



HEXAGON

System Requirements for Q-DAS Products

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1 Preface

This document describes the system requirements for the application of Q-DAS software products. It also tries to illustrate different scenarios since our software is quite flexible providing various types of installations.

In case of doubt, you may still discuss the respective installation type with the Q-DAS support in your country.

The requirements this document describes do not depend on the 32-bit or 64-bit version of the Q-DAS programs. Always consider the respective **system requirements of the Windows operating system you use, and the conditions required to apply the software on site.**

1.1 General hardware requirements

The statements about hardware issued in the following refer to systems that are mainly used with Q-DAS programs. In case you apply any third-party programs or services with high requirements on the resources, you must consider these requirements in the hardware configuration. Faster CPUs (higher clock rate), extended RAM (random access memory) and a faster mass storage solution (hard drives, SSD) increase the processing speed. In addition, we recommend a higher resolution and a large screen for comprehensive evaluations, analyses and for the application of e.g., the Form Designer. Take care of your workplace ergonomics.

In addition to the requirements mentioned in the single chapters, there are some other useful components.

- Interfaces in order to connect measuring instruments
- RS232 or USB
- Sound card (e.g., for procella/O-QIS)
- Printer in order to print reports

Acrobat Reader for the display of PDF files.

1.2 Ordner- und Dateirechte

In order to run a Q-DAS program, you need the user right to modify directories. In case you use Windows as an operating system for a single or client installation, you need to access

- programs under C:\Program Files (x86)\Q-DAS\... (no adjustment of user rights required)
- data under C:\ProgramData\Q-DAS\... (hidden folder) (user needs right to modify)

...in any directory of your choice,

- e.g. C:\Q-DAS\... -> Modify



In order to run Q-DAS programs on the clients, the users require at least **read** access to the network share in which the “network installation“ was executed.

Depending on the task and operational concept, you will need the right to modify some directories.

- Example
 - ...\PLANTDEFAULT – this concern the entire directory and all the folders it includes
 - Required to use MS Access databases (*.MDB files)
 - Required to edit masks, report templates or other files

You may adapt the user rights to your requirements.

1.3 Products and use cases

There is a wide variety of use cases for Q-DAS products. Some products are available as a single installation or server-client installation. Other products run as a service on a server. The system requirements thus differ depending on the data volume and the intensity of use.

The single use cases and corresponding requirements are described in the following.

2 Single installation

Refers to solara.MP, procella, destra, vidara, qs-STAT, O-QIS, Q-EMPB, Q-FD

In case of a single installation, you start a single installation from a CD and run the setup on a computer. After completing the setup, all program files and configurations are stored on this computer (option A).

You can connect a remote database (Access database on a file share, SQL database on a SQL server, (option B) to this computer but we call it single installation since we particularly refer to the configuration database.

The current standard requirements for office computers apply to single installations.

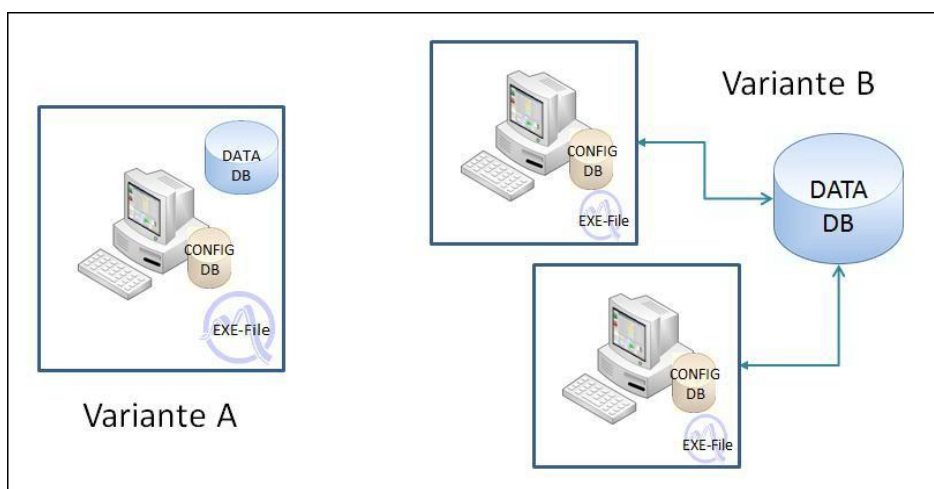
- **The following office/server Windows operating systems supported by Microsoft: Server2012, Windows 10, Server2016, Server2019**
- **Minimum requirements specified by the provider of the respective operating system (see Windows system requirements)**
 - **For 32-bit versions, we recommend**
 - **2 GB RAM**
 - **minimum 2 GB hard disk space**



Depending on the settings of your company, you need **administrator** rights to install the software.



