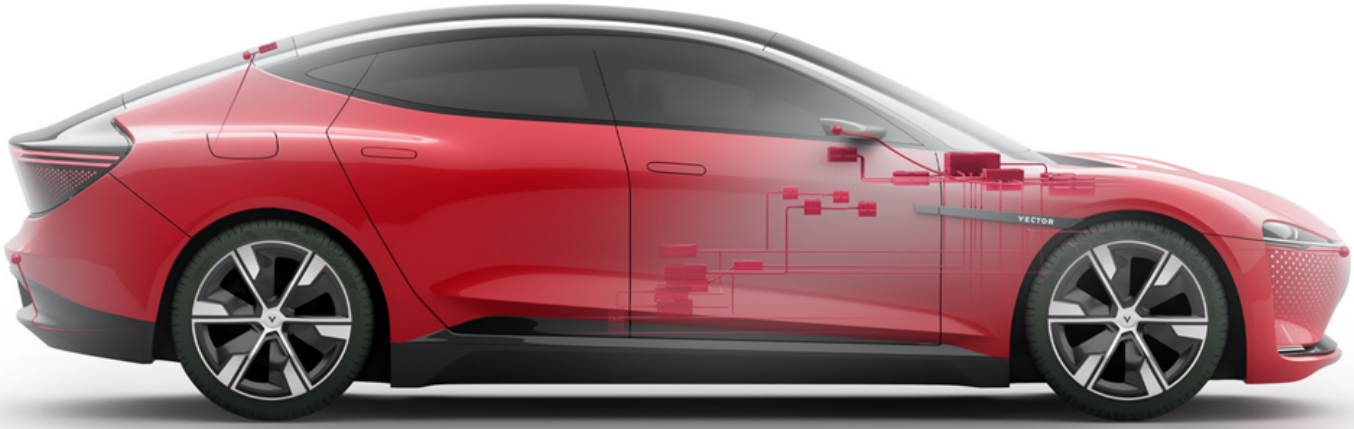
VECTOR



PREEvision

System Requirements

Version 10.21
English

Imprint

Vector Informatik GmbH
Ingersheimer Straße 24
70499 Stuttgart, Germany

Vector reserves the right to modify any information and/or data in this user documentation without notice. This documentation nor any of its parts may be reproduced in any form or by any means without the prior written consent of Vector. To the maximum extent permitted under law, all technical data, texts, graphics, images and their design are protected by copyright law, various international treaties and other applicable law. Any unauthorized use may violate copyright and other applicable laws or regulations.
© Copyright 2025, Vector Informatik GmbH. Printed in Germany.
All rights reserved.

Contents

1 System requirements 4
1.1 System architecture 5
1.2 Client requirements 6
1.3 Broker requirements 8
1.4 Application server requirements 9
1.5 Monitoring server requirements 11
1.6 API server requirements 12
1.7 Database server requirements 14
1.8 Subversion server requirements 16
1.9 License server requirements 17
1.9.1 Integrated middleware license server requirements 17
1.9.2 Standalone middleware license server requirements 18
1.9.3 Standalone license server requirements 19
1.10 Network communication requirements 21

1 System requirements

This chapter contains the following information:

1.1	System architecture	5
1.2	Client requirements	6
1.3	Broker requirements	8
1.4	Application server requirements	9
1.5	Monitoring server requirements	11
1.6	API server requirements	12
1.7	Database server requirements	14
1.8	Subversion server requirements	16
1.9	License server requirements	17
	Integrated middleware license server requirements	17
	Standalone middleware license server requirements	18
	Standalone license server requirements	19
1.10	Network communication requirements	21

