Bringing Potential to Life

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System Reference Guide

Project:	**Ingentis org.manager**
Classification:	**PUBLIC**
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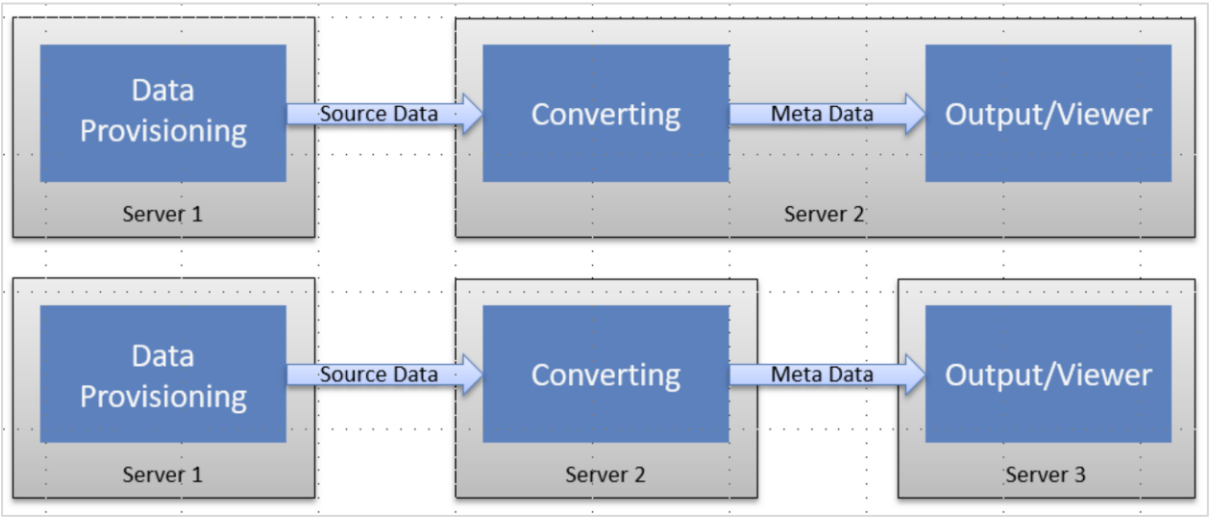
The number of systems that can be integrated into the process of creating and publishing organizational charts can be defined individually. From a functional perspective, the systems can be divided into three task areas:

- **Data provision**: This involves the extraction and, if necessary, preparation of HR data for further processing with Ingentis org.manager. In most cases, the data source is an SAP system and the extraction is carried out using a function module developed specifically for this purpose.
- **Conversion**: During conversion, the HR data is converted into the desired output format using org.converter. The necessary design and configuration specifications are also defined using org.converter.
- **Output**: The generated organizational charts are displayed either with the org.manager display module or via a browser, which retrieves the data from a web server.



System architecture variants

In addition to the two classic variants described above, there are also other scenarios. For example, both conversion and PC output could take place on server 2 (which contains separate perspectives, for example, and is used for quick checking of the data/configuration), while server 3 is responsible for web output.

The design/modeling of the organizational charts is not shown. This can be done either on Server 2 or on another computer, from which the result of the design phase is copied to Server 2.

Licensing

Master records

The central point of licensing is the number of master records that org.converter processes. If the number agreed in the license is exceeded, the conversion (creation of the organizational chart) is aborted. The number counted is not the number of master records delivered by SAP, but the number remaining in org.converter after any data manipulations have been performed. The data manipulation function allows you to clean up unclean source data by deleting unwanted objects.

In addition, the amount of data can also be limited directly in the SAP module by selecting the appropriate root node.

In this context, a master record is any HR object. The object with the most elements represents the limiting factor for licensing. In most cases, these are likely to be positions.

Example 1:
License with 5,000 master records, SAP export delivers 2,000 organizational units, 5,300 positions, and 4,700 employees despite restriction to the root node Germany. → The number of positions exceeds the license scope, org.converter aborts the conversion.

Example 2:
As above – however, data manipulation is created in org.converter, which deletes all 400 positions assigned to the organizational unit "Legacy" → 4,900 positions remain for further processing, the license limit is not exceeded, and the conversion is carried out.

Example 3:
License with 5,000 master records, SAP export at the Germany site delivers 1,000 organizational units, 2,300 positions, and 2,100 employees. Second installation at the location in France delivers 1,250 organizational units, 3,200 positions, and 2,750 employees. → Dual installation of the product is permitted, but there is still a license violation because a total of 5,500 positions are being processed.

Data sources

Each Ingentis org.manager version contains a data source (CSV, MS Excel, ODBC, LDAP, SAP, and web interface) from which HR data can be read. If additional data sources are required, these must be licensed separately.

Example 1: An Ingentis org.manager license with an SAP data source was purchased to visualize the data for the Germany location. In a second step, the European subsidiaries are now to be integrated. However, since they do not have an SAP system but deliver the data as flat files, the CSV data source must be licensed separately. It is irrelevant how many CSV files actually need to be processed.

Example 2: An Ingentis org.manager license with an SAP data source was purchased to visualize data for the Germany location. However, the telephone numbers are not maintained in SAP, but in LDAP. No new data source is required in org.converter here; this is a so-called intervention, in which additional attributes are created for existing objects. No separate licenses are required for interventions.

