

ConSol Software GmbH

System Requirements ConSol CM 6.14.0

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Contents

| | |
|--|-----------|
| Contents | 2 |
| 1. Architecture | 3 |
| 2. Server | 4 |
| 2.1 Hardware | 4 |
| 2.1.1 Network Connection | 4 |
| 2.1.2 Virtualization | 4 |
| 2.2 Software | 5 |
| 2.2.1 Operating System | 5 |
| 2.2.2 Middleware / Application Server | 5 |
| 2.2.3 Database | 6 |
| 3. Client | 8 |
| 3.1 Hardware | 8 |
| 3.2 Software | 8 |
| 3.2.1 Operating System | 8 |
| 3.2.2 Browser | 8 |
| 3.2.3 Word Processor | 9 |
| 3.2.4 Java | 9 |
| 4. Interfaces | 10 |
| 4.1 Email | 10 |
| 4.2 Microsoft Exchange Calendar | 10 |
| 4.3 LDAP | 10 |
| 4.4 Single Sign-On | 10 |
| 4.5 Other Interfaces | 11 |
| 5. Add-ons | 12 |
| 5.1 CM/Archive | 13 |
| 5.1.1 Software | 13 |
| 5.2 CM/EBIA | 14 |
| 5.2.1 Hardware | 14 |
| 5.2.2 Software | 14 |
| 5.2.3 Internet connection | 14 |

1. Architecture

ConSol CM is a Java EE application consisting of the following core components:

- Java EE application server
- Relational database

The reporting framework (**CMRF**) can be run on the same application server or have its own application server. It always needs a separate database schema.

ConSol CM provides several client applications:

- **Web Client**: web application for end users, accessed using a web browser
- **CM/Track**: web application for end users, accessed using a web browser (optional)
- **Admin Tool**: Java Web Start application or Java application for administrator users, executed locally
- **Web Admin Suite**: web application for administrators, will replace the **Admin Tool** and **Process Designer**
- **Process Designer**: Java Web Start application or Java application for administrator users, executed locally
- **CM/Archive**: web application for end users, accessed using a web browser (optional)

2. Server


This section describes the system requirements for the server for the newest release of **ConSol CM** version 6.14.0.

2.1 Hardware

This section describes the system requirements for the server hardware.

For a standard installation with 50 concurrent users, the following hardware is recommended:

| Component | Minimum recommendation |
|--------------|-------------------------------|
| Memory (RAM) | 10 GB |
| Storage | 10 GB |
| Processor | 2 GHz dual core or equivalent |

 Please also check the system requirements of the used middleware.

2.1.1 Network Connection

This section describes the system requirements regarding the network connectivity between servers, databases and web containers.

For a standard installation with 50 concurrent users, the following network connectivity is recommended:

| Component | Minimum recommendation |
|-------------------|------------------------|
| Network latency | < 0.5 ms |
| Network bandwidth | 1 Gb/s |

The above values refer to a network connection which is available for **ConSol CM** and does not bear significant load by other components.

In addition, the following is required:

- No virus scanner on the **ConSol CM** server
- No firewall between **ConSol CM** and the databases

If the above requirement cannot be met for any reason, it is mandatory to ensure that the virus scanner or firewall does not impair or change throughput, latency or content of the network traffic between components.

2.1.2 Virtualization

ConSol CM supports virtual environments. The following additional system requirements apply for running **ConSol CM** in virtual environments:

- No overcommit of CPU and memory
- Sockets, CPU and hyperthreading configured consistently with the actual hardware

| Performance index | Minimum recommendation |
|-------------------|------------------------|
| CPU latency | < 5% |
| VM in ready state | < 5% |
| Switches/s | < 100 |
| Migrates/s | < 100 |

2.2 Software

This section describes the system requirements for the server software.

2.2.1 Operating System

The system requirements regarding the operating system depend on the used application server. In general, **ConSol CM** is operational as long as the requirements of the application server are met.

The following operating systems are supported:

| Operating system | Support |
|------------------|------------------------------------|
| Linux / Unix | Kernel 2.6.24 or newer |
| Windows | Windows Server 2012, 2016 and 2019 |

Tested configuration:

- Ubuntu 16.04 LTS, Ubuntu 18.04 LTS
- Debian 9.12

2.2.2 Middleware / Application Server

ConSol CM is used with Java application servers for Java Enterprise Edition.

