RSWE



SIDEXIS SYNC SERVICES

User's Manual

Version 5.0

09/13/2024

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History

Date	Author	Description / version
04/04/2008	Michael Reinke	Initial revision 0.1
04/21/2008	Michael Reinke	Release 1.0
06/02/2008	Michael Reinke	Release 1.1
	Michael Reinke	Release 1.2
09/21/2011	Michael Reinke	Release 2.0 (3D support)
11/18/2011	Michael Reinke	+ Automatic mode -> SSG 2.0.0.9
12/21/2011	Michael Reinke	+ SSC 2.0.0.4: Automatic mode
11/14/2013	Michael Reinke	+ SSG 2.0.0.16: Gateway filter rules
02/18/2014	Michael Reinke	+ Version 3.0
05/06/2016	Michael Reinke	+ Version 4.0 (SIDEXIS 4 support)
02/08/2024	Michael Reinke	+ Version 5 (new gateway types)
09/13/2024	Michael Reinke	+ Version 5.0.38 (new PMS proxy for Evident integration)

Reference

[1] SLIDA Documentation, V. 1.32

Abbreviations

SLIDA	Software link for dental applications. SIDEXIS data import/export protocol. Please refer to the SIDEXIS documentation for details.
SSG	SyncServicesGateway, the sending gateway application.
SSC	SyncServicesControl, the (optional) 3D volume data import application on the receiving side. .
XG3D	SIRONA XG3D modality
GALILEOS	SIRONA GALILEOS modality
SIDEXIS XG	Sirona's former dental imaging application.
SIDEXIS 4	Sirona's dental imaging application.
PMS	Practice management software

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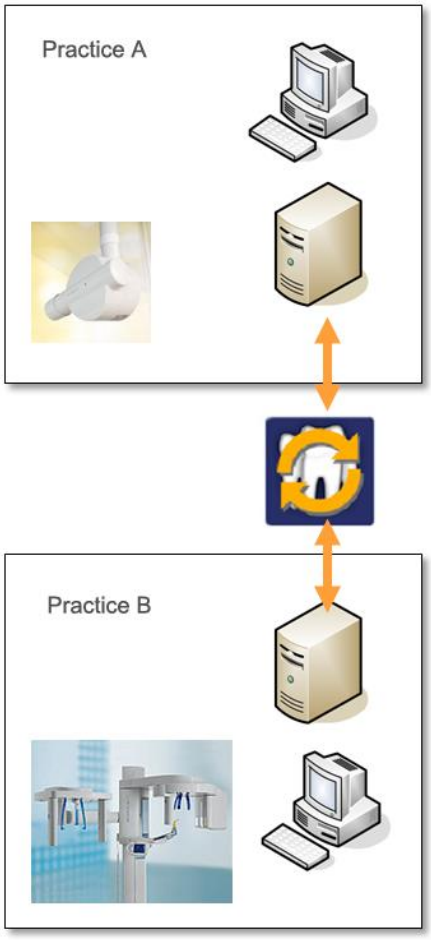
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Introduction

The SIDEXIS Sync Services application allows synchronizing SIDEXIS image and patient data between distributed dental office locations using existing secure network connections.

Typical use cases

- one dentist runs 2 offices
- two dentists work in 2 offices and share devices/patients
- one dentist works both at home and in his office
- multiple dentists share devices/patients
- multiple dentists act as a common office at distributed locations
- sharing of 3D DVT volume data between multiple offices
- sharing data between a SIDEXIS network installation and a SIDEXIS notebook installation.
- Patient- and image data sharing without the need to run a terminal server installation.



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Overview

The SyncServicesGateway system (**SSG**) incorporates a client side gateway application which is located inside the LAN of the sending SIDEXIS installation. The system architecture follows a “push” technology forcing the data provider (e.g. client side SIDEXIS) to send data actively to a remote location (e.g. the receiver side SIDEXIS installation). This architecture offers compelling advantages over an alternative “pull” technology.

The following figure 1 gives an overview of the basic building blocks. The Sync Services Gateway (**SSG**) knows how to read a pre configured SLIDA export folder. When activated the SSG reads out this export folder and syncs its items to a configured remote folder which is a pre configured import folder of the remote SIDEXIS installation.