Output

In addition to the so-called PC output (output with its own org.manager display program), each Ingentis org.manager version includes a web output. Here, the organizational charts are displayed to the user in HTML5 in the browser. In addition, direct access to SAP from the browser and output on a mobile device can be licensed.

Furthermore, output types that only generate files are available:

- **PDF**: This output generates PDF files from the organizational charts.
- **Archive**: This output is used for long-term archiving of organizational charts and the associated data sets.
- **Image**: This output generates individual images (format: PNG) from the organizational charts.
- **Export**: This output generates data files (text, Excel, CSV, JSON) from the organizational charts.

Editions

Ingentis org.manager is available in three editions: Light, Professional, and Enterprise. The editions differ in terms of the functionalities and modules they contain, as well as the number of usable HR object types, including links. Additional modules can be purchased for the versions.

In the Light Edition, for example, no data manipulation is available and therefore no conditional formatting is possible. The org.simulator is only included in the Enterprise Edition.

Installations

Ingentis org.manager is delivered as a corporate license, meaning that the software can be installed on any number of computers.

System requirements

System requirements – minimum (recommended)

org.converter:

- Operating system: Windows 10
- Storage space of at least approx. 1.5 GB (depending on the amount of data to be processed)
- Processor: 2 GHz dual core with one core reserved exclusively for org.converter (the application benefits from multiple processor cores. For large amounts of data, a multi-core system is therefore recommended, with at least two cores reserved exclusively for org.co).
- RAM: 4 GB RAM (4 GB RAM exclusively for org.converter)

org.manager [win]

- Operating system: Windows 10
- .NET Framework 4.8
- Processor: 2 GHz (dual core)
- Memory: 2 GB RAM

org.manager [server]

- Operating system: Windows Server 2016 (or later)
- IIS 8.5 (or later)
- .NET Framework 4.8
- Processor: 2 GHz - Dual Core with one core reserved exclusively for org.manager [server] (the application benefits from multiple processor cores. For large amounts of data, we therefore recommend a multi-core system with at least four cores, with at least two cores reserved exclusively for org.manager [server].)
- 40 GB free hard disk space in addition to the operating system
- RAM: The requirement depends on the number of master records.

RAM requirements according to master records

Master records	<10K	<50K	<100K
Operating system	4	4	4
IIS / IOM Server / org.converter	8	11	14
Access protection	2.4	3.3	4.2
Simulation	2.4	3.3	4.2
Total (in GB)	**16.8**	**21.6**	**26.4**

* Calculation includes five IOM server editions

Note:

- Requirements (CPU, hard drive, and RAM) may be higher depending on the configuration, the number of additional server outputs, data merges, the size of employee photos, and many other factors.
- Clients need a web browser to access an edition. Edge (Chromium), Safari, Chrome, or Firefox in their current versions are supported.

Modules

org.converter

The org.converter is the modeling and conversion module of the org.manager. It links to the data sources and performs all design and configuration steps. The result of these activities is saved in a configuration file (*.OCV). Based on the settings, the org.converter converts the source data into the various output formats and, if desired, displays the organizational chart in org.manager [win].

The org.converter runs as an application under MS Windows. The org.converter is installed together with the org.manager [win] using a setup routine. Neither component creates or requires its own registry entries.

org.manager [win]

The org.manager [win] is a display component (viewer) for organizational charts generated by the org.converter.

The org.manager runs as an application under MS Windows. The org.manager [win] is installed together with the org.converter using a setup routine. Neither component creates or requires its own registry entries.

The output file for org.manager [win] generated by org.converter is encrypted with Salsa20.

org.manager [server]

With the org.manager [server] web output, the data is not pre-generated as HTML/JavaScript/image/PDF files, but is generated dynamically by the org.manager [server] component when requested by the user's web browser. The org.converter converts the source data (e.g., from SAP) into an internal data format that can be interpreted by the org.manager [server] component.

This is where HTML5 comes into play.

When the user retrieves the organizational chart, the respective HTML/JavaScript/image/PDF file is generated at runtime and delivered to the browser.

The output file for org.manager [server] generated by org.converter is encrypted with Salsa20.

HTTP is used via TCP port 80 for communication between the browser and server.

Important: Setting up Ingentis org.manager within existing applications (e.g., MS SharePoint) is not recommended; instead, a separate site should be created here.

Maintenance page

org.manager [server] contains a maintenance page for IT administrators, which provides information that can be helpful in the event of performance problems. The maintenance page is accessed via the server output URL, supplemented by the addition /maintenance. A dedicated, user-specific authorization (via the OCV configuration file) is required to access this page.

SAP function module

Data is retrieved from SAP using an org.manager function module, which must be transported to SAP. This function module is configured (definition of output fields, evaluation paths, etc.) in an IMG within SAP.

The function module is able to either make the data available as an export ("PUSH") or the org.converter retrieves the data via a web service of the module when creating the organizational chart ("PULL").

By default and without customization, the following SAP objects can be exported with the function module:

- O – Organizational unit
- S – Position
- P – Employee
- CP – Central person
- C – Position
- JF – Job Group/Job Family
- Q – Qualification
- T – Task

If employee photos are stored in SAP, they can also be extracted using an additional SAP report.

