

BORM

REQUIREMENTS VERSION 7

Smart ERP





REQUIREMENTS VERSION 7

Workstation ERP

General

The speed of the ERP application depends on the extent to which the program is used.

The following points are decisive for the client:

- High computing power
- Fast and stable network

Basically, our systems work on any computer with an MS Windows operating system installed. (See below for supported products). For a smooth, speedy and efficient working experience, we recommend the configuration listed below as a minimum.

Borm recommends a DPI scaling of 100%. For screens with a high number of pixels that require DPI scaling, Borm recommends 200%.

Any other scaling factors will also work, but will result in noticeable blurring.

Minimum requirements (guideline)

(Office/ERP workstation)

- Intel Core i5 or comparable AMD processor (Ryzen)
- 4 - 8 GB RAM (8 - 16 GB recommended)
- Resolution: 1600 x 1200 (or higher)
- 500 GB HDD-HD (256 - 512 GB SSD recommended)
- Windows-compatible wheel mouse
- Network card: 1000 Mbit/s

Operating system

- Microsoft Windows 10 Pro / 64 Bit Version
- Microsoft Windows 11 Pro / 64 Bit Version

Microsoft Office

- Microsoft Office 2016 / 32 Bit Version
- Microsoft Office 2019 / 32 Bit Version
- Microsoft Office 2022 / 32 Bit Version
- Microsoft Office 365 / 32 Bit Version



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Workstation CAD

Mid-range (guideline)

(CAD workstation)

- Intel Core i5/i7 or comparable AMD processor (Ryzen)
- 8 - 16 GB RAM
- Dedicated graphics card nVidia - GeForce RTX (1050 or higher) or Quadro from 6 GB RAM
- Screen resolution: at least 1920 x 1080 (FHD) or 3840 x 2160 (4K), possibly 2 screens
- Hard drive: 256 - 512 GB SSD + possibly additional HDD for data
- Windows-compatible wheel mouse
- Network card: 1000 Mbit/s

High-end (guideline)

(CAD workstation - rendering)

- Intel Core i7 or i9
- 16 - 32 GB RAM
- Dedicated graphics card nVidia - GeForce RTX (3060 or higher) or Quadro from 12 GB RAM
- Screen resolution: at least 2560 x 1440 (QHD) or 3840 x 2160 (4K), 2 screens recommended
- Hard drive: from 512 GB SSD + possibly additional HDD for data
- Windows-compatible wheel mouse
- Network card: 1000 Mbit/s

Operating system

- Microsoft Windows 10 Pro / 64 Bit Version
- Microsoft Windows 11 Pro / 64 Bit Version



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Database / File server

Server requirements (minimum, up to approx. 10 users)

- 1 x quad core processor: Intel XEON or AMD Epyc, Intel i7
- At least 16 GB RAM
- At least 150 GB of hard drive space (SSD recommended)
- Data backup suitable for the hard disk size

Server requirements (more than 10 users)

- 2 x quad core processors: Intel XEON or AMD Epyc, Intel i7
- At least 32 GB RAM
- At least 300 GB of hard drive space (SSD recommended)
- Data backup suitable for the hard disk size

Operating system

- Microsoft Windows Server 2016
- Microsoft Windows Server 2019 (**recommended**)
- Microsoft Windows Server 2022

Database server

- Microsoft SQL Server 2014 Express, Standard or Enterprise Edition (**not recommended anymore**)
- Microsoft SQL Server 2016 Express, Standard or Enterprise Edition
- Microsoft SQL Server 2017 Express, Standard or Enterprise Edition
- Microsoft SQL Server 2019 Express, Standard or Enterprise Edition
- Microsoft SQL Server 2022 Express, Standard or Enterprise Edition

Restrictions for the Microsoft SQL Express Edition

- Maximum 1 CPU, but up to 4 processor cores
- Maximum 1 GB RAM
- Maximum database size of 10 GB
- No SQL Server Agent

