

# TAKTIQ

## SYSTEM REQUIREMENTS AND INSTALLATION OF THE ASSEMBLYSUITE

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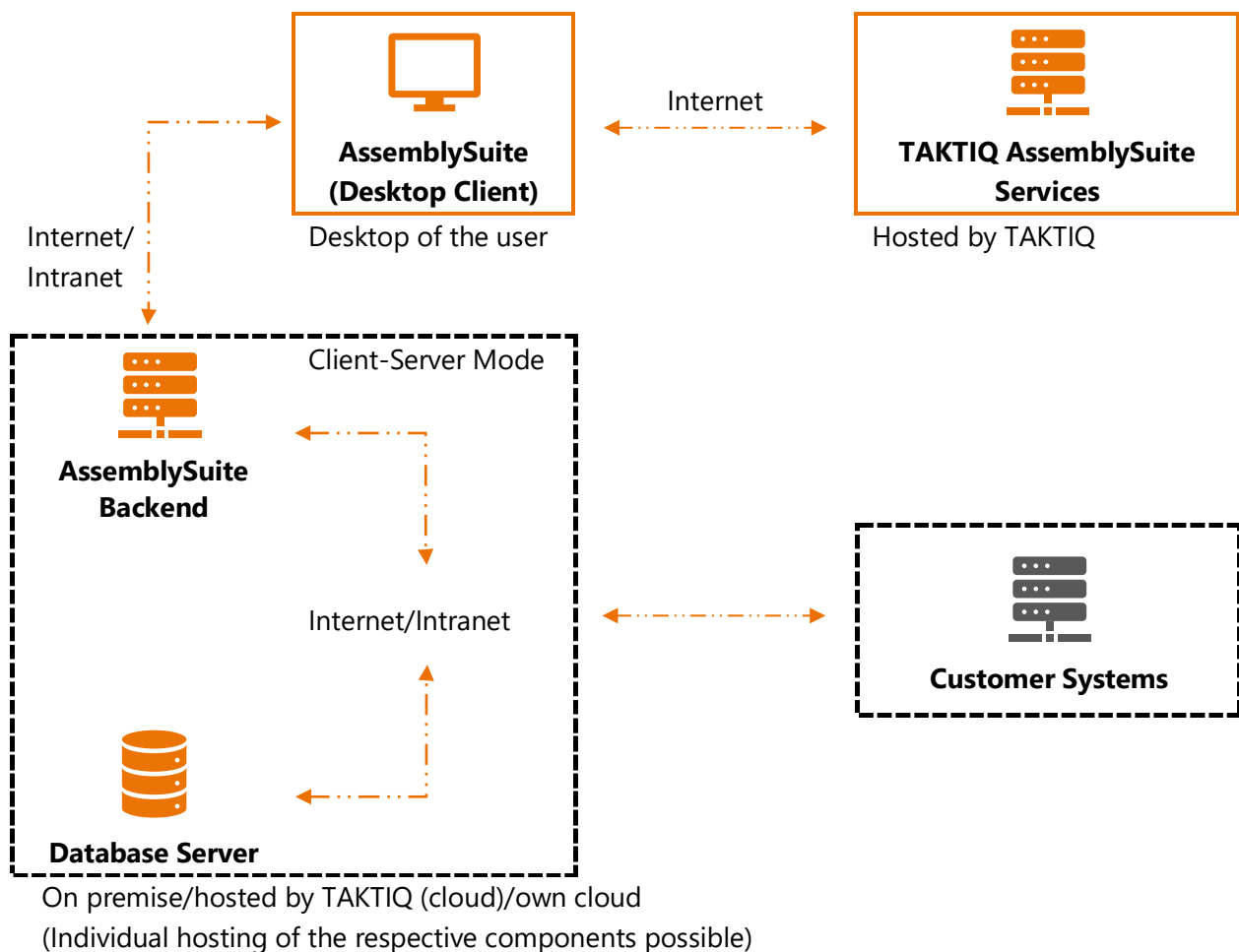
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## 1 Introduction

The **AssemblySuite™** is an intelligent software for assembly planning, with a focus on line balancing and order sequencing. For more information about the AssemblySuite and the services offered, please visit [AssemblySuite Service Specifications \(EN\)](#).