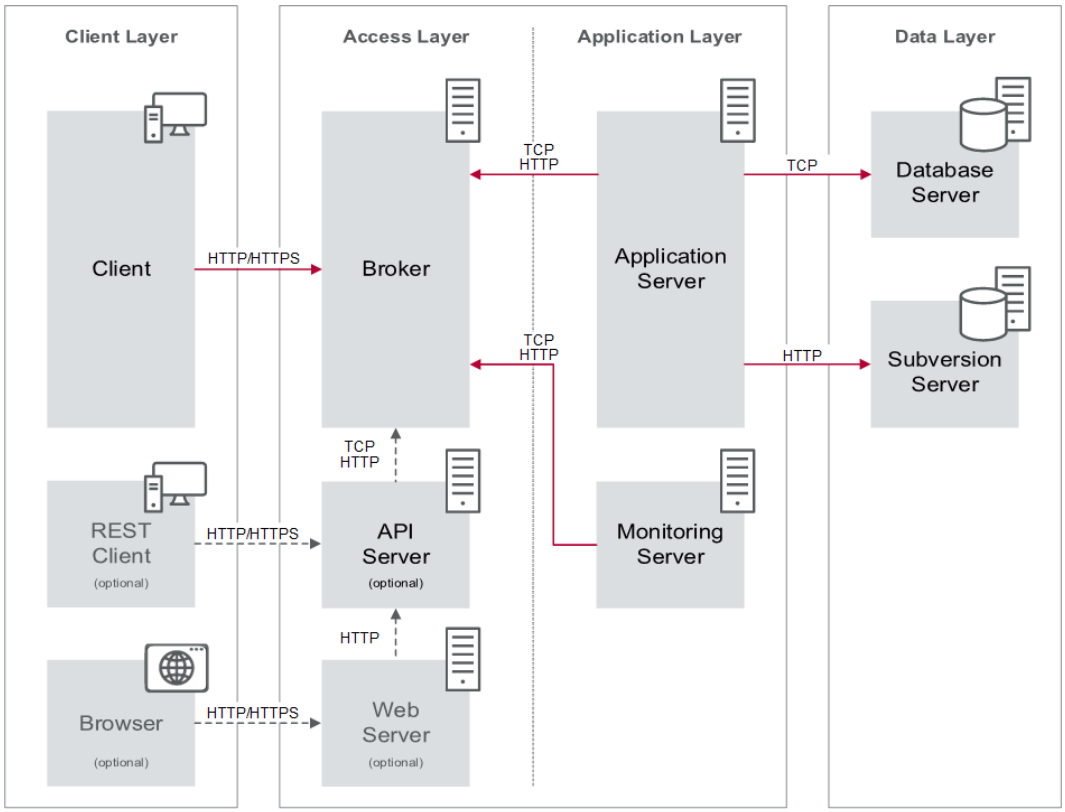


This document specifies general hardware and software requirements for PREEvision. For detailed installation and configuration prerequisites, refer to the PREEvision operating manual.

1.1 System architecture

PREEvision Collaboration Platform

Overview of the system architecture of the PREEvision Collaboration Platform:



Two identical environments are required, one environment for productive use and a second environment for testing and migration.
Three identical environments are recommended, one environment for productive use, a second environment for testing and migration, and a third environment for system development and integration.

License server

For the PREEvision Collaboration Platform, licenses are managed on a license server. Either the integrated middleware license server can be used, or the license server can be installed as separate component.

PREEvision client for file-based work

The PREEvision client can also be used as standalone installation for file-based work without server infrastructure. All data is then stored in local model files.

1.2 Client requirements

Software requirements

Operating system	> Windows 11 > Windows 10 (64-bit)
Java version	Amazon Corretto 11.0.23.9.1 (Provided with client installation)
Internet browser	If the Internet Explorer is installed as system browser, for displaying the online help, Internet Explorer version 11 must be installed.

Minimum hardware requirements

CPU	2 GHz Dual-Core processor
RAM	16 GB (suitable for PREEvision models that contain up to four million artifacts)
Hard disk	SSD, 16 GB free space
LAN	100 Mbps
Display	1280x1024 screen resolution 100% font scaling

Recommended hardware requirements

CPU	3,6 GHz Octa-Core processor (64-bit) for example, Intel i7-11700K
RAM	see memory requirements
Hard disk	SSD, 50 GB free space
LAN	1 Gbps
Display	1920x1080 screen resolution 100% font scaling

Memory requirements

The following formula can be used to estimate the maximum number of artifacts in million that are loadable in the client based on the total RAM of the client system:

Total RAM of the system in GB

> minus 6 GB for the operating system and PREEvision basic functionality
= memory for PREEvision in GB

> minus 25% reserved for working memory
= memory for the PREEvision scope in GB

> divided by 2
= maximum number of artifacts in million that are loadable in the scope

Vice versa, the following formula can be used to estimate the required total RAM of the client system based on the maximum number of artifacts that are loadable in the client:

(<Maximum number of artifacts in million> * 2 * 1.25) + 6 GB = Total RAM in GB

Example calculation: (30 million artifacts * 2 * 1.25) + 6 GB = 81 GB RAM

The formula is only an estimation. Concrete values may differ depending on the use cases and the model structure. Also consider additional memory for other applications running in parallel on the same client.