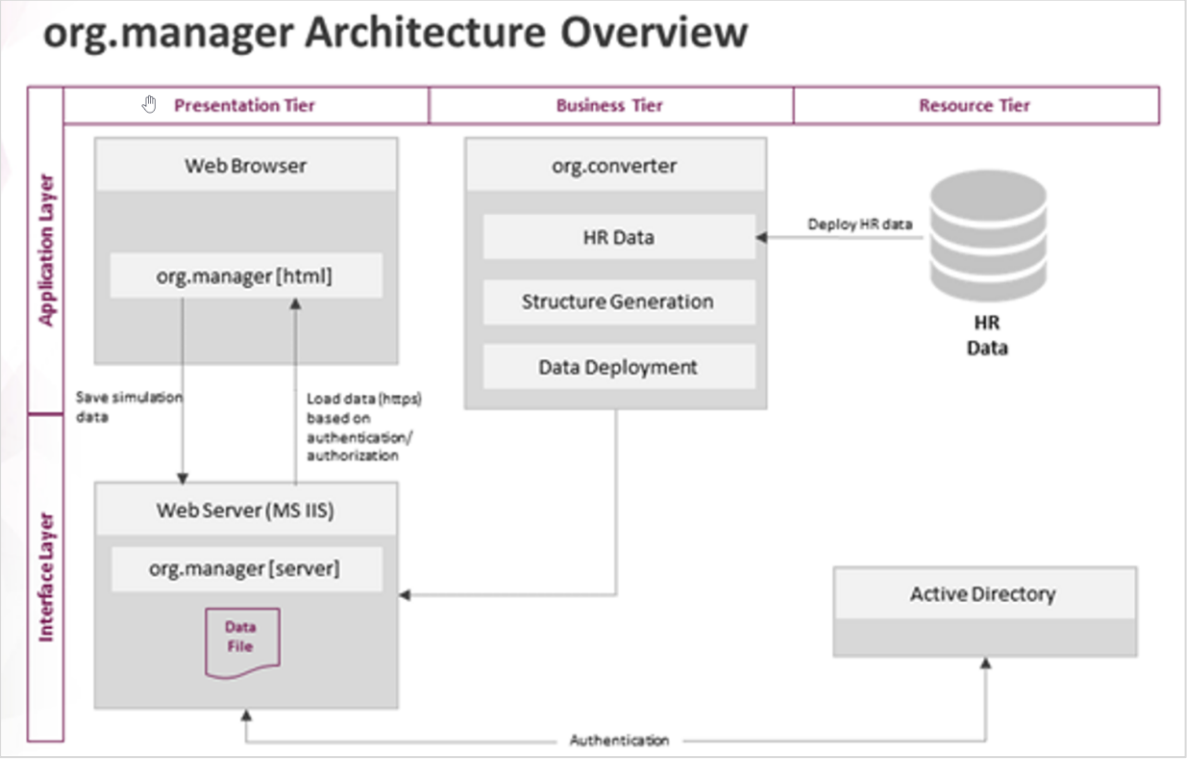
A comprehensive technical description of the function module is available in our customer portal.

Access protection

The access protection function is an add-on module for org.manager [server]. In contrast to org.manager [server], access protection creates an organizational chart for each user depending on their authorization.

Authentication is performed using the standard functionality of the web server (e.g., Windows authentication). This means that no separate user administration is required for org.manager[server]. As an alternative to Windows authentication, other authentication methods supported by the Microsoft IIS web server, such as token authentication via an identity provider (IDP), can be used. The additional org.manager module Authentication Agent is required for token authentication.

Authorization is controlled by configurable rules defined in org.converter. This makes it possible, for example, to display only the structure below each user's organizational unit. In order for authorization to be carried out, the login of the respective employee must be included in the data.



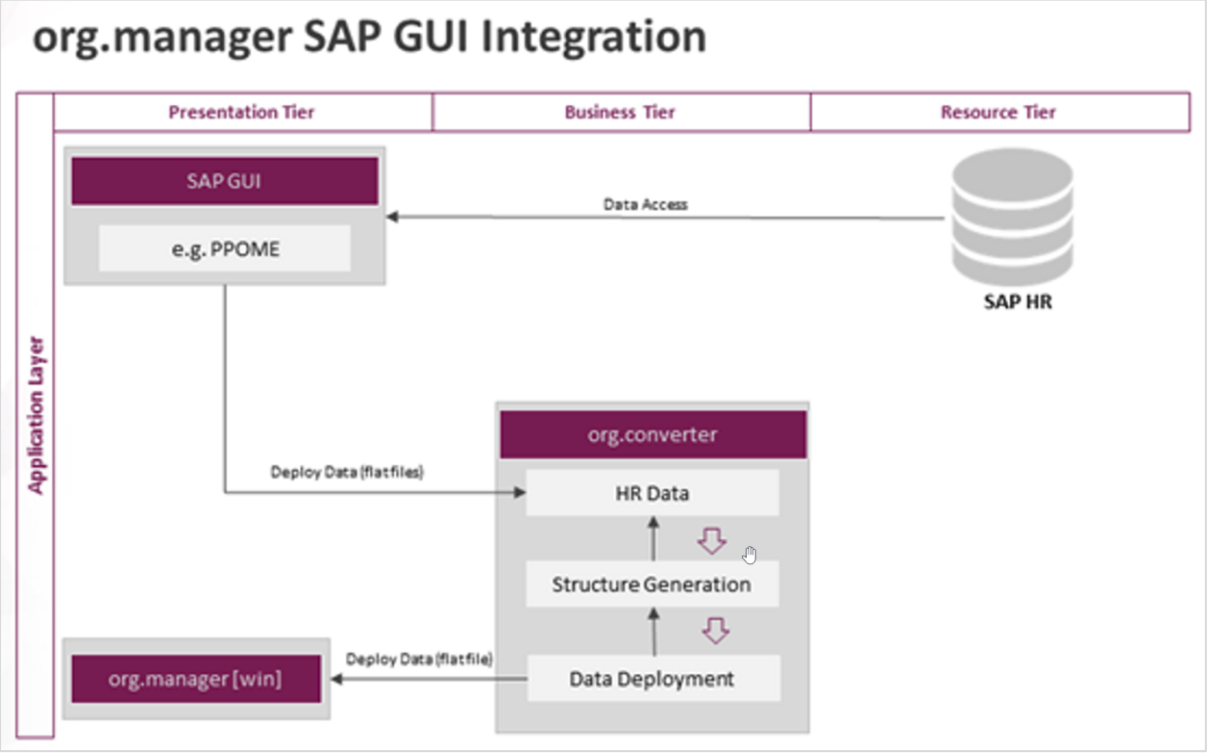
org.manager [SERVER] - Access protection

