32-bit version of Internet Explorer.

4 Index

5 Record of Revisions

Revision	Date	Description	Author
-	23/11/2015	Creation	P. Schiffer
a	24/11/2015	Backward compatibility of Java	P. Schiffer
b	29/04/2016	TCP/UDP information added entervo Access with Java Webstart support Troubleshooting section revised Notes on interface metric / single IP address	P. Schiffer
c	01/02/2018	Notes on browser restrictions added Java versions updated Java runtime parameter updated	P. Schiffer
d	09/05/2018	Note regarding network/Java Web Start issue added in chapter	P. Schiffer
e	14/02/2019	Java Getdown added	P. Schiffer
f	09/10/2019	Java Getdown updated	P. Schiffer
g	25/05/2022	Design updates according to entervo V3	M. Lejtrich

6 Notes