On a second, non-SLIDA channel, the system allows to contribute any data on a file-per-file base to a remote folder location.

New in version 3 is the option to read existing SIDEXIS XG database content. Please refer to chapter “What’s new in version 5.0.38?” for a detailed description.

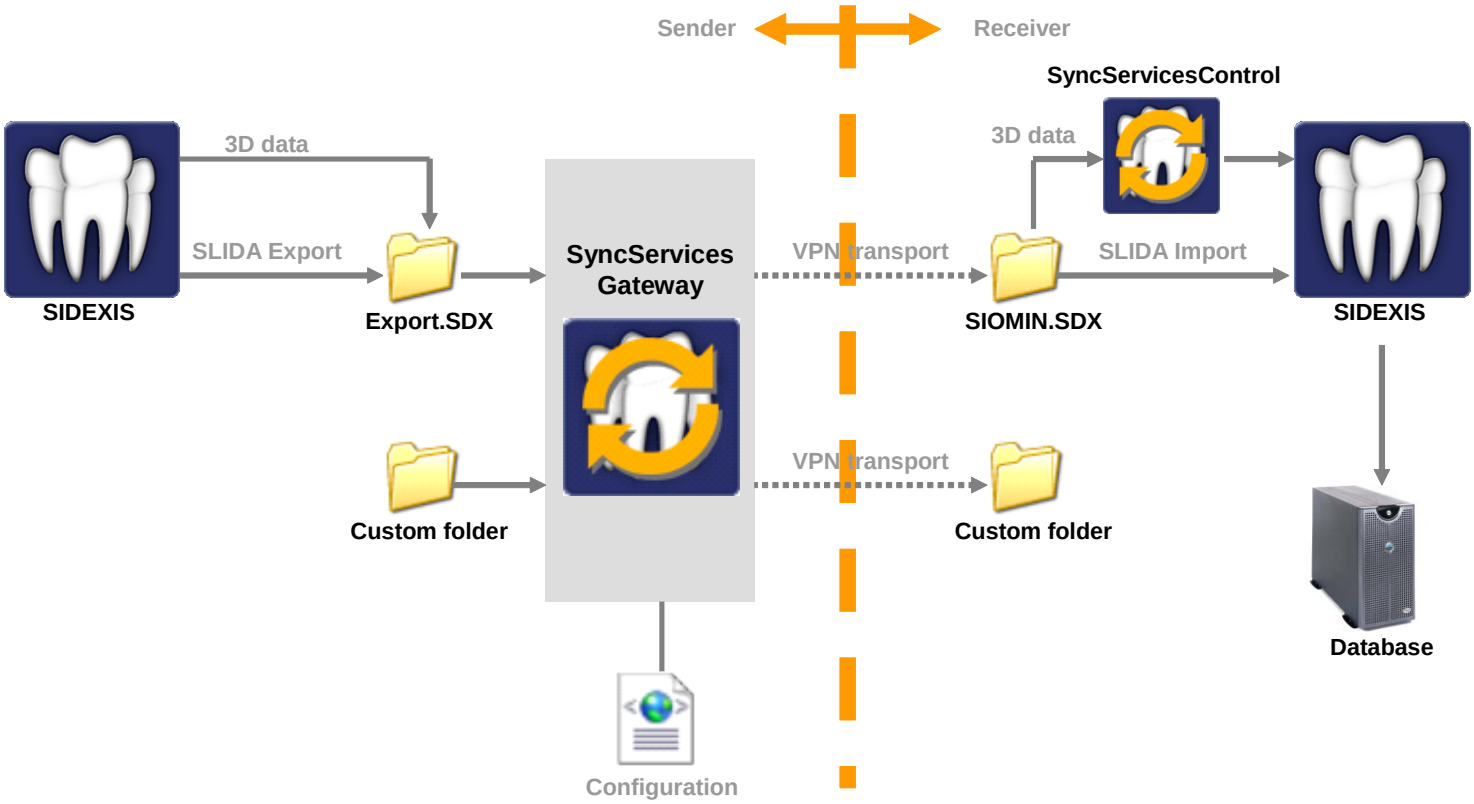


Figure 1 One-way transport of files

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Using the basic sender/receiver building block from figure 1 concrete systems with one-way data synchronization can be set up.
Adding the same “channel” vice-versa 2-way synchronization systems can be set up as shown in figure 2.

