



# Technical Information

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# 1 Introduction

The Fabasoft Cloud for secure document and process management, together with Mindbreeze AI for AI-supported knowledge management, forms the Fabasphere AI Core.

Fabasoft Solutions offer tailor-made solutions for document-intensive processes. The Fabasphere is the digital ecosystem that unites Fabasphere AI Core and Fabasoft Solutions.

This technical information refers to the Fabasphere in all operating models. Depending on the operating model, functionality may vary as described.

## 2 Supported Client Platforms

The following third-party products are supported.

### 2.1 Desktop

The following web browsers can be used:

- Microsoft Edge
- Mozilla Firefox
- Google Chrome
- Apple Safari

The following reference platforms provide optimal functionality and performance:

- Microsoft Windows 10 (22H2) (x64)  
or  
Microsoft Windows 11 (24H2) (x64)
  - Microsoft Edge 139.0 (as desktop program)
  - Mozilla Firefox 141.0 (as desktop program)
  - Google Chrome 139.0 (as desktop program)
- Apple macOS 15.6 (x64, Apple M)
  - Apple Safari 18.6
  - Mozilla Firefox 141.0
  - Google Chrome 139.0
- Ubuntu 24.04 (x64) with Xorg window system
  - Mozilla Firefox 141.0

#### 2.1.1 Office Applications

The Fabasphere Client enables you to open, edit, and save documents directly via the corresponding third-party products. The following reference versions are tested:

- Adobe InDesign 2024

**Note:** InDesign documents can be edited only if the document format of the document to

be opened (for example, InDesign 2024 document) matches the InDesign application version (for example, Adobe InDesign 2024).

- Adobe Illustrator 2024
- Adobe Photoshop 2024
- Adobe Reader DC
- Apple Keynote 14.4
- Apple Numbers 14.4
- Apple Pages 14.4
- Apple Calendar 11.0
- Autodesk AutoCAD 2023 (x64) / 2024 (x64)
- HCL Notes 14.0
- LibreOffice 24.8.7
- Microsoft Excel 2021 / 2024 / 365 (2502; Desktop Version) / for the Web
- Microsoft Outlook 2021 / 2024 / 365 (2502; Desktop Version)  
**Note:** The new Outlook for Windows is not supported.
- Microsoft PowerPoint 2021 / 2024 / 365 (2502; Desktop Version) / for the Web
- Microsoft Project 2021 / 2024
- Microsoft Visio 2021 / 2024 / for the Web
- Microsoft Word 2021 / 2024 / 365 (2502; Desktop Version) / for the Web
- Microsoft Excel for Mac 2024
- Microsoft Outlook for Mac 2024
- Microsoft PowerPoint for Mac 2024
- Microsoft Word for Mac 2024
- Mozilla Thunderbird 141

**Note:** Microsoft Office 365 Business or Education is required for using Microsoft Office for the Web.

The following prerequisites apply for the integration of SAP:

- SAP ERP Central Component (ECC) 6.0 EHP 8
- SAP Content Server HTTP Interface 4.7

### 2.1.2 Multimedia Files

It is possible to play back multimedia files directly in the current versions of the following web browsers.

Web browser	Supported formats
Microsoft Edge	Audio: MP3, Wav, Ogg Video: MP4, WebM, Ogg
Mozilla Firefox	Audio: MP3, Wav, Ogg Video: MP4, WebM, Ogg
Google Chrome	Audio: MP3, Wav, Ogg Video: MP4, WebM, Ogg
Apple Safari	Audio: MP3, Wav Video: MP4

The specific formats that are supported by your web browser can be found here:

<https://caniuse.com/#search=audio%20format>

<https://caniuse.com/#search=video%20format>

### 2.1.3 3D/CAD/BIM Files

The following file formats can be displayed in the 3D viewer and as preview images:

- dae  
Sony Interactive Entertainment - Digital Asset Exchange File (Collada)
- dwg  
Autodesk - AutoCAD Drawing Database File (AC1021, AC1024, AC1027, AC1032)
- dxf  
Autodesk - AutoCAD Drawing Exchange Format File
- fbx  
Autodesk - Autodesk Interchange File
- gltf  
Khronos Group - GL Transmission Format File
- ifc (3x2)  
BuildingSMART - Industry Foundation Classes File
- igs, iges  
Standard - Initial Graphics Exchange Specification File
- ipt  
Autodesk - Inventor Part File