In order to use the software, the registered user needs rights to **access/modify** all Q-DAS files installed.



3 Network installation / server-client installation

Refers to solara.MP, procella, destra, vidara, qs-STAT, O-QIS, Q-EMPB, Q-FD, M-QIS Dashboard

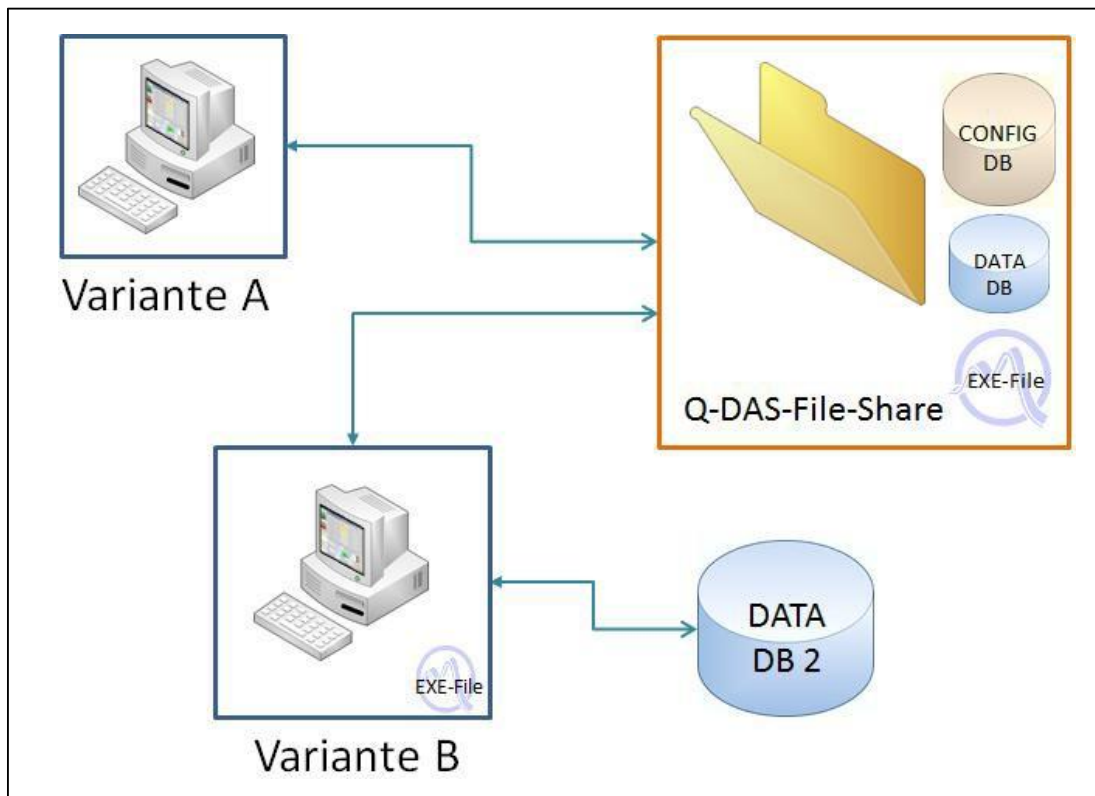
In case of a network installation, you start the setup from a CD and install into a central file share as target installation folder. The file share contains all program- and configuration files after completing the setup.

All subsequently installed client installations use a joint configuration and access the program files stored on the central file share (option A). However, you can also store the some select program files for each client (program exe, DLL files, help files, etc.) locally on the selected client (option B).

It is also possible to connect the installation to one or several central databases (Access database on a file share, SQL database on a SQL server, Oracle database on an Oracle server).