CM/Track can be used either in the same application server as **ConSol CM** or in a separate application server. Alternatively, it can be used in Apache Tomcat.

The following application servers with the respective Java versions are supported:

ConSol CM

| Vendor | Application server version | Java version |
|---------|---|--|
| Red Hat | <ul style="list-style-type: none"> • JBoss Enterprise Application Platform 7.3 • WildFly 18.0.1 | <ul style="list-style-type: none"> • Oracle Java SE 8 • AdoptOpenJDK 8 • AdoptOpenJDK 11, HotSpot version |

CM/Track

| Vendor | Application server version | Java version |
|---------|---|--|
| Red Hat | <ul style="list-style-type: none"> JBoss Enterprise Application Platform 7.3 WildFly 18.0.1 | <ul style="list-style-type: none"> Oracle Java SE 8 AdoptOpenJDK 8 AdoptOpenJDK 11, HotSpot version |
| Apache | Apache Tomcat 9.0.54 or newer | <ul style="list-style-type: none"> Oracle Java SE 8 AdoptOpenJDK 8 AdoptOpenJDK 11, HotSpot version |



WildFly 18.0.1 is not supported for clustered environments.

Tested configuration:

- JBoss Enterprise Application Platform 7.3.9
- Oracle JDK 1.8.0_192 and OpenJDK 1.8.0_265

2.2.3 Database

ConSol CM uses a relational database. The following relational database management systems are supported:

| Vendor | Version | Driver |
|-----------|---|------------|
| Oracle | Oracle 12c, 19c | ojdbc 8 |
| Microsoft | Microsoft SQL Server 2012, 2014, 2016, 2017, 2019 | 7.4.1.jre8 |
| Oracle | MySQL 5.6 (5.6.13 or newer), MySQL 5.7, MySQL 8 | 8.0.22 |

Tested configuration:

- MySQL 5.6.40, 5.7.27, 8.0.23
- Oracle 12c Enterprise 12.2.0.1.0 and 12.1.0.2.0
- Microsoft SQL 2014 (12.0.6329.1)

The system requirements of the used RDBMS apply. Example requirements for a standard installation with 50 concurrent users:

| Component | Minimum requirement |
|--------------|-------------------------------|
| Memory (RAM) | 4 GB |
| Storage | 50 GB, 5 GB increase per year |



The necessary database storage heavily depends on the usage of **ConSol CM**. The performance of the database storage has a substantial impact on the general performance of the application. We recommend local storage for the database. If possible, use SSD drives for the temporary tablespace.

3. Client

This section describes the system requirements for the clients for the newest release of **ConSol CM** version 6.14.0. These requirements apply both to the administrators who configure the system and to the end users.

3.1 Hardware

This section describes the system requirements for the client hardware.

| Component | Minimum recommendation |
|-------------------|------------------------|
| Memory (RAM) | 2 GB |
| Processor | 1 GHz |
| Screen resolution | 1280 px width |


3.2 Software

This section describes the system requirements for the client software.

3.2.1 Operating System

The following operating systems are supported:


| Operating system | Support |
|------------------|----------------------|
| Linux / Unix | Linux |
| Windows | Windows 10 or higher |

 **CM/Doc** is only supported on Microsoft Windows.

3.2.2 Browser

The following browsers are supported:

| Vendor | Version |
|-----------|--|
| Microsoft | <ul style="list-style-type: none"> • Microsoft Internet Explorer 11 • Microsoft Edge |
| Firefox | Latest Extended Support Release (ESR) version |
| Apple | Safari |
| Google | Google Chrome |

 Additional administrative setup steps are required for using **CM/Doc** with Microsoft Internet Explorer and Microsoft Edge.



Safari and Internet Explorer 11 are not supported for using the **Web Admin Suite**.

3.2.3 Word Processor

The following word processors are supported for the use with **CM/Doc**:

| Vendor | Version |
|-----------|---|
| Microsoft | <ul style="list-style-type: none"> • Microsoft Word 2010 • Microsoft Word 2013 • Microsoft Word 2016 • Microsoft Word 2019 • Microsoft Word Office 365 |
| Apache | Apache OpenOffice 3.2.1 |

3.2.4 Java

The following Java versions are supported for running the **Admin Tool**, **Process Designer**, and **CM/Doc**:

| Vendor | Version |
|--------------|--|
| Oracle | Java SE 8, 8u66 or newer |
| AdoptOpenJDK | <ul style="list-style-type: none"> • AdoptOpenJDK 8 (no Java Web Start) • AdoptOpenJDK 11, HotSpot version (no Java Web Start) |

The **Admin Tool** and **Process Designer** are only needed by end users with administrator privileges. They are either launched via Java Web Start from the browser or executed as local Java applications.