For file-based work, the client can be used as a standalone application (**Client Only Mode**). For multi-user access, the client can be used together with the AssemblySuite backend (**Client Server Mode**). The included application server and database enable central data storage and further functions executable in the backend, such as the generation of KPI reports. Optionally, the system can be integrated with existing additional customer systems (**Client Server Integrated Mode**).

The following diagram illustrates the interaction of the AssemblySuite system components explained in this document.



It is recommended to clarify the various requirements with the in-house IT department. We are happy to help you with this! Other solutions may be possible and can be requested. Contact us for this purpose fast and easily at [support@taktiq.de](mailto:support@taktiq.de).

## 2 Components of the TAKTIQ AssemblySuite Systems

### 2.1 AssemblySuite (Desktop Client)

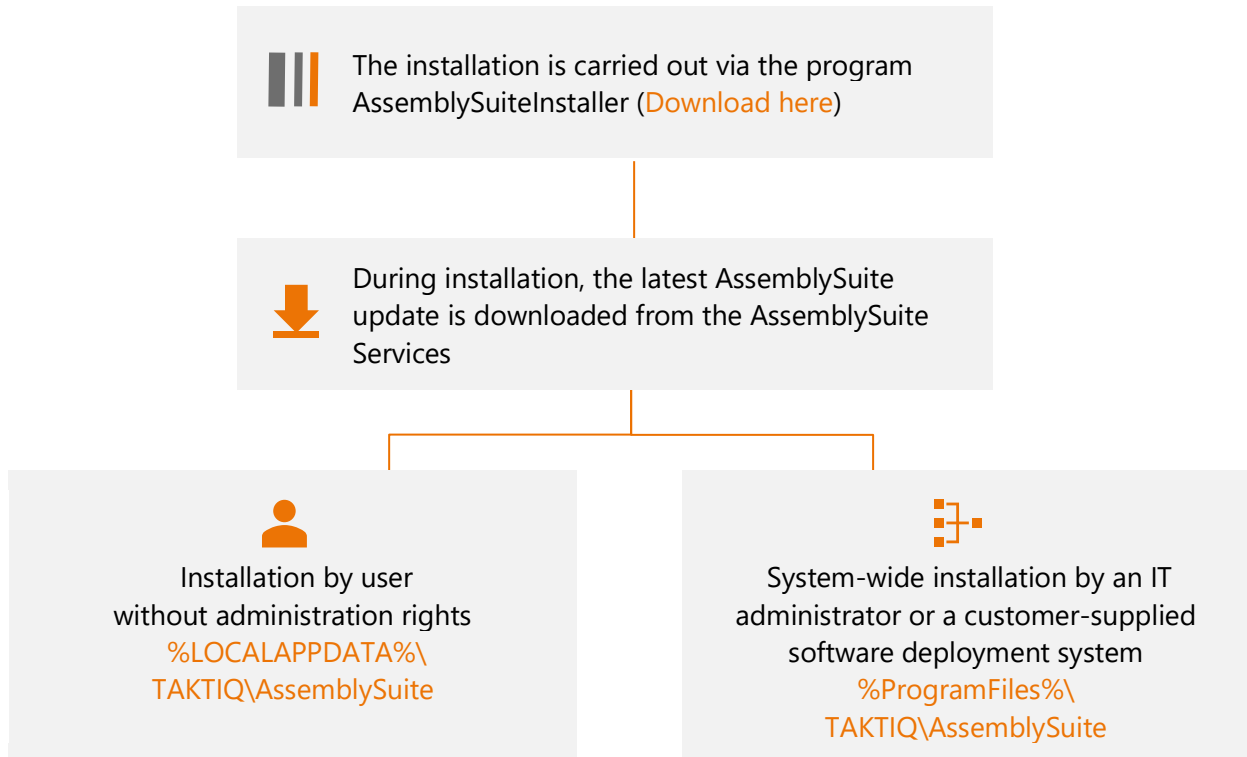
#### 2.1.1 System Requirements

Components	Requirements	Notes
Working memory	<b>8 GB</b>	<b>2 GB</b> <ul style="list-style-type: none"> <li>• Small line balancing scenarios</li> <li>• Small order programs</li> <li>• No plan states</li> <li>• No backend connection</li> <li>• No or few constraints</li> </ul>
		<b>4 GB</b> <ul style="list-style-type: none"> <li>• Work with plan states</li> <li>• Backend connection</li> <li>• Work with line balancing constraints</li> <li>• Optimization algorithms</li> </ul>
		<b>8 GB</b> <ul style="list-style-type: none"> <li>• Work with entire assembly lines</li> <li>• Complete set of constraints</li> </ul>
Hard disk space	<b>7 GB</b> (SSD recommended)	<b>3 GB</b> Installation
		<b>4 GB</b> Temporary work data
Processor	<b>Intel i3 or comparable</b> (2 cores, 4 threads)	We recommend an Intel i5 / i7 / i9 or comparable (≥4 cores, ≥8 threads)
Screen	<b>1280 x 720 pixels</b> (at 100% scaling)	The freely customizable user interface benefits enormously from high resolutions and multiple screens.
	<b>1920 x 1080 or higher</b> (at higher scales)	
Operating system	<b>Windows 10 or higher</b> (64 bits)	With official lifecycle support from Microsoft ( <a href="https://docs.microsoft.com/en-us/lifecycle/products/">https://docs.microsoft.com/en-us/lifecycle/products/</a> )