When working with PREEvision, only the artifacts contained in the active scope are loaded in the client.
However, for some administration use cases, like installing *Add-In*s, the whole model must be loaded.

Examples for typical RAM sizes:

Number of artifacts loadable in the client	RAM requirements
≤ 4 million	16 GB (minimum)
≤ 10 million	32 GB
≤ 22 million	64 GB
≤ 34 million	96 GB
≤ 46 million	128 GB
≤ 71 million	196 GB (administration use cases)
≤ 93 million	256 GB (administration use cases)

For detailed information, contact our support at support@vector.com.

1.3 Broker requirements

Software requirements

Application server	Apache Tomcat 9 (Recommended version: Apache Tomcat 9.0.107)
Java version	Amazon Corretto 11 (Recommended version: Amazon Corretto 11.0.23.9.1)
Operating system	All operating systems supported by the respective application server version (Recommended version: Windows Server 2019 Standard)

Minimum hardware requirements

CPU	2,0 GHz Dual-Core processor (64-bit)
RAM	16 GB
Hard disk	SSD, 128 GB free space
LAN	1 x Gigabit Ethernet port

Recommended hardware requirements

CPU	2,8 GHz Octa-Core processor (64-bit)
RAM	32 GB
Hard disk	SSD, 1 TB free space
LAN	1 x 10 Gigabit Ethernet port

1.4 Application server requirements

Software requirements

Application server	Apache Tomcat 9 (Recommended version: Apache Tomcat 9.0.107)
Java version	Amazon Corretto 11 (Recommended version: Amazon Corretto 11.0.23.9.1)
Operating system	All operating systems supported by the respective application server version (Recommended version: Windows Server 2019 Standard)

Minimum hardware requirements

CPU	2 GHz Quad-Core processor (64-bit)
RAM	see memory requirements
Hard disk	SSD, 64 GB free space
LAN	1 x Gigabit Ethernet port

Recommended hardware requirements

CPU	at least 2,8 GHz Octa-Core processor (64-bit) for example, Intel Xeon Gold 6426Y (16 cores with 4,1 GHz)
RAM	see memory requirements
Hard disk	SSD, 300 GB free space
LAN	1 x 10 Gigabit Ethernet port

Memory requirements

The following table can be used to estimate the required memory of the application server based on the maximum size of the model. The model size refers to the number of all artifacts across all models on the application server.

Recommended RAM requirements are necessary for:

- server-to-server migration
- large commits
- large number of users > 100
- historic model load

Model size	Minimum RAM	Recommended RAM
≤ 1 million artifacts	32 GB	96 GB
≤ 10 million artifacts	64 GB	160 GB
≤ 20 million artifacts	96 GB	256 GB
≤ 30 million artifacts	128 GB	352 GB
≤ 40 million artifacts	160 GB	448 GB
≤ 50 million artifacts	192 GB	512 GB
≤ 60 million artifacts	224 GB	608 GB

Model size	Minimum RAM	Recommended RAM
≤ 70 million artifacts	256 GB	704 GB
≤ 80 million artifacts	288 GB	800 GB
≤ 90 million artifacts	320 GB	896 GB
≤ 100 million artifacts	352 GB	960 GB

Virtualization

The PREEvision Collaboration Platform supports virtualization technologies like VMware vSphere Hypervisor (ESXi) or Microsoft Hyper-V.

For resource allocation:

> on ESXi: Use the **Resource Allocation Reservation** feature.
> in Hyper-V: Use the resource allocation parameters (PowerShell commands).

Adjust the following resources to guaranteed recommended hardware requirements:

> CPU resources (static sockets reservation)
> memory allocation (fixed)
> disk resource allocation (stable IOPS)

1.5 Monitoring server requirements

Software requirements

Application server	Apache Tomcat 9 (Recommended version: Apache Tomcat 9.0.107)
Java version	Amazon Corretto 11 (Recommended version: Amazon Corretto 11.0.23.9.1)
Operating system	All Windows and Linux systems supported by the respective application server version (Recommended version: Windows Server 2019 Standard)

Minimum hardware requirements

CPU	2 GHz Quad-Core processor (64-bit)
RAM	16 GB
Hard disk	SSD, 128 GB free space
LAN	1 x Gigabit Ethernet port