Requirements

- Network with ActiveDirectory and a correctly functioning DNS server
- Communication takes place via a TCP/IP network using an SMB protocol
- A correctly installed and configured data backup suitable for the hard disk size must be available
- Fast and secure hard drive system, we highly recommend having the SSD for the DB server locally on the host running the DB server (as opposed to attach it over NAS or SAN)
- Sufficient RAM
- Fast and stable network
- Network card: 1000 Mbit/s
- Uninterrupted
- Low latency and high data throughput



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Borm Live Network

Certain requirements must be met so that Borm Live can be accessed on the internet. We recommend that you have a provider or network specialist make these settings.

Optimal conditions for the network:

Internet subscription with a static IP address

- Recommended: To avoid having to enter an IP address into the browser every time, you should also buy a domain name from a provider. A subdomain can then be redirected from the domain to the company server on which Borm Live is running. If you already own a domain, this is sufficient.
- Please note: if an IP address already exists, but it points to an external host (e.g. for the website), an additional IP address is required.

Internet subscription with high upload bandwidth (depending on the number of clients that are connected at the same time). For 5-10 clients at the same time (= at the same second) an upload bandwidth of 10 Mbps is recommended.

Server on AdoptOpenJDK with a Tomcat and nginx server running.

- We will supply and install these programs. Optionally, the Borm Live server can be installed on the same server as Smart ERP.
- The server must have a network drive connection to the Smart ERP environment. In addition, the Borm Live server must be able to reach the Smart ERP SQL server via a TCP port connection (usually port 1433). The easiest way to do this is to have these two servers on the same local area network.

It is also mandatory to set up an SSL-certificate

- Details are explained in more detail in the section «**Borm Server SSL-Certification**».

Free port 443 (https). Solution when the port is occupied:

- Change the port to which the nginx server listens, for example 8443
When changing the port, the port must always be added after the URL (e.g. <https://www.musterschreinerei.bormlive.ch:8443>).
- Or set up a reverse proxy server
- Rent and configure additional IP addresses.

Free Port 80 (http) for Let's Encrypt (see **Borm Server SSL-Certification**)



REQUIREMENTS VERSION 7

Borm Live Security

Our Borm Live software solutions are based on user licences. Every user can log on with their username and a password.

As the Borm Live technology is established entirely on the internet, the security measures have to meet special requirements. Despite state-of-the-art encryption procedures with a recommended SSL certificate, logins must still be protected by a username and password. The more complex the password, the lower the risk of a hacker attack.

We strongly recommend:

- Personal login for each user
- Password with at least 10 characters
- Min. 1 uppercase character
- Min. 1 number
- Min. 1 special character (* “/)

We advise adhering to this recommendation, as otherwise the security of the company data will suffer and targeted attacks on the company database may be possible.

If multiple user names can be selected on a single device at the push of a button, the security is also limited. In such cases, we recommend an additional company login with a password.



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Borm Server SSL-Certification

Our Borm server software solutions enable access to the data of your ERP system. Access is protected either by login with a password or by Single Sign-On (SSO, for example, with Microsoft Azure SSO). To ensure that password transmission and all other communication is encrypted, we use an SSL-encrypted data connection (http over SSL). To guarantee the authenticity of the server, it is necessary to issue an SSL certificate for the server domain. These certificates have a maximum lifespan of 1 year.

There are five variants available for SSL certification:

	Borm's responsibility	Your responsibility
Variant 1 – Recommended (low hourly effort)		
Let's Encrypt for xyz.bormlive.com/.ch		
Set up fixed IP or DynDNS		X
Port forwarding, Port 80 (Let's Encrypt), including firewall config.		X
Port forwarding, Port 443, HTTPS, including firewall configuration		X
Set up Let's Encrypt on your server	X	
Daily external SSL monitoring	X	
DNS entries for your fixed IP	X	
DNS-CAA entry correct for Let's Encrypt	X	
Variant 2 – Recommended (middle hourly effort)		
Borm-Certificate for xyz.bormlive.com/.ch		
Set up fixed IP or DynDNS		X
Annual certificate purchase	X	
Annual DNS-CNAME entry for domain ownership verification	X	
Port forwarding, Port 443, HTTPS, including firewall configuration		X
Daily external SSL monitoring	X	
DNS entries for your fixed IP	X	
DNS-CAA entry correct	X	
Variant 3 – Not recommended (high hourly effort)		
Let's Encrypt for borm.yourDomain.com		
Set up fixed IP or DynDNS		X
Port forwarding, Port 80 (Let's Encrypt), including firewall config.		X
Port forwarding, Port 443, HTTPS, including firewall configuration		X
Set up Let's Encrypt on your server	X	
Daily external SSL monitoring	X	
DNS entries for your fixed IP		X
DNS-CAA entry correct for Let's Encrypt		X



	Borm's responsibility	Your responsibility
Variant 4 – Not recommended (high hourly effort)		
Borm-Certificate for borm.yourDomain.com		
Set up fixed IP or DynDNS		X
Annual certificate purchase	X	
Annual DNS-CNAME entry for domain ownership verification		X
Annual certificate setup on your server	X	
Port forwarding, Port 443, HTTPS, including firewall configuration		X
Daily external SSL monitoring	X	
DNS entries for your fixed IP		X
DNS-CAA entry correct		X

	Borm's responsibility	Your responsibility
Variant 5 – Not recommended (high hourly effort)		
Your certificate for borm.yourDomain.com		
Set up fixed IP or DynDNS		X
Annual certificate purchase		X
Annual domain ownership verification with your certification authority		X
Annual certificate setup on your server	X	
Port forwarding, Port 443, HTTPS, including firewall configuration		X
Daily external SSL monitoring	X	
DNS entries for your fixed IP		X
DNS-CAA entry correct		X

In principle, it is worthwhile to use fully automatic certificate issuance through the modern Let's Encrypt certification system (<https://letsencrypt.org>, https://en.wikipedia.org/wiki/Let%27s_Encrypt). It verifies the rightful domain owner using a token which the Let's Encrypt bot (certbot) provides over Port 80. However, for this, it is necessary for you to also open Port 80 and forward it to the Borm server. Important: Of course, Port 80 is not used by the Borm server to transmit any ERP data. Port 80 is exclusively used by the Let's Encrypt certbot.

If the modern Let's Encrypt system is not desired, it is also possible to obtain a conventional certificate. If you choose a variant in which we provide both the certificate and the main domain (yourName.bormlive.ch or yourName.bormlive.com), this will also involve less effort than if we have more coordination work with your IT.

Our experience shows that with **variants 3-5**, a significant annual number of hours is incurred on the part of Borm. These hours are primarily in communication and coordination between you, your IT, and us. Accordingly, we recommend choosing Variant 1 or Variant 2 if possible.

Unfortunately, we also repeatedly experience that with **variants 3-5**, customers or their IT inadvertently cause Borm server system interruptions because the DNS entries are accidentally deleted or changed. This happens, for example, during a DNS migration when switching providers.

The **Borm advantage**: Regardless of which variant you choose, our automatic system checks daily whether your system is still accessible from the internet with a valid certificate, and it will contact you if the certificate is about to expire or if your system should be inaccessible for other reasons.



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Borm Live General

Borm Live supports the following browsers:

Windows desktop:

- Chrome newest version
- Firefox newest version
- Microsoft Edge newest version

Android / iOS:

- Latest version of Chrome for Android (recommended)
- Latest version of Safari for iOS



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Device recommendations

General

For the usage of Borm App and Borm Live we recommend the following devices:
The devices were internally tested by us and satisfy the requirements.