The software products listed above do not run on the "server". All programs work with the CPU and the RAM of the client PC.



3.1 Server components of the network installation

In a server client installation, the server components have to be installed first. For this, the Setup has to be started as “network installation”. During the setup, all program and configuration files are copied into the central file share. License registration takes place centrally in case as well. You can start the setup from any workplace or location; it does not have to be the physical host of the file share.

However, the application writes registry entries during the installation. If you want to make any basic changes to the system (e.g., add programs) later one, you will need them to open the setup again.



We recommend you using a computer, virtual machine or server for the setup of server components that will still be available in the future.

On the one hand, the products concerned do not really need a server for the installation of the server components but a file share only.

On the other hand, an available server including the file share also has its advantages since you can start the setup from this server and the registry entries are kept there.

In case you want to install any components of the products mentioned in chapter “4 Services”, you have to use a real Windows server. See chapter 4 for more details.

The following requirements apply to the type of installation described in this chapter:

- ***About 1 GB available hard disk space for system files (program installation)***
- ***Up to 4 GB available hard disk space for databases (measured values) in case the Access database (included in the installation) is applied***
- ***The following office/server Windows operating systems supported by Microsoft: Server2012, Server2016, Server2019***

3.2 Client components of the network installation

A product-specific client setup installs the client components of the respective products.

After completing the setup of server components successfully, you can find the client setup in the respective product folder on the central Q-DAS share.

The same requirements as to the single installation are applied to the client installation. It only requires considerably less hard disk space since the setup of client components installs only a link and an INI file in extreme cases.



However, you should focus on how to connect the single installations to the central Q-DAS share. You may transfer huge amounts of data here, so the bandwidth of the network connection affects the start-up behavior and the performance of the system.

The current standard requirements for office computers apply to client installations.

- ***The following office/server Windows operating systems supported by Microsoft: Server2012, Windows 10, Server2016, Server2019***
- ***Minimum requirements specified by the provider of the respective operating system (see Windows system requirements)***
 - ***For 32-bit versions, we recommend***
 - ***2 GB RAM***
 - ***minimum 2 GB hard disk space***
- ***Stable network connection to the Q-DAS share, min. 100 Mbit***



Depending on the settings of your company, you need **administrator** rights to install the software.



In order to use the software, the registered user needs rights to **access/modify** all Q-DAS files installed.

4 Services

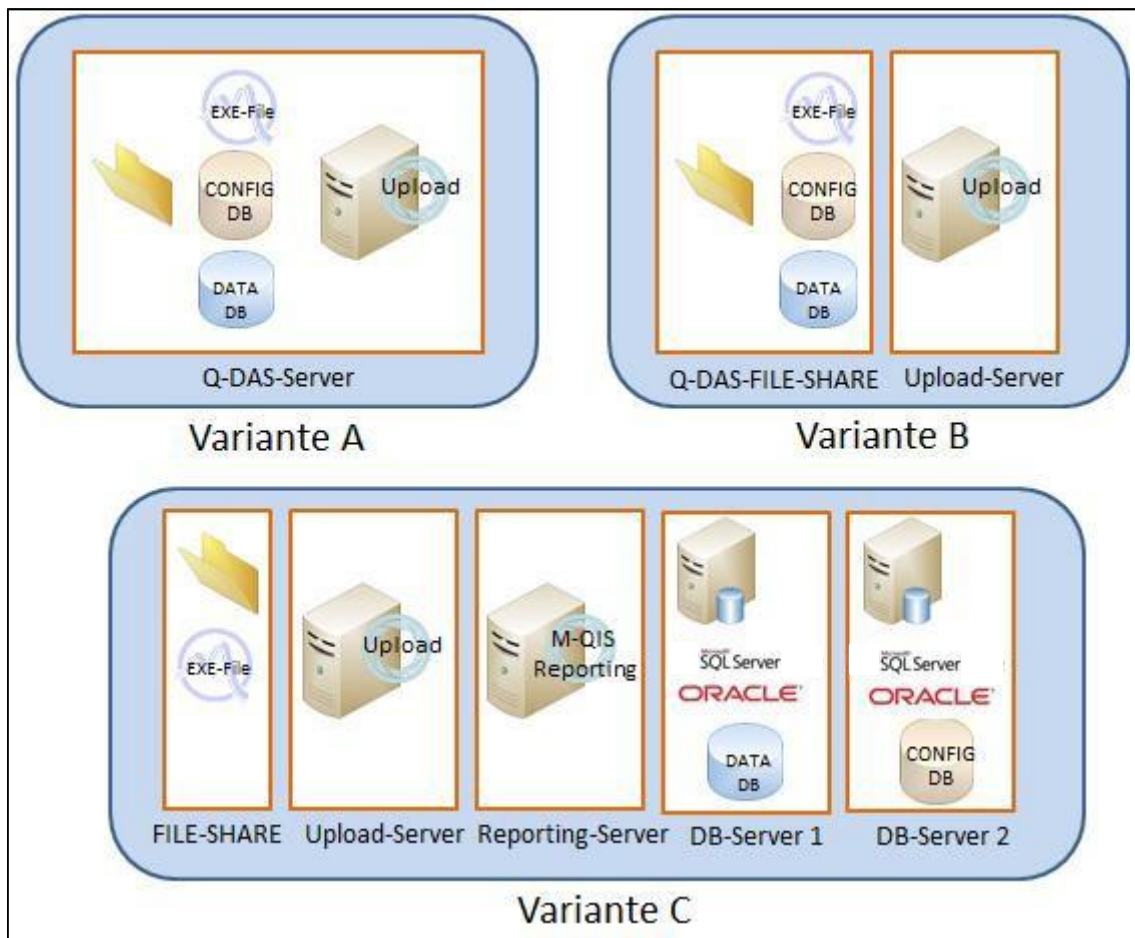
Refers to Q-DM (Upload), M-QIS Engine, M-QIS Upload Reporting