SAP integration org.manager

For SAP integration, org.manager is started directly from the SAP GUI. For this purpose, there is, for example, the "Generate structure graphic" button in PPOME.

By retrieving the data directly from the SAP GUI, the data is stored locally on the user's computer in the background via the SAP function module. The org.converter processes this data and displays it in org.manager [win] (Windows application).

Communication between the SAP GUI and the org.manager components takes place via shared IMG entries. For this to work, both the org.manager and the SAP GUI must be running in the same environment.



SAP integration org.manager [WIN]

org.simulator

The org.simulator can be used to perform web-based simulations. Based on the current structure, simulations can be started and saved without manipulating data in the production system. Objects can be moved, new objects can be inserted into the structure, or objects can be deleted. The changes are made directly in the graphical structure.

Furthermore, the attributes of the objects can be changed and change lists can be output. In addition, objects can be moved to a separate clipboard so that they can be inserted again later in another location. The org.simulator can also be used in conjunction with access protection (not to be confused with the additional module Access Protection). This allows you to control, for example, that all responsible persons can only simulate in their own area.

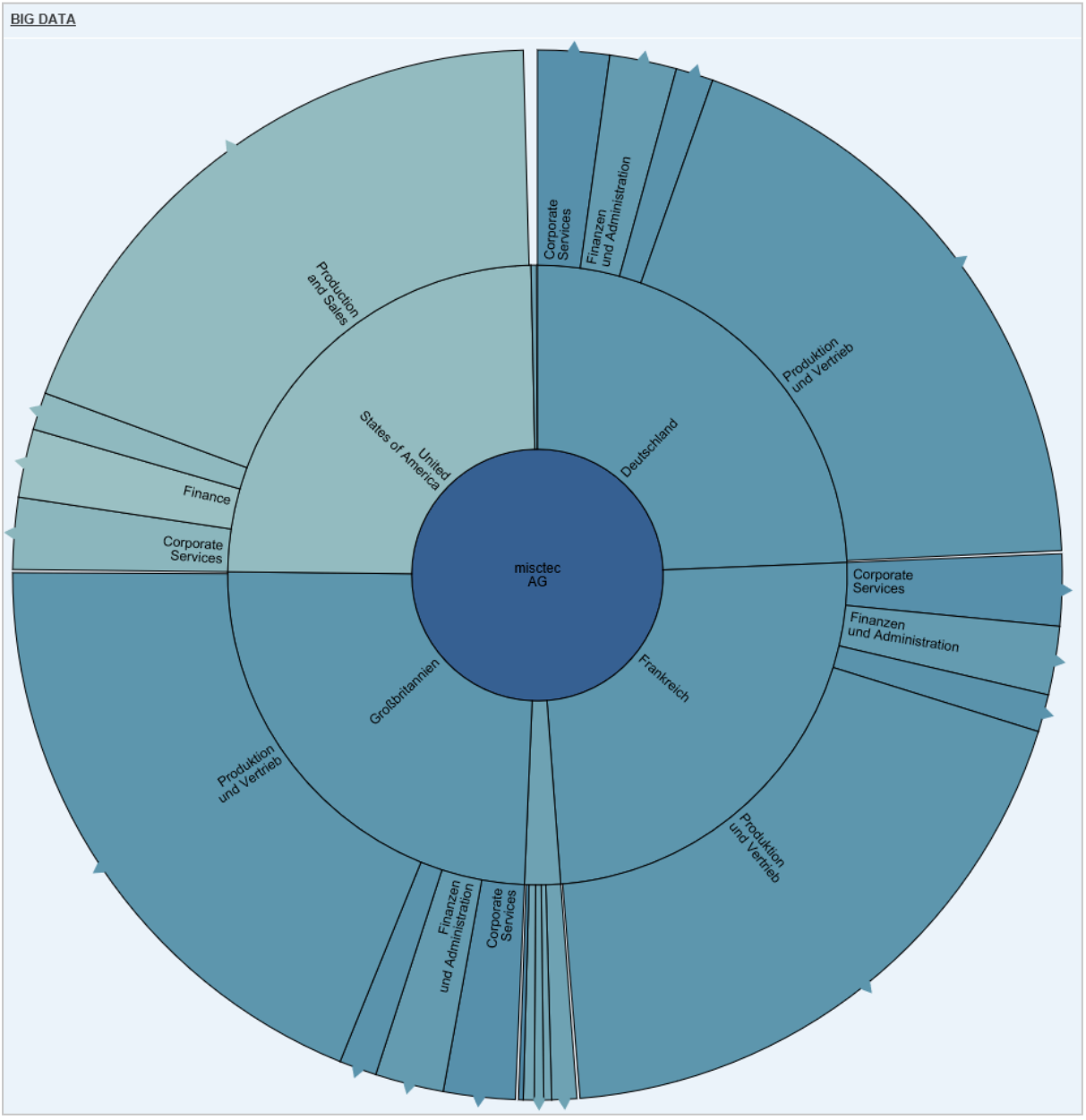
org.manager [mobile]