Other programs	<b>Microsoft Excel 2007 or higher</b>	With official lifecycle support from Microsoft. For import/export of work data, creation of analyses and reports. ( <a href="https://docs.microsoft.com/en-us/lifecycle/products/">https://docs.microsoft.com/en-us/lifecycle/products/</a> )

## 2.1.2 Integration


	The TAKTIQ AssemblySuite Services must be accessible from the user computer (See Section 2.2 for details)
Network	If a proxy server is required for Internet access, this can be individually integrated/configured by TAKTIQ
	Integration of a software deployment system is possible
Rights	The AssemblySuite requires write access to the following folders: <code>%LOCALAPPDATA%\TAKTIQ\AssemblySuite</code> and <code>%APPDATA%\TAKTIQ\AssemblySuite</code>
	The AssemblySuite does not require any administration rights

## 2.1.3 Installation



## 2.1.4 Communication With Further Components

The AssemblySuite communicates with the following components. These are explained below.

 TAKTIQ AssemblySuite Services

 AssemblySuite Backend

## 2.2 TAKTIQ AssemblySuite Services

For a smooth operation of the AssemblySuite, the AssemblySuite interacts with the TAKTIQ AssemblySuite Services. These provide the following services.

<a href="https://services.taktiq.de/Licensing">https://services.taktiq.de/Licensing</a>	Licenses, scope of functions, configuration, control of updates
<a href="https://services.taktiq.de/Patches">https://services.taktiq.de/Patches</a>	AssemblySuite updates
<a href="https://prod-83.westeurope.logic.azure.com">https://prod-83.westeurope.logic.azure.com</a>	Transmission of error reports

### 2.2.1 Transferred data

<https://services.taktiq.de/Licensing>

Request for server:

- UserId
  - Is determined from the existing license
  - If it is a first license request, the user specifies the Id himself within the start dialog
- Installed .NET version
  - Previously used to determine if the .NET Framework version of the AssemblySuite may be updated.
  - Will be removed in the near future as no longer needed
- Installed AssemblySuite version
  - Relevant for TAKTIQ support to be able to detect if e.g. a service release has been installed.