- `jt`  
Siemens PLM Software - JT Open CAD File
- `obj`  
Wavefront Technologies - Wavefront 3D Object File
- `rvt`  
Autodesk - Revit 2018-2023 File
- `stp, step`  
Standard - Standard for the Exchange of product model data
- `stl`  
3D Systems - Stereolithography File
- `wrl`  
Community Standard - VRML World

**Note:**

- Whether the functionality is available depends on the Fabasoft Solution.
- The 3D viewer is not supported in virtualized Apple macOS environments when using Apple Safari.
- Only available in the "Public Cloud" operating model.

## 2.2 Mobile Devices

The following reference platforms provide optimal functionality and performance.

### 2.2.1 Web Browser

- Tablets/Phones with iPadOS/iOS 18.6  
Apple Safari (version corresponding to the supported operating system)
- Tablets/Phones with Android 15.0  
Google Chrome 139.0 (setting: mobile version)

### 2.2.2 Fabasphere App

- Tablets/Phones with iPadOS/iOS 18.6
- Tablets/Phones with Android 15.0

## 2.3 Accessibility

Accessibility is a core concept of the Fabasoft products. The product employs assistive technologies such as screen readers and screen magnifiers based upon these standards:

- Accessible Rich Internet Applications (WAI-ARIA) 1.0
- Web Content Accessibility Guidelines (WCAG) 2.1, Conformity Level AA
- ISO 9241-171:2008 Guidance on software accessibility

The following screen readers are recommended:

- Microsoft Windows

- NVDA (NonVisual Desktop Access)
- JAWS 2024
- Apple iPhone/iPad
  - VoiceOver (Fabasphere App)
- Android
  - TalkBack (Fabasphere App)

**Note:** VoiceOver and TalkBack provide only limited support for WAI-ARIA. Consequently, the web browser user interface cannot be used with these screen readers.

## Accessibility Exceptions

The following functions are partially or entirely non-accessible:

- BPMN Editor
- Document View
- Content of Widgets
- Adjusting Screenshots (Support Button)

More information on the restricted functions and alternatives thereto are available in the user help chapter "Accessibility Exceptions".

## 2.4 Video and Audio Metadata

Extracting video and audio metadata is supported for the following file types:

- audio (mp3, ogg, wav)
- video (mp4, mov, flv, webm, avi, wmv)

## 2.5 The Fabasphere Client

The Fabasphere Client is necessary for seamlessly integrating with desktop productivity tools, such as Microsoft Office or LibreOffice. The Fabasphere Client is available on all reference platforms listed in chapter 2.1 "Desktop".

If the Fabasphere Client is installed, you have the following upload options:

Web Browser	Drag and Drop	Copy and Paste	"Upload" Action
<b>Microsoft Edge (Microsoft Windows)</b>	Multiple files and folders  E-mails, contacts and events from Microsoft Outlook	Multiple files and folders  E-mails, contacts and events from Microsoft Outlook	Multiple files
<b>Mozilla Firefox</b>	Multiple files and folders	Multiple files and folders	Multiple files

<b>(Microsoft Windows)</b>	E-mails, contacts and events from Microsoft Outlook	E-mails, contacts and events from Microsoft Outlook	
<b>Mozilla Firefox (Ubuntu)</b>	Multiple files and folders	Multiple files and folders SMB shares are not supported	Multiple files
<b>Mozilla Firefox (Apple macOS)</b>	Multiple files and folders	Multiple files and folders	Multiple files
<b>Apple Safari (Apple macOS)</b>	Multiple files and folders	Multiple files and folders	Multiple files
<b>Google Chrome (Microsoft Windows)</b>	Multiple files and folders E-mails, contacts and events from Microsoft Outlook	Multiple files and folders E-mails, contacts and events from Microsoft Outlook	Multiple files
<b>Google Chrome (Apple macOS)</b>	Multiple files and folders	Multiple files and folders	Multiple files

If the Fabasphere Client is not installed, you have the following upload options:

Web Browser	Drag and Drop	"Upload" Action
<b>Microsoft Edge (Microsoft Windows)</b>	Multiple files and folders E-mails from Microsoft Outlook	A single file
<b>Mozilla Firefox (Microsoft Windows, Apple macOS, Ubuntu)</b>	Multiple files and folders	A single file
<b>Apple Safari (Apple macOS)</b>	Multiple files and folders	A single file
<b>Google Chrome (Microsoft Windows, Apple macOS)</b>	Multiple files and folders	A single file



**Note:**

- If the Fabasphere Client is not installed on your device already, you will be asked to install it following the log-in.
- The integration into Microsoft Office (buttons) is only available on Microsoft Windows.
- The maximum file size is 16 GB.
- The Fabasphere Folder (synchronization with the file system) supports local NTFS 3.1 file systems on Microsoft Windows 10 and Microsoft Windows 11, and local HFS+ or APFS file systems on Apple macOS.

**Note:** Each Fabasphere Folder is assigned to one user and one device only. Hence, several users cannot synchronize into the same Fabasphere Folder, and one user cannot synchronize from several devices into the same Fabasphere Folder. The Fabasphere Folder is not supported on Microsoft Windows server operating systems.

## 2.6 The Fabasphere Enterprise Client

The ability to install software in a local user profile is often limited in an enterprise environment (e.g., users are not allowed to execute MSI packages or the software must be installed on a terminal server). In this case, you can use the Enterprise Client. This Client is installed for all users on a computer (a so-called “per machine” installation) and can be distributed centrally by administrators.

Download the installation package for this client here:

`https://<Fabasphere host>/<vdir>/fscasp/content/lib/CloudClientEnterprise.msi`

**Example** (respectively `de.cloud.fabasoft.com` or `ch.cloud.fabasoft.com`):

<https://at.cloud.fabasoft.com/folio/fscasp/content/lib/CloudClientEnterprise.msi>

**Note:** Make sure that the WebView2 Runtime is available on the client (included by default in current versions of Microsoft Windows 10 and 11).

The optimal browser settings for your users are not set automatically. Thus, administrators must ensure that the settings are rolled out in accordance with the white paper “[Fabasphere Client](#)”.

Installing the Fabasphere Enterprise Client and the Fabasphere Client on the same computer is not supported.

## 3 “Private Cloud” Operating Model

The following requirements apply to operating the Fabasphere in the “Private Cloud” operating model.

### 3.1 Infrastructure

The following infrastructure is required.

## Kubernetes Cluster

- Red Hat OpenShift (at least version 4.15) or
- k3s (at least version 1.31.0)

**Recommendation:** At least six servers with at least 768 GB RAM and 32 CPU cores should be used to operate the pods.

## Data Storage via NFS File Share

- 3 x NFS file shares (version NFSv3 or NFSv4.1)

## Database

- PostgreSQL (version 17.6)

## Container Registry

- Container registry (e.g., Harbor or JFrog Artifactory) for synchronizing the Fabasphere images from registry.fabasoft.com

## 3.2 Operation

The following requirements apply for operation.

### Required Services

- Load balancer (recommendation: nginx)
- OpenLDAP (at least version 2.6.10)

**Note:** The required services are not part of the Fabasphere deployment.

### Optional Services

- KEDA Operator (optional)
- Istio (optional)
- Kubernetes cluster logging stack
- Kubernetes cluster monitoring stack

**Note:** The optional services are not part of the Fabasphere deployment.

### Configuration Management/Deployment

- Git (e.g., GitLab, Gitea)
- Deployment tool (e.g., Argo CD)
- Alternatively with Helm (version 3)

### External Cluster Access (TCP)

TCP/IP addresses must be provided for services with the service type "LoadBalancer" (e.g., MetalLB).

### 3.3 Mindbreeze AI

Mindbreeze AI is operated on the same Kubernetes cluster. The required language model must be obtained directly, for example, from Hugging Face. Mindbreeze AI requires a "Persistent Volume Claim" to store the data necessary for AI use cases.

#### Recommendations:

- To improve performance, it is recommended running Mindbreeze AI pods on servers with GPUs (Nvidia H100).
- For the operation of large language models (LLM), it is recommended providing own servers with graphics cards (GPU) in the Kubernetes cluster.
- For fail-safe operation, it is recommended running two servers per LLM.
- One Nvidia H100 graphics card per server is recommended, each fully dedicated to the LLM.