With the org.manager [mobile] module, organizational charts can also be output on mobile devices (iOS/Android). iOS version 9.0 and above and Android version 6.0 and above are officially supported. No statements can be made regarding compatibility with earlier versions of these operating systems.

The org.manager can also be used on MS Surface devices without the org.manager [mobile] module; the same applies to classic notebooks with the MS Windows operating system.

Big data visualization (for org.manager [server])

When displaying large organizational structures with many levels, classic tree views are usually not ideal. The Big Data Visualization module offers several alternative display types.



Big Data Visualization

Drawing mode (for org.manager [server])

Drawing mode allows you to make changes to each box in the organizational chart. These changes include frames, colors, fonts, and even the text displayed, i.e., you can overwrite the value of an attribute from the data source in the browser.

The changes are not written back to the configuration file or the database, but you can save them locally. The change file can be loaded back into the organization chart at a later time.

Note: Drawing mode is part of the Professional Edition of org.manager.

org.directory (for org.manager [server])

org.directory is a web application that allows server outputs and simulations to be archived, thus creating the conditions for accessing previous data sets, simulations, their further processing, and comparisons.

As a rule, a so-called publication is created in org.directory for each org.manager server output. Each conversion run of the org.converter then generates a new version within the respective publication.

Users do not need to know the name of the latest version in order to open it. A fixed URL is always called up, and org.directory automatically redirects the request to the URL of the latest version. Access to previous inventories and simulations is provided directly from the server output via an overview page (taking into account authentication and authorization).

For administrators, org.directory provides an administration interface that can be used to delete stored publications and versions (manually or on a scheduled basis). It is also possible to restrict write access to org.directory to a specific group of people.

Note: org.directory is part of the Enterprise Edition of org.manager. It is not installed together with org.manager via a setup routine, but via a Powershell script.

Interfaces

The following formats are supported as data sources for Ingentis org.manager by default:

- CSV
- MS Excel
- ODBC, MS SQL, Oracle
- LDAP
- SAP (using the corresponding function module)
- SuccessFactors
- Workday
- Web service
- orginio
- org.manager Archive

A wide range of database systems can be connected via ODBC, provided that the customer supplies the appropriate drivers. With MS SQL and Oracle, the connection to org.converter is native. The current versions of these DBMS are supported.

Which and how many interfaces are available in an Ingentis org.manager installation is part of the licensing.

In addition to the Ingentis org.manager output variants described in the previous sections, there is another outbound interface that is available regardless of the output variant:

Web links to third-party systems can be embedded in organizational charts. For example, it is possible to call up an employee's phone book entry in the company intranet from an employee box in the organizational chart.

The address of the intranet page and the syntax for calling up the employee are stored in the organizational chart, e.g.:

```
http://telefonbuch.ingentis.de?suche=Max+Mustermann
```

The prerequisites for this are that the intranet page allows a specific call to an employee page via URL and that the necessary employee-specific information is contained in the source data of the organizational chart. If direct access to an employee page via URL is only possible via a portal-internal ID and this ID is not available in the source data for Ingentis

org.manager (because it is not the personnel number, for example), this call option will not work.

Portal integration

Linking

The easiest way to integrate organizational charts into the company intranet is to store a link to the output page of Ingentis org.manager [server].

The URL for the organizational chart (e.g., http://servername.firmendomaene/orgmanager) is stored at the desired location on the intranet page (e.g., under the name "Company Organizational Chart").

Important: If the web server does not automatically return the index.html page (which is the case with IIS and most other web servers), the URL must be extended to include the page specification

It is also possible to embed the organizational charts as iFrames in the company intranet page.

For security reasons, server output cannot be embedded via iFrame by default if the source and destination belong to different domains. If cross-domain communication is nevertheless required in individual cases, this can be achieved in IIS by making one or two changes to the HTTP response header of the output folder whose content is to be embedded. If multiple outputs are to be embedded, this can be enabled by selecting the orgcharts folder instead of the output folder.

Name: X-Frame-Options
Value: SAMEORIGIN
Entry type: Local

Additionally for Chrome and Safari:

Name: Content-Security-Policy
Value: frame-ancestors 'https://*.domain.com'
Entry type: Local

Targeted entry

The entry point to a specific object is possible via call parameters in the URL. It is important that the attribute used for the entry point is also activated in the detailed search.

The following URL would search for an organizational unit with the object ID 12345678:

```
http://servername.firmendomaene/orgmanager?goto=OE|(ObjectID,10,12345678)
```

Important: If the web server does not automatically return the index.html page (which is the case with IIS and most other web servers), the URL must be extended to include the page specification:
http://servername.firmendomaene/orgmanager/index.html?goto=OE|(ObjectID,10,12345678)

It is also important to note that the **technical name** (found in the "Types" section in org.converter) must be used for both the object name (here: OrgUnit) and the attribute name (here: ObjectID).