Recommended hardware requirements

CPU	2 GHz Quad-Core processor (64-bit)
RAM	32 GB
Hard disk	SSD, 512 GB free space
LAN	1 x Gigabit Ethernet port

1.6 API server requirements

Software requirements

Application server	Apache Tomcat 9 (Recommended version: Apache Tomcat 9.0.107)
Java version	Amazon Corretto 11 (Recommended version: Amazon Corretto 11.0.23.9.1)
Operating system	All operating systems supported by the respective application server version (Recommended version: Windows Server 2019 Standard)

Minimum hardware requirements

CPU	2 GHz Quad-Core processor (64-bit)
RAM	see memory requirements
Hard disk	SSD, 64 GB free space
LAN	1 x Gigabit Ethernet port

Recommended hardware requirements

CPU	at least 2,8 GHz Octa-Core processor (64-bit) for example, Intel Xeon Gold 6246R (16 cores with 4,1 GHz)
RAM	see memory requirements
Hard disk	SSD, 128 GB free space
LAN	1 x Gigabit Ethernet port

Memory requirements

The following table can be used to estimate the required memory of the API server based on the maximum size of the model. The model size refers to the size of the complete model on the application server.

Model size	Recommended RAM
≤ 1 million artifacts	32 GB
≤ 10 million artifacts	64 GB
≤ 20 million artifacts	96 GB
≤ 30 million artifacts	128 GB
≤ 40 million artifacts	160 GB
≤ 50 million artifacts	192 GB
≤ 60 million artifacts	224 GB
≤ 70 million artifacts	256 GB
≤ 80 million artifacts	288 GB
≤ 90 million artifacts	320 GB
≤ 100 million artifacts	352 GB

Virtualization

The PREEvision Collaboration Platform supports virtualization technologies like VMware vSphere Hypervisor (ESXi) or Microsoft Hyper-V.

For resource allocation:

- on ESXi: Use the **Resource Allocation Reservation** feature.
- in Hyper-V: Use the resource allocation parameters (PowerShell commands).

Adjust the following resources to guaranteed recommended hardware requirements:

- CPU resources (static sockets reservation)
- memory allocation (fixed)
- disk resource allocation (stable IOPS)

1.7 Database server requirements

Software requirements

Oracle version	Oracle 19c (Recommended version: Oracle 19c Enterprise Edition with Diagnostic Pack)
Operating system	All operating systems supported by the respective Oracle version.

The Oracle Enterprise Edition is used for a simpler operating of the database and slightly better performance in some PREEvision use cases.

The specified Oracle versions are only supported as long as supported by Oracle.

Minimum hardware requirements

CPU	2 GHz Dual-Core processor (64-bit)
RAM	16 GB
Hard disk	RAID 1 (software or hardware), SSD Available hard disk size: > Model tablespace: 20 GB > Index tablespace: 30 GB (model tablespace size + 50%) > Redo logs: 1,5 GB > Undo tablespace: 30 GB > Temp tablespace: 1 GB Especially when using hard drives with slow I/O rates, it is recommended to store the model tablespace, index tablespace and the redo logs on separate hard drives.
LAN	1 x Gigabit Ethernet port

Recommended hardware requirements

CPU	3 GHz Quad-Core processor (64-bit) for example, Intel Xeon Gold 6250 (8 cores with 4,5 GHz)
RAM	256 GB
Hard disk	RAID 10, SSD SSD performance (peak): > 10,000 IOPS > 500 MB/s SSD performance (average): > 1,000 IOPS > 75 MB/s **Note: The concrete sizes differ depending on the model size and the model structure.** Available hard disk size: > Archive log space: 500 GB > Model tablespace: 800 GB

	> Index tablespace: 1200 GB (model tablespace size + 50%) > Redo logs: 2 x 6 GB on different discs > Undo tablespace: 450 GB > Temp tablespace: 350 GB For better performance, it is recommended to store the different tablespaces and logs on separate hard drives.
LAN	1 x Gigabit Ethernet port

1.8 Subversion server requirements

Software requirements

Subversion version	Apache Subversion 1.14 (Recommended version: VisualSVN Server 5.4.4 (64-bit))
Operating system	All operating systems supported by the respective Subversion version

Minimum hardware requirements

CPU	1,8 GHz Single-Core processor
RAM	4 GB
Hard disk	SSD, ~15 GB
LAN	1 x Gigabit Ethernet port

Recommended hardware requirements

CPU	Dual-Core processor (64-bit)
RAM	16 GB
Hard disk	RAID 10, SSD, ~250 GB
LAN	1 x Gigabit Ethernet port

Restrictions

Note the following restrictions regarding the Subversion server:

> A separate repository must be used for the Subversion server.