Q-DAS services are programs with a similar installation compared to all server components (see chapter 3.1.) but they include a Windows service requiring a real runtime environment.

Ideally, you install the products listed above on a real server in order that they can perform their tasks permanently.

You have to consider the total load of your system to find the best suitable server in your system.

Some systems use only a single Q-DAS server on which the installation was performed on, and that then serves as the central Q-DAS share as well as runs Upload Reporting processes (Variant A). However, you can also allocate the individual tasks to different servers if required for performance reasons (Variants B/C).



The same requirements apply to all these systems:

- *The following office/server Windows operating systems supported by Microsoft: Server2012 Windows 10, Server2016, Server2019*
- *Minimum requirements specified by the provider of the respective operating system (see Windows system requirements)*
- *Windows service account (service user) with sufficient rights to run the service*
- *Available RAM memory > 2 GB RAM*
- *CPU: minimum requirements of your operating system but also depends on the extend and amount of usage*

5 Databases

Refers to all product

The Q-DAS software uses several databases depending on the respective type of application.

- Configuration database
- Text database
- Several data databases for measured values (data, CMM, monitoring)

You can use MS Access databases as a configuration database, text database and as local buffer databases for O-QIS CMM because they work quite well and have a good performance. However, in case you work with a system including many users, a huge amount of data and complicated network connections, we recommend you to apply a “real” database system, e.g. MS SQL server or Oracle, for one or several databases mentioned above.



In general, Q-DAS does not provide any hardware, operating systems or third-party database licenses. The customer is also responsible for installing, operating, maintain and performing backups of a database server or individual databases. Server databases (MS-SQL server or Oracle) shall support Unicode (UTF8).

5.1 Microsoft Access

After installing Q-DAS software products, MS Access databases are provided automatically in the installation folder.

These databases are free of charge. Even if you do not have Microsoft Access installed, the Q-DAS software is able to use them.

The size of Access databases is limited to 2 GB. This storage space can be sufficient if you work with a small system including few users and a limited amount of data.

Larger systems including a high amount of measured data should/must apply a “real” database system solution (see following chapters).

5.2 MS SQL server databases

You may also store single or all databases of the Q-DAS system on an available MS SQL server at the customer's site. For this, a database has to be created on the database server. The database needs to be setup to allow connecting to the database using either a SQL login or Windows authentication, and through a Firedac Connection from within Q-DAS applications.

There are Q-DAS products available to create this database structure.

Creating databases requires respective access and permissions to the database system and can be carried out by the customer's responsible team, or with support of an employee of the Q-DAS system integration team.