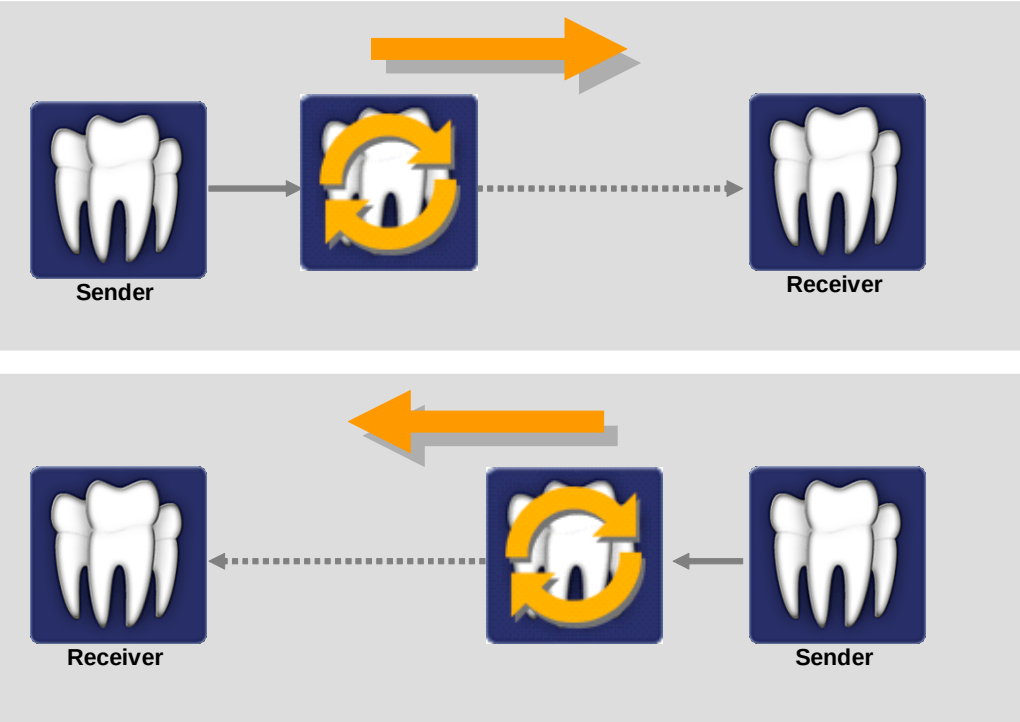


Figure 2 2-way synchronization of files

On receiving side the application SyncServicesControl (SSC) can be used to trigger fully automatic data import of both 2D and 3D data.
During SSC operations any additional interactive tasks on the corresponding PC are not recommended.

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What's new in version 5.0.38?

SIDEXIS Sync Services 5.0 (SSG) is a major upgrade offering new gateway synchronization types, custom tools and practice management connectors.

PMSProxy

The PMSProxy is an optional extension for the PMSConnector and allows the creation of PMSConnector-compatible patient registration files. This means that the PMS Evident can transfer patient registration data of the currently registered patient to the PMSConnector by directly calling the PMSProxy and thus realizing correct data transfer, program activation and X-ray image creation in Sidexis. This can also be used across RDP boundaries with a centrally installed PMS.