> The connection to the repository must be established via the PREEvision SVN gateway.
Do not directly connect to the repository via a Subversion client.

1.9 License server requirements

For managing licenses, the middleware license server, which is automatically integrated in the application server, can be used.

Alternatively, a standalone license server can be installed, for example, if an independent license server is required or if several license servers are required.

There are two types of standalone license servers:

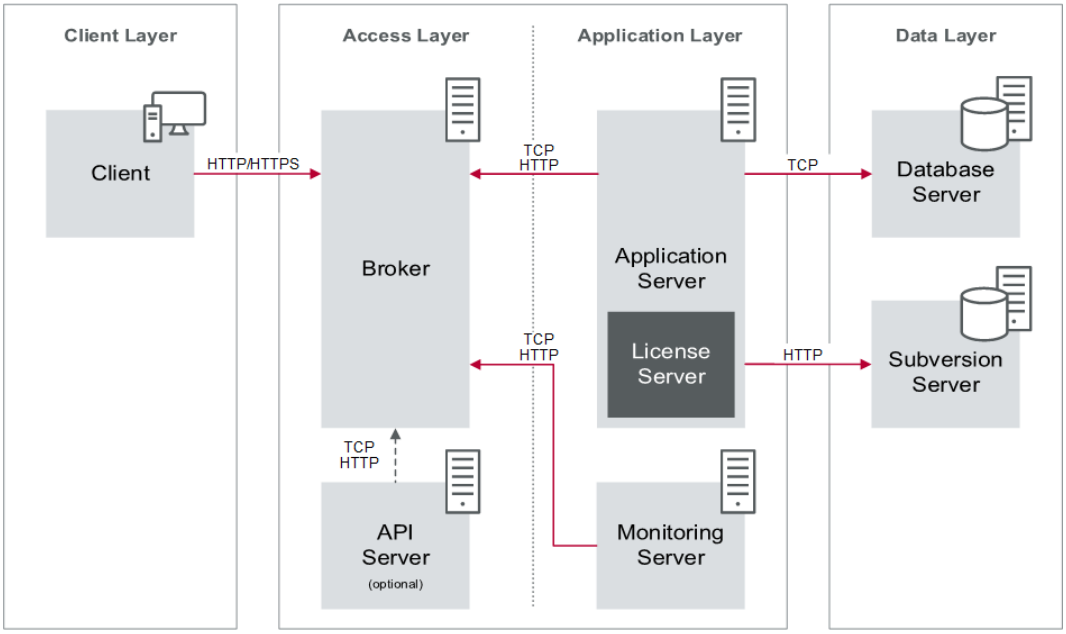
- Standalone middleware licenser server:
  The standalone middleware license server consists of a reduced installation of the PREEvision server components. HTTP/HTTPS is used as protocol for the communication.
  The standalone middleware license server is recommended for Collaboration Platform environments that require several license servers or if the license server must be operated independently of the application server.
- Standalone license server:
  The standalone license server is installed as independent component. RMI is used as protocol for the communication.
  The standalone license server is recommended to centrally manage licenses for installations with several clients but without Collaboration Platform.

Further information

- Integrated middleware license server requirements
- Standalone middleware license server requirements
- Standalone license server requirements

1.9.1 Integrated middleware license server requirements

The integrated middleware license server is a component that is automatically integrated in the PREEvision server application. Together with the PREEvision server application, the integrated middleware license server is deployed on the application server.



Software and hardware requirements

The application server automatically provides the functionality of the integrated middleware license server. Therefore, no additional hardware components are required. The hardware and software requirements are covered by those of the application server.