Receiving from server:

- Encrypted AssemblySuite license (AES)

<https://services.taktiq.de/Patches>

Request for server:

- Installed AssemblySuite version
- Target version

Receiving from server:

- Git- patch file

<https://prod-83.westeurope.logic.azure.com>

Request for server:

- UserId
- UserName
- Stacktrace
- AssemblySuite files like e.g. log- and layout files

Receiving from server:

- Info whether the report was sent successfully

## 2.3 AssemblySuite Backend

The AssemblySuite Backend is used for the central storage of data (plan states, projects, master constraints) as well as the connection and synchronization with customer systems. For operation and maintenance, TAKTIQ needs full access to the environment in which the backend is located.

### 2.3.1 System Requirements

Possible environments	<b>Hosted by TAKTIQ</b> (Docker)
	<b>IIS Server</b> (Windows Server $\geq$ 2012 R2 On Premise with official lifecycle support from Microsoft ( <a href="https://docs.microsoft.com/en-us/lifecycle/products/">https://docs.microsoft.com/en-us/lifecycle/products/</a> ))
	<b>Nginx</b> (On Premise)
	<b>Docker Runtime</b> (On Premise)
	<b>Microsoft Azure</b> (Docker, Azure subscription of the customer)
	<b>Other environments on request</b>
Free working memory	<b>8 GB</b>
Free hard disk space	<b>5 GB</b>

## 2.3.2 Communication With Further Components

For the AssemblySuite Backend to be able to communicate with the following components, it must be accessible to the user's AssemblySuite. For this purpose, the database server as well as the customer systems need open ports. The ports can be freely selected or configured.



Database server



AssemblySuite (Desktop Client)



(Optional) customer system

## 2.4 Database Server

For operation and maintenance, TAKTIQ needs full access to the environment where the database server is located.

### 2.4.1 Possible Environments

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PostgreSQL (version  $\geq$  11)

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Microsoft SQL Server (version  $\geq$  2017 with official lifecycle support from Microsoft.

<https://docs.microsoft.com/en-us/lifecycle/products/>

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- Hosted by TAKTIQ
- On Premise
- Microsoft Azure (Azure subscription of the customer)

Other environments on request

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## 2.5 Customer Systems

An integration with existing customer systems can be realized via different technologies

- REST services (preferred)
- MQS
- Database access
- XML files
- Others upon request

Standard interfaces are provided, e.g., for transferring order data and work operation data.



## 3 Processes

### 3.1 Licensing and Configuration of the AssemblySuite

The software is activated for one person and for a defined period by an issued license. This determines the activated product features, modules as well as further configuration parameters.

When the license is created, a license key is generated, that links the license to the Windows login name of the person. The license is activated by entering the transmitted license key once.

An adjustment of the activated modules and features as well as the licensing period is performed by TAKTIQ employees.

The license of the person is automatically retrieved at each program start. Previous adjustments of the license are automatically applied and can be used by the person without re-entering the license key.

This data is provided in an encrypted form by the AssemblySuite Services.

### 3.2 AssemblySuite Updates

The AssemblySuite has a built-in update mechanism. When the application is started, it checks whether an update is scheduled for the registered license.

In this case, the corresponding update files are provided by the AssemblySuite Services. After the download, the AssemblySuite updates itself and starts in the new version.

### 3.3 Transmission of Error Reports

If an error occurs while using the AssemblySuite, an encrypted error report is created automatically. Additionally, a backup of the loaded project data is created. This backup can be attached to the error report. The user then has the option to submit this error report to TAKTIQ. The transmission takes place through the TAKTIQ AssemblySuite Services.

If there is no internet connection, a draft email is prepared with the error report attached. This can be submitted later.