Borm App – with Laserscanner

CipherLab RS31 (still supported)

CipherLab RS50 (still supported)

CipherLab RS51_HS (recommended)

<https://www.cipherlab-shop.de/cipherlab-rs51-2d-imager-sr-touch-wlan-bt-gps-hsdpa-gms-kamera-rfid-android-8-0--bcc52>

CipherLab RK95

Unitech PA730 (still supported)

Unitech PA760 (recommended)

<https://www.ute.com/en/products/detail/PA760>

Borm App – without Laser scanner

Android phone with Android version 6.0 or newer.

iOS phone with iOS version 15 or higher.

Borm Live – Recommendations Tablet

Samsung Galaxy Tab S6 Lite LTE

- Screen size : 10.40"
- Processor : 8 Core 2.3 GHz Exynos 9611
- RAM : 4 GB
- Resolution : 2000 x 1200 Pixels
- Android Version : 10.0
- Network : Wi-Fi & 4G

Samsung Galaxy Tab Active Pro LTE

- Screen size : 10.10"
- Processor : 8 Core 2.0 GHz Qualcomm Snapdragon 670
- RAM : 4 GB
- Resolution : 1920 x 1200 Pixels
- Android Version : 9.0
- Network : Wi-Fi & 4G



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Server Configuration

SQL – Server – Configuration: 3 separate hard disks or at least 3 partitions

- 1st system partition C:\ - ONLY SQL server program installation, standard
- 2nd partition D:\ for the databases (program DB and license DB) - folder: BGRDBs
- NOT on drive C:!
- 3rd partition Z:\ for backup and logs - folder: BGRBackup
- Collation: Latin1_General_CI_AS
- RAM/CPU etc. see above under database/file server

SQL installation

- Own instance for Smart ERP / instance name: «BGR2019» (19 = installed SQL version)
- Own instance for Infoniqa / instance name: « INFONIQA »

Smart ERP - program files

- «BormGruppe» folder = program files
- Preferably on an application server (can also be on the SQL server)
- Every Smart ERP user needs full access

Documents – storage

- «BormDokV» folder
- Preferably on a file server (not on the SQL server)
- Every Smart ERP user needs full access

Client – installation (local, Microsoft Terminal Server or Citrix)

- Local administrator rights are required for the installation
- 1 or 2 drive letters for the mapped folders «BormGruppe» and «BormDokV»
- ODBC for ERP-DB and ODBC for license-DB
- Standard printer must be defined
- Various programs are also installed

Firewall on the servers and workstations

- Depending on the installation, open at least port 1433
- For Borm Live installations, additionally open ports 80 and 443 or the ports of your choice
- For exceptions due to virus protection see below

Backup

- We set up daily backup tasks and weekly and monthly clean-ups with SQL-Server Standard.
- We install software for a simple backup with SQL-Server Express.
- Your IT partner should also copy the *.bak or *.zip files to another medium on a daily basis using their own backup solution.



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General Configuration

IP addresses

- All servers, printers and production machines must have a fixed IP address.
- DHCP addresses should only be used for PCs, notebooks and tablets

Naming of servers, PCs and users

- No spaces
- No umlauts
- Max. 15 characters for server and PC names
- For reasons of backward compatibility with older third-party applications and services, it can make sense not to use names with more than 8 characters



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Antivirus Configuration

Virus scanner

Exclude the following folders locally and on the mapped drive on the server:

- ?:\BormGruppe\SmartERP (on the local server) (without document management)

- ?:\SmartERP (mapped drive) (without documentation management)

- BGRDBs
- BGRBackup

Exclude the following folders on the client:

- ?:\SmartERP

Exclude the following file types on the server and clients:

- LNG
- QRY
- RPI
- RPT
- SCC
- SCT

Exclude the following processes on the server and clients:

- ?:\SmartERP\bin\BormGroupERP.exe
- ?:\SmartERP\bin\BormGroupLW.exe
- ?:\SmartERP\bin\BormSTK.exe
- ?:\SmartERP\bin\BormSTKStarter.exe
- ?:\SmartERP\bin\BormGPE.exe
- ?:\SmartERP\bin\BormGPEStarter.exe
- ?:\SmartERP\bin\BormBV.exe