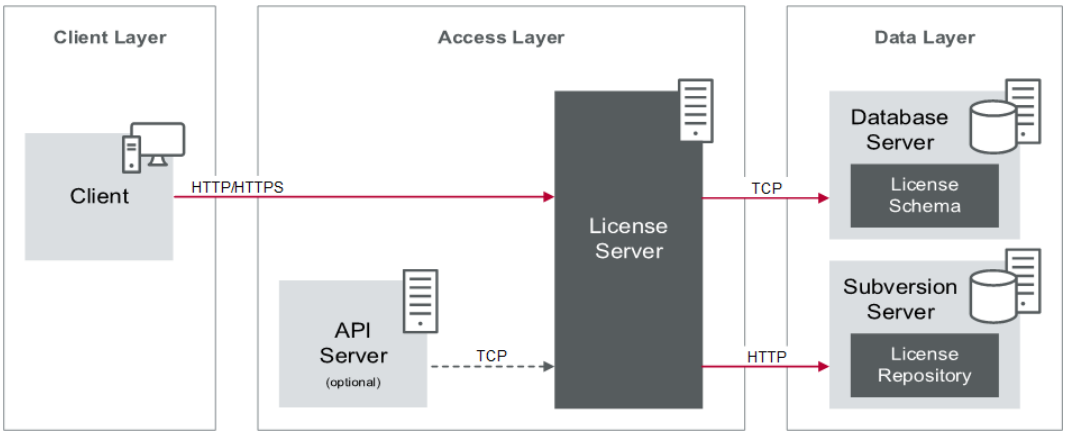
1.9.2 Standalone middleware license server requirements

The standalone middleware license server is recommended for Collaboration Platform environments that require several license servers or if the license server must be operated independently of the application server.

The standalone middleware license server consists of a separate, reduced installation of the PREEvision server components, containing broker, application server, database server, and Subversion server. The installation and the system requirements are reduced according to the functionalities that are required for the license server.

- Broker components and the PREEvision server application are installed together on a separate license server system.
- A separate database schema must be available that contains the license server data. Either, on the existing PREEvision database server, a new database schema can be created, or a separate database server can be installed.
- A connection to the existing PREEvision Subversion server must be available and a separate repository should be created for the license server.

HTTP/HTTPS is used as protocol for the communication between the clients and the license server. TCP or HTTP/HTTPS is used as protocol for the communication between the API server and the license server.



License server

Software requirements:

Application server	Apache Tomcat 9 (Recommended version: Apache Tomcat 9.0.107)
Java version	Amazon Corretto 11 (Recommended version: Amazon Corretto 11.0.23.9.1)
Operating system	All operating systems supported by the respective application server version (Recommended version: Windows Server 2019 Standard)

Hardware requirements:

CPU	Quad-Core processor (64-bit)
RAM	12 GB
Hard disk	SSD, 30 GB free space
LAN	1 x Gigabit Ethernet port

Database server

For the license server, a separate database schema must be created on the existing database server.

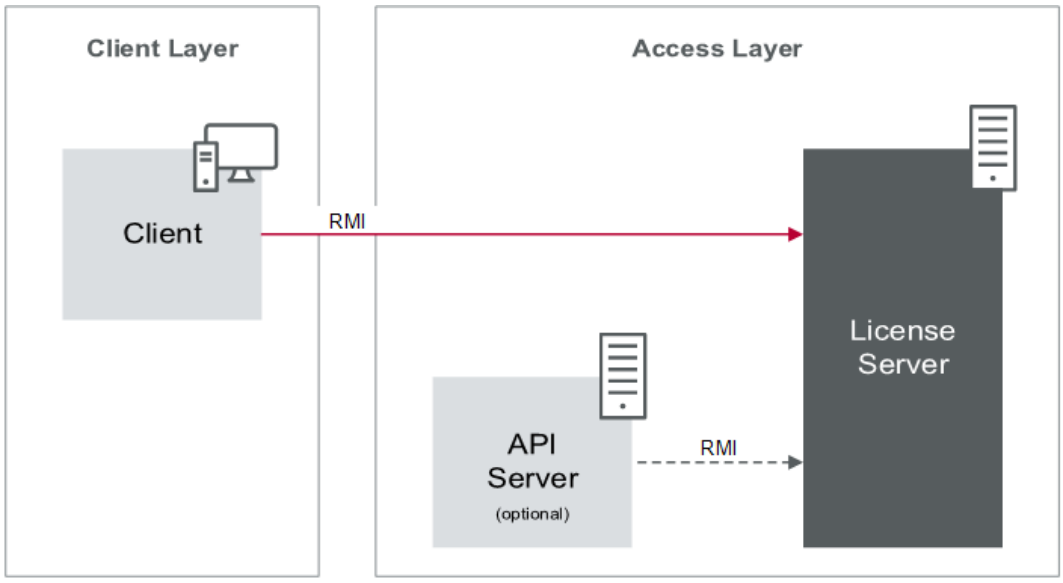
Hard disk	Additional hard disk size for the separate license schema: > **Model tablespace**: 2 GB > **Index tablespace**: 1 GB

Subversion server

For the license server, a separate repository must be created on the existing Subversion server.