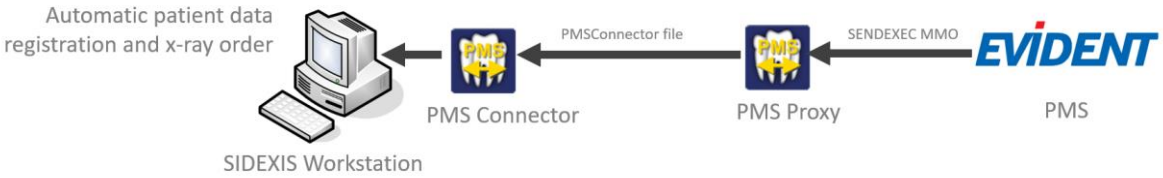


Figure 3 PMSProxy for Evident

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SLIDA broadcast gateway

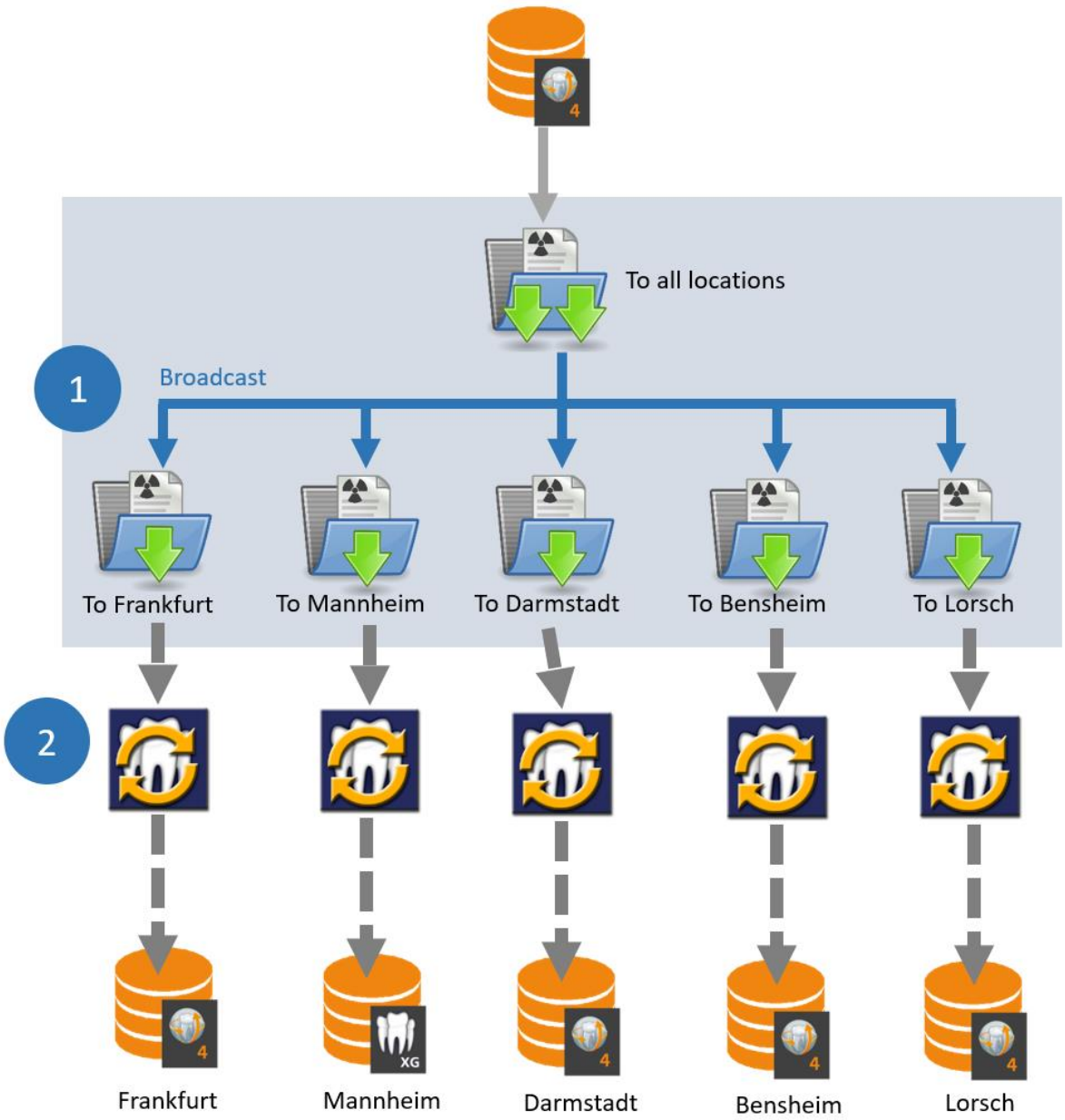


Figure 4 SLIDA broadcast gateway sample

The distribution takes place in two stages:

1. The new broadcast gateway reads the SLIDA output of the sending Sidexis, analogous to the existing SLIDA gateways. However, already established and configured SLIDA gateways are referenced as the target. When the broadcast gateway is activated, the existing source data is distributed to all inputs of the associated SLIDA gateways.

