

MATRIX PRO – System requirements

Product information
Electronic Access and Data
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Status: July 2018

Version 3.3 or later

General PC requirements

(single-user web server application)

1) Server (MATRIX installation PC)

PC

Computer or server on which MATRIX is installed

Computer or server compatible with MS Windows in terms of hardware and software

Operating systems

- Windows 7 Professional (64-Bit)
- Windows 8 / 8.1 Pro (64-Bit)
- Windows 8 / 8.1 Pro (64-Bit)
- Windows 10 Pro (64-Bit)
- Windows Server 2008 R2 (64-Bit) (1)
- Windows Server 2012 (R2) (1)
- Windows Server 2016 (1)

Please note:

- in each case including the current service pack!
- Windows 8 und newer: In order to avoid an uncontrolled termination of MATRIX, the “Fast Startup” must be deactivated.

(1) It is not possible to use the client software modules (Desktop Reader Manager, evolo Programmer Service, XS Manager) directly on server operating systems. These modules are installed on the client computer, where the corresponding functionality is to be used.

CPU / main memory

Intel-Core-i-Series, Intel Xeon (or comparable)

- Up to 1,000 persons: >= 2.6 GHz / 4 GB RAM
- Up to 5,000 persons: >= 2.7 GHz / 6 GB RAM
- From 5,000 persons on: >= 3.4 GHz / 8 GB RAM

Databases

- H2 (Internal database up to 1,000 persons)
- MS SQL Server Express 2012 (free license)
- MS SQL Server 2012 (see appendix for license handling)
- MS SQL Server Express 2014 (free license; bundled on DVD, default)
- MS SQL Server 2014 (see appendix for license handling)
- MS SQL Server Express 2016 (free license)
- MS SQL Server 2016 (see appendix for license handling)
- MS SQL Server Express 2017 (free license)
- MS SQL Server 2017 (see appendix for license handling)

Please note:

- MS SQL Server (Express) only with current service pack!
- The database size is limited to max. 10 GB with MS SQL Server Express 2014. A maximum of 1 GB RAM and 1 processor (4 cores) is used even with computers having greater capacities.

Recommendation:

- For 5,000 persons or more MS SQL Server Standard Edition or higher.

Workflow option or Web booking (via MATRIX GUI)

If one of this option is in use, the minimum requirements are:

- CPU clock rate/main memory: >= 3.4 GHz / 8 GB
- Databases: MS SQL Server Express or MS SQL Server

Hard disk size

Application including database installation: 6 GB available hard disk space, plus capacity for storing data (max. 10 GB with MS SQL Server Express 2014)

Network protocol and hardware

TCP/IP, Ethernet

Port for communication with web browsers or external devices must be open.

Interface

USB (only for license dongle, no need for dongle-free solution)

MATRIX OPC-Server

Operating System: Windows 7 Professional (64-Bit)

Notes regarding security

The infrastructure of the network operator has a great influence on the additional security. We strongly recommend to restricting access to the MATRIX server as much as possible. For example, in the case of very high security requirements, MATRIX should only be available in a protected internal network. If MATRIX should be available on the public network (e.g. self-service with a mobile device), the operator has to provide additional security activities such as security access with a VPN (Virtual Private Network).

Backup

It is recommended to take backups at regular intervals (e.g. backup to the server or to an external hard disk or tape streamer).

Webserver (Installation with MATRIX)

The Apache Tomcat 9.0 Webserver is included in the MATRIX-installation (no need of separate installation). An own instance is used and registered as MATRIX Tomcat service.

Mobile geolocation (Module Time)

For geolocation an SSL connection to the webserver is required. A certificate of a trusted CA is needed.

Note about dongle-free license in server clusters

The dongle-free license concept is based on various hardware parameters and other factors. If these change, manual relicensing must be done.

2) Client (browser client)

PC

Any PC suitable for MS Internet Explorer (version 11 or later), Mozilla Firefox (version 45 or later), Google Chrome (version 52 or later) or Microsoft Edge.

Interfaces

Optionally USB for Desktop Reader

Screen

- Minimum resolution 1366 x 768, color
- Alarm monitor minimum resolution 1600 x 900, color

PDF files

To display generated PDF files, a PDF reader is required

Appendix: Microsoft SQL Server license handling

In addition to the MS SQL Server license, so-called CALs (Client Access Licenses) are needed. The number of client access licenses required for the MS SQL Server database depends on the number of users able to access MATRIX.

Each MATRIX user needs a "User CAL" or a "Device CAL". The number of simultaneous accesses is irrelevant! A "Per Processor" license is another possibility. With this model, the CPUs are licensed and Device CALs or User CALs for the SQL server are no longer required. The question of the number of users required in order to make this model worthwhile is an economic issue which is to be decided based on the costs involved for licenses.

Additional information about the Microsoft license model:

CAL:

Client Access License, the Microsoft license model includes the "User CAL" and the "Device CAL" as well as the "Per Processor" license. With the server products offered in the server/CAL license model, you can normally choose between user-based or device-based licensing for the CALs. Device CAL and User CAL are the same price. You can choose whether you want to use Device CALs or User CALs. There is also the "Per Processor" license for cases where programs perform the access and the user or the device cannot be precisely determined.

Device CAL:

Allows a device to access or use the server software. The device can be used by any user.

User CAL:

In addition to a device-based client access license (CAL) Microsoft offers client access licenses that are licensed for a user and not linked to a device. The user can use any device.

Per Processor:

Processor licenses can be used in any Internet, extranet or intranet scenario. A processor license includes access for an unlimited number of users and devices who access or use the server software via the company's LAN or WAN or from outside the firewall. Processor licenses are available in the Enterprise and Standard Editions of the server products.

Contact

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