Q-DAS software products support the following database servers:

- **Microsoft SQL server since version 2012**
all variants, even Express (please consider the corresponding limitations)



Each client / single installation needs an installed **SQL Server Native Client 11.0** to get access to the data. This is offered directly in the setup from V13 onwards.

(Download: <https://www.microsoft.com/en-us/download/details.aspx?id=50402>).

Q-DAS assumes that you tested the database connection successfully by using the tool "Database Connect".

The version tests for working with MS SQL databases were carried out with the following system settings:

Permissions	public, db_owner
Collation	Latin1_General_CI_AS Latin1_General_CS_AS
Recovery model	Simple Full (can be set, but the software does not use this)



These settings are to be understood as exemplary settings. Deviations from these may be possible but must be checked in advance.

5.3 Oracle databases

You may also store single or all databases of the Q-DAS system on an available Oracle database server at the customer's site. For this, a database has to be created on the database server. The database needs to be setup to allow connecting to the database using a respective Oracle user/schema, and through a firedac Connection from within Q-DAS applications.

There are Q-DAS products and Scripts available to create this database structure.

Creating databases requires respective access and permissions to the database system and can be carried out by the customer's responsible team, or with support of an employee of the Q-DAS system integration team.

Q-DAS software products support the following database servers:

- **Oracle Server since version 12.x**



Also consider that the Oracle database provider – compared to the MS SQL database provider – is not included in the Windows operating system.



Oracle systems need an installed Oracle client according to the installed server version for each client / single installation in order that the respective user is able to access the database.



Not all possible architectures of Oracle are supported.

An exact check can only be made in a workshop. If the existing architecture cannot be used, it is recommended to switch to MS SQL databases.

Q-DAS assumes that you tested the database connection successfully by using the tool "Database Connect".

The version tests for working with Oracle databases were carried out with the following system settings:

Permissions	connect, resource
NLS_CHARACTERSET	AL32UTF8
NLS_NCHAR_CHARACTERSET	AL16UTF16
DB Server	Oracle Database 12c Enterprise Edition Release 12.2.0.1.0 Oracle Database 19c Standard Edition 2 Release 19.0.0.0.0
Client	Version 12.2.0 NLS_LANG GERMAN_GERMANY.WE8MSWIN1252 NLS_LANG AMERICAN_AMERICA.WE8MSWIN1252



These settings are to be understood as exemplary settings. Deviations from these may be possible but must be checked in advance.

6 Virtualisation / Terminal server / Citrix

Q-DAS customers operate small and very large terminal server and Citrix solutions successfully. Due to these solutions, you may implement global installations including centralized data management.

Since there is a wide variety of solutions available on the market that are sometimes integrated into complex IT structures, we recommend you ask your local Q-DAS support for help and consultation.

General requirements are given in the following.

6.1 Virtualisation

You may operate Q-DAS products under virtualization solutions as long as the program runs on a fully fledged operating system (or at least a system that seems to be fully fledged) and sufficient resources are available.

The requirements that apply to each entity are similar to the requirements mentioned in chapter 2 “Single installation”.

6.2 Terminal server / Citrix

The operation under terminal server (Windows terminal server, Citrix, XenApp, ...) is often applied to global installations.

In general, this type of installation is similar to a server client installation. However, in this case, all clients run in a shared virtual runtime environment of the terminal server / Citrix server.

The requirements that apply to each client of the terminal server / Citrix system are similar to the requirements mentioned in chapter 2 “Single installation”.

7 3D CAD Integration

Please consider the following requirements to apply the 3D CAD Integration:

System requirements

- Processor
 - 2 GHz Quad Core or fast (recommended)
 - 8 GB RAM
- Hard disk
 - SSD with 500 GB (recommended)
- Graphics
 - VideoRAM: Minimum 1 GB DDR3 RAM
 - PCIe 2.0 x 16
 - OpenGL 3.0 or higher
- Operating system
 - 64-bit operating system (Windows 10)
 - Unable to apply on terminal server, Citrix or in virtual environment
- Database
 - Databases: MS-SQL or Oracle
- Q-DAS Software
 - 64-bit Q-DAS Software (recommended)
- Redistributables (are provided to install during the setup)