The 10 means that the ObjectID must be 12345678.

This type of object selection also works for position and employee objects. The following examples are based on the SAP configuration of the org.converter:

```
http:\\orgmanager\index.html?goto=Position|(PositionID,10,12345678)
http:\\orgmanager\index.html?goto=Person|(PersonnelNumber,10,12345678)
```

The following comparison operators are available:

Data type	Operator ID	Description
All	10	=
All	11	<>
Number	20	<
Number	21	<=
Number	22	>
Number	23	>=
String	30	Contains
String	31	Does not contain
String	32	Begins with
String	33	Does not begin with
String	34	Ends with
String	35	Does not end with

Perspective selection

In addition, the desired perspective can be selected by its name.

&perspective = name of the perspective

Example:

```
http://servername.firmendomaene/orgmanager?goto=OE|(ObjectID,10,12345678)&perspective=Standard
```

Important: If the web server does not automatically return the index.html page (which is the case with IIS and most other web servers), the URL must be extended to include the page specification:
http://servername.firmendomaene/orgmanager/index.html?goto=OE|(ObjectID,10,12345678)&perspective=1

Language selection

The language in which the organizational charts are displayed is specified either as a default value in the configuration file or when the organizational chart is called up.

Example:

```
http://servername.firmendomaene/orgmanager?lang=en
```

The prerequisite for this is that the output language must be licensed in org.converter (German and English are included by default) and the terms in the data source must also be maintained in this language.

Number of levels

The number of hierarchy levels to be displayed can also be defined at the entry point:

```
?<technical name of the view>_layer=<number of levels>
```

Example:

```
http://servername.firmendomaene/orgmanager?Organigramm_layer=3
```

Important: The view name must be specified, as there may be several graphical structures in a view (e.g., an organizational chart and a parallel staffing plan).

Authentication / Single Sign-On

Based on the authentication of the user who wants to open an organizational chart in an org.manager [server] output via the browser, it is possible to assign access permissions at the person or group level.

The permissions are set at the directory level (IIS) and/or in the configuration of the organizational chart (Access Protection module).

Anonymous authentication

If anonymous authentication is used in the web server (IIS), the user is not identified. Therefore, no restrictions for individuals/groups on the organizational charts are possible (apart from external proxy servers or firewalls). Likewise, it is not possible to allow the user to enter their own organizational unit directly in the organizational chart.

Windows authentication

If Windows authentication is enabled in the web server (IIS), you can configure which persons are granted access to organizational charts. The user ID with which the user logs on to the PC is forwarded from the web server to the application running there.

If the additional access protection module is used, it is also possible to specify which information can be viewed and which functions can be used in the organizational chart.

The placement of authorization can also be moved from IIS to org.manager if org.directory is used. In this case, extended authentication is available.

Token authentication

As an additional method, Ingentis org.manager supports authentication via JSON Web Token (JWT) with the **Authentication Agent** add-on module. Here, the client requests a token from an authentication server. If authentication is successful, the authentication server returns a JSON Web Token. The client then forwards the token to the org.manager server component on the web server, and access to the organizational chart is granted.

Authentication Agent supports the SAML 2.0 / OpenID / OAuth protocols used by identity providers (IDP) such as Okta / MS ADFS / MS Azure AD. An identity provider is neither provided by Ingentis nor is it part of any edition of org.manager.

The advantage of token authentication is that it uses existing authentication servers within the company (provided they support JWT).

How a client/user is actually authenticated by the authentication server is part of the company's IT policy and is completely independent of the operation of Ingentis org.manager.

Automation of organizational chart generation

SAP export via batch jobs

With the help of batch jobs in SAP, data exports can be generated on a scheduled basis using the org.manager function module (specifying the selection set to be used).

Afterwards, you must ensure that the generated export files from the SAP system are transferred to a drive that org.converter can access. As a rule, distribution mechanisms that are already used for SAP reports in the company can be used for this purpose.

Direct access to the SAP system during conversion

The SAP function module provides a web service that org.converter can use to retrieve the required HR data from SAP during conversion (generation of the organizational chart).

Direct access to the SAP system at runtime

When directly accessing the source system using org.manager [web], the data is transferred in real time and used to generate the organizational chart output.

Automated conversion via Windows Scheduler

Organizational chart generation with org.converter (conversion), which is used for the HTML5 (org.manager [server]) and PC output (org.manager [win]) output variants, can be triggered on a scheduled basis via a batch job stored in Windows Scheduler.