4. Interfaces


This section describes the system requirements for the interfaces of **ConSol CM** version 6.14.0. Except for the email interface, the usage of the interfaces is optional.

4.1 Email

ConSol CM can communicate with one or multiple email servers using the following protocols:

- POP3 or POP3S
- IMAP or IMAPS
- SMTP or SMTPS


For a proper operation of **ConSol CM**, at least one email server needs to be available.

 The email server is not part of the **ConSol CM** distribution.

4.2 Microsoft Exchange Calendar


A Microsoft Exchange calendar can be integrated into the **Web Client**. This is optional. The following versions are supported:

- Microsoft Exchange 2010
- Microsoft Exchange 2013
- Microsoft Exchange 2016

 The Microsoft Exchange server is not part of the **ConSol CM** distribution.

4.3 LDAP


LDAP and LDAPS can be used to authenticate users in **ConSol CM**. This is optional. If LDAP authentication is configured, the LDAP server needs to be available.

 The LDAP server is not part of the **ConSol CM** distribution.

4.4 Single Sign-On

Single Sign-On is supported for the **Web Client** and **CM/Track**. The following technology is used:

- **Web Client:** Kerberos V5 with Active Directory
- **CM/Track:** OpenID Connect with Microsoft Active Directory Federation Services or Azure AD

 The Single Sign-On technology is not part of the **ConSol CM** distribution.

4.5 Other Interfaces

The following additional interfaces exist for accessing **ConSol CM** data and integrating **ConSol CM** with other applications. Its usage is optional.

- REST
- Webhook
- ETL

5. Add-ons

The following section lists the system requirements for **ConSol CM** add-ons. Only the add-ons which have different system requirements than the core ConSol CM system are included in this section.

- [CM/Archive](#)
- [CM/EBIA](#)

5.1 CM/Archive

This section describes the system requirements for the server running **CM/Archive**. There are no special system requirements regarding the clients.

5.1.1 Software

This section describes the system requirements for the server software.

5.1.1.1 Operating System

The system requirements regarding the operating system depend on the database. Please see the system requirements of MongoDB at [Supported Platforms](#).

5.1.1.2 Middleware / Application Server

CM/Archive is used with an embedded Apache Tomcat application server.

The following Java Runtime Environment is required:

- Java SE 8
- Java SE 11

5.1.1.3 Database

CM/Archive uses a document-oriented NoSQL database.

| Vendor | Version |
|---------|--|
| MongoDB | <ul style="list-style-type: none">• MongoDB 3.6 (Community and Enterprise Edition) - deprecated• MongoDB 5.0.4 (Community and Enterprise Edition) |

5.2 CM/EBIA

This section describes the system requirements for the server running **CM/EBIA**. There are no special system requirements regarding the clients.

5.2.1 Hardware

This section describes the system requirements for the server hardware.

- Memory (RAM): minimum 2 GB, recommended 4 GB.

 The required memory highly depends on the data volume and usage.

5.2.2 Software

This section describes the system requirements for the server software.

5.2.2.1 Middleware / Application server

CM/EBIA uses an embedded Jetty web server.

The following Java version is required:

- Java SE 8 or Java SE 11 (OpenJDK or Oracle JRE)

5.2.2.2 Database

CM/EBIA uses a relational database.

| Vendor | Version | Comment |
|---|--------------------------|-----------------------|
| The PostgreSQL Global Development Group | PostgreSQL | |
| Oracle | MySQL 5.7.7 or higher | Character set utf8mb4 |
| MariaDB Foundation | MariaDB 10.2.2 or higher | Character set utf8mb4 |

5.2.3 Internet connection

CM/EBIA uses the enterprise version of the third-party product **Metabase**. Therefore, the **ConSol CM** system must be allowed to access the internet to validate the token which gives access to the advanced Metabase features. See <https://www.metabase.com/docs/latest/enterprise-guide/activating-the-enterprise-edition.html> for further details.