1.9.3 Standalone license server requirements

The standalone license server is installed as independent component. RMI is used as protocol for the communication. The standalone license server is recommended to centrally manage licenses for installations with several clients but without Collaboration Platform.



Software requirements

Operating system	> Windows * (64-bit) For the license server, a Windows service is created and started. > Linux * (64-bit)
Java version	Amazon Corretto 11.0.23.9.1 (provided with the Windows installer of license server version 3.0.4)

* For detailed information about the supported Windows and Linux versions, please contact our support at support@vector.com.

Hardware requirements

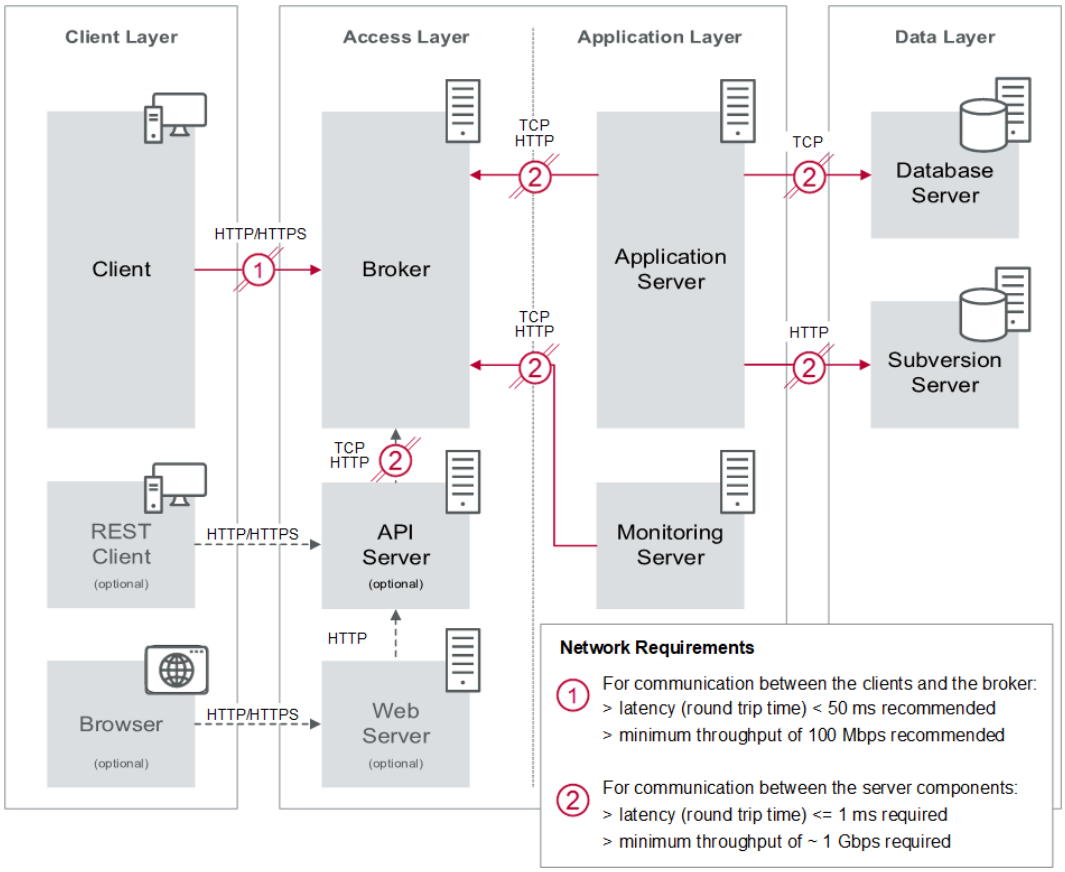
CPU	1 GHz
RAM	100 MB

Hard disk	Initial installation size: ca. 100 MB Log file size: maximum 1 GB Stored licenses: < 1 MB
LAN	1 x 100 Megabit Ethernet port

RMI for license server

RMI is used as protocol for the communication between the clients and the standalone license server. A standard port for the RMI communication is defined during license server installation, for example, 1099.

1.10 Network communication requirements



VECTOR

Get more Information

Visit our Website for:

> News
> Products
> Demo Software
> Support
> Training Classes
> Addresses

www.vector.com