The call syntax for org.converter is as follows:

```
C:\Program Files\Ingentis org.manager\orgconverter.exe
[configuration file] [parameters]
```

- **Configuration file**: The configuration file contains the path and file name of the OCV file. You can create this file with org.converter by starting it without parameters. The file contains data about data sources, output files, fields, and the layout of org.manager.
- **Parameters**: The following parameters can be used optionally when starting org.converter:

/ks	Use this parameter to perform a conversion in batch mode. The data is converted and made available in the output directory specified in the OCV file. Any errors or problems that occur are logged in the log file (see following section).
/kss	This parameter works in the same way as the /KS parameter, with the difference that org.manager (display module PC output) is started after the conversion. Errors and problems are also logged in the log file. This parameter is used when org.converter is started directly from HR systems (e.g., SAP-HR, etc.).
/datapath	The data path to be used, which is adopted for all data sources where the corresponding option is active. The path must be specified as a parameter value (e.g., /datapath="C:\Data").
/outputpath	The output path to be used, which is adopted for all outputs for which the corresponding option is active. The path must be specified as a parameter value (e.g., /outputpath="C:\Outputs"). If this parameter is used without the additional parameter /outputs, only the first active output (= marked with a check mark) is generated in the OCV.
/outputs	Uses the parameter value to determine which outputs are to be created during batch conversion. Expects one or more output names separated by semicolons (e.g., /outputs="PC output;PDF output"). However, the output is only created if the check mark is set in the OCV before the corresponding output and the option "Output path can be set by program parameters" is enabled.

/recentstock	Opens the last used configuration file.
/sourcefile	Specifies the configuration file to be opened via the parameter value (e.g., /sourcefile="C:\Test\myfile.ocv"). This is equivalent to specifying the configuration file without a parameter key.
/showprogress	Only works in conjunction with /ks or /kss and displays a dialog box with a progress bar and cancel button during conversion; if the conversion fails, error messages are also displayed here.
/updateocv	Saves the OCV with the current version. Forces batch mode. If no other batch parameters (such as /ks) are specified, org.converter terminates after the OCV has been saved. A backup copy of the original status is created, either via the /backupocv parameter (see below) or in the same location with the extension .bak appended.
/backupocv="[path+filename]"	Only in batch mode. Creates a copy of the OCV file used. Useful in combination with /updateocv (see above).
/logfile="[path+filename]"	Optional specification to save the log file in a different location. Supported in all modes, only applies to the program run in which the parameter was specified. Helpful for multiple batch conversions to assign the individual log files to the tasks. Placeholders are supported as in the application settings (*.exe.config), e.g. "{dateTime}".

Example: C:\Program Files\Ingentis org.manager\orgconverter.exe c:\temp\demo.ocv /KS

Windows PowerShell

To avoid unnecessary conversion runs when no new SAP data is available, you can create a Windows PowerShell script that checks whether new SAP data is available and only starts org.converter if this is the case. This script is then used for the call from the Windows Scheduler.

Log files

org.converter

Every conversion process with org.converter is documented in a log file (file format CSV).

The log file can be found in the following directory:

```
C:\Users\<Username>\AppData\Local\Ingentis\Ingentis
org.converter\Logs
```

or

```
%LOCALAPPDATA%\Ingentis\Ingentis org.converter\Logs
```

The log file can also be opened directly from org.converter (menu "?").

The directory in which the log file is stored can be changed using a command line parameter when calling org.converter (see section Automated conversion using Windows Scheduler).

SAP (file export)

A log file is also generated during normal manual or batch job-controlled export of data from SAP.

The file can be found in the following directory:

```
C:\Users\<Username>\AppData\Local\Ingentis\Log
```

or

```
%LOCALAPPDATA%\Ingentis\Log
```

SAP (direct access)

When using the web service to retrieve SAP data via org.converter, the web service response can optionally be logged in the org.converter log file. To do this, edit org.converter.config and change the trace level from "ErrorWarningInformation" to "Debug" or "All".

Use under Citrix

Ingentis org.manager can also be installed and used under Citrix. The two programs installed with the setup, orgmanager.exe and orgconverter.exe, must be made available to users as published applications.

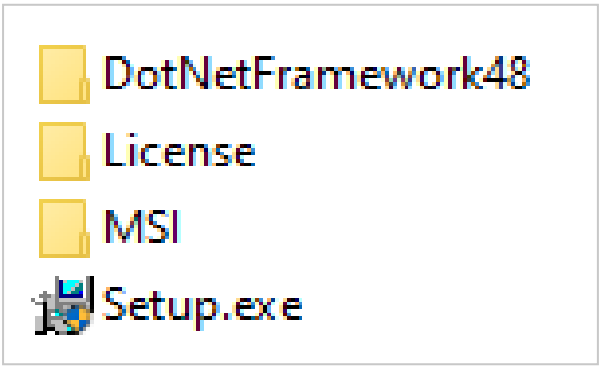
To enable organization charts to be generated directly from SAP (PPOME) (by calling org.converter from PPOME), you must ensure that SAP GUI and org.converter are running in the same application profile and on the same Citrix server.

Furthermore, users must have write access to their Citrix user profile so that log and temporary files can be created. In other words, the directories behind the environment variables %LOCALAPPDATA% and %TEMP% must be writable.

org.manager setup

The org.manager setup (setup.exe) installs org.converter and org.manager [win]. If not already present, MS .NET 4.8 is also installed.

Technically, the installation is performed using MSI packages (Microsoft Installer).



org.manager installation package

Silent installation

It is possible to perform a silent installation, which does not require any input. However, MS .NET is not installed in this variant. This must be done manually.

Call syntax: **org.manager_x64.msi /q**

org.manager_x64.msi is located in the MSI folder of the installation package.

The license file must be located in the "License" folder, as shown above.

Optional additional parameters:

INSTALLDIR="C:\MyPath"	Specify an individual target directory (**important**: in double quotation marks!) for the installation; the default directory is C:\Program Files\Ingentis org.manager
OPTIMIZEAPPLICATION=<value>	• **0** The installation is not optimized for the target system • **1** the installation is optimized for the target system (default setting); an installation optimized in this way cannot simply be copied to another computer.

Installation of additional files

If necessary, any other files can be distributed with the setup or the MSI package (e.g., company-specific configuration files for org.manager). To do this, another folder called Files must be created in the MSI folder of the installation package. This folder must contain a file called files.xml. The files.xml file must be filled in manually and can be expanded as desired.

```
<?xml version="1.0"?>
- <Paths xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <CopyPaths>
    - <InputOutputPath>
        <InputPath>MSI\TESTPFAD</InputPath>
        <OutputPath>INSTALLDIR\TESTPFAD</OutputPath>
      </InputOutputPath>
    - <InputOutputPath>
        <InputPath>MSI\TESTPFAD\NEUER_ORDER\TEST_FILE.jpg</InputPath>
        <OutputPath>INSTALLDIR\TESTPFAD</OutputPath>
      </InputOutputPath>
    - <InputOutputPath>
        <InputPath>MSI\TESTPFAD\NEUER_ORDER\TEST_FILE.jpg</InputPath>
        <OutputPath>INSTALLDIR\TESTPFAD</OutputPath>
      </InputOutputPath>
  </CopyPaths>
</Paths>
```

Files.xml

The InputPath can currently only begin with MSI. The Files folder is then used as the start path. The folders in the Files folder can be nested as desired. Individual files can be specified or the entire folder; in this case, all files from the folder are copied.

The token InstallDir can be used as the OutputPath, for example. The files are then copied to the installation directory. Alternatively, the complete path to which the file or folder is to be copied can be specified.

Uninstallation

The org.manager/org.converter is uninstalled in the same way as other software products installed via MSI packages.

- Using the original installation package

Call syntax: **msiexec /x <path>\org.manager_x64.msi**

- Using the product code

Call syntax: **msiexec.exe /x {00000000-0000-0000-0000-00000000000C} /qn**

/qn = Silent mode

{00000000-0000-0000-0000-00000000000C} must be replaced with the corresponding product code

A list of different methods for determining the product code can be found on the following website, for example:

`https://stackoverflow.com/questions/29937568/how-can-i-find-the-product-guid-of-an-installed-msi-setup`

Planning of installation and implementation

Roles

The following roles are relevant in the context of installing and using org.manager:

- **org.manager administrator**: Responsible for the information displayed in the organizational chart and the configuration of the layout.
- **IT administrator**: Responsible for the technical basis (software installation and provision of a web server) and ensures the availability of the systems.
- **SAP administrator**: Responsible for installing and customizing the SAP function module.
- **org.manager user**: Accesses the organizational charts and uses their contents (printing, partial export).

Download the application and the SAP function module (org.manager administrator, IT administrator, SAP administrator)

Here, it must be clarified which roles or groups of people should have access to the Ingentis customer portal. This information (first name, last name, email address, and phone number) must be sent to Ingentis.

Download authorization can also be restricted to a smaller group of portal users.

Installation of the SAP function module (SAP administrator)

Questions to be clarified:

- Who will install the SAP function module?
- Who will adapt the SAP function module, if necessary?
- Who is responsible for transferring the SAP function module from development to testing and from testing to production?

Installation of the application (IT administrator)

Before installation, the system requirements listed in this document should be checked again.

Questions to be clarified:

- Should the application be installed locally on workstations?
    - How many installations are required?
    - Can automatic software distribution be used?
    - What permissions do users have on their system drive (read, write, execute, full access)?
- Should the application be installed on an MS Windows server?
    - Does the org.manager administrator have remote access to this server?
- Should the application be installed on a network drive? Ingentis org.manager can also be installed on a network drive, as no registry entries are created.
    - Does the org.manager administrator have the necessary access rights to the network drive?

Configuration of the SAP function module (SAP administrator)

Questions to be clarified:

- Is the system operated by the company itself or is it hosted by an external service provider?

    - If hosting: Are there internal administrators, or do administrators from the service provider need to be involved?
- Should the SAP function module be usable as a separate transaction in SAP?
    - Where should the exported data be stored: locally on the computer of an org.manager administrator? Locally on an MS Windows server? On a network drive?
- Should the SAP function module also be usable directly from PPOME/PPOSE?
    - If so, is an RH_ORGCHART BADI already installed? (Possibly due to another organizational chart tool used previously?
    - Where should the exported data be stored: locally on the computer of an org.manager administrator? Locally on an MS Windows server? On a network drive?
- Are additional objects or attributes from SAP OM required that are not included in the predefined "Standard Selection Set"?

Configuration of the Ingentis org.manager (org.manager administrator)

The definition of the layout and the information displayed is not part of these initial implementation steps.

Questions to be clarified:

- Should the generation of organizational charts (for the intranet) be automated?

Configuration of the different output formats (IT administrator)

org.manager [win]

Before installation, the system requirements listed in this document should be checked again.

org.manager [server]

Before installation, the system requirements listed in this document should be checked again.

Questions to be clarified:

- Which version of Microsoft IIS is being used?
- Which web browser (including version) should be used to access the organizational chart website?
- Is a separate web server instance used for org.manager, or are other applications also hosted on the web server?
- Who is responsible for configuring and maintaining the web server and website?
- Should Ingentis org.manager be installed on the same server that runs the web server?
- Does the org.manager administrator have access to the web server?
    - If not, is there a way for the org.manager administrator to start, stop, and restore the application pool on the web server?