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2. In the subsequent 2nd stage, the broadcast SLIDA data is transported in a known manner via SLIDA Gateway to appropriately configured destinations (via VPN).

Configuring the broadcast is very simple:

- The SLIDA gateways are configured as usual; they may already be present from a version 4 installation
- A new broadcast gateway is added. Here the SLIDA gateways to be associated can be easily selected via checkmark.

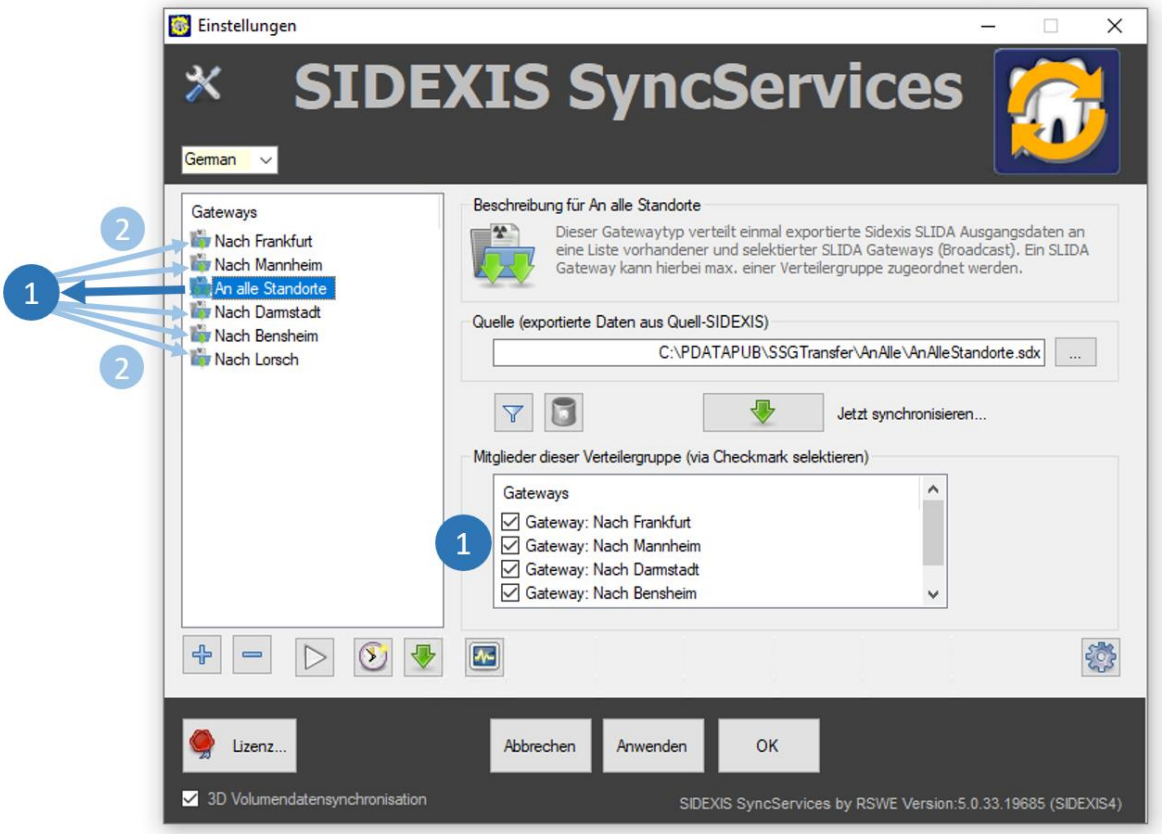


Figure 5 Broadcast gateway sample configuration

When SidexisSyncServices operation is activated, existing broadcast gateways are prioritized before existing SLIDA gateways are subsequently treated.

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Database reader gateway

Optionally, each time the SLIDA gateway is activated, the existing 2D image and patient data can be read out and transferred to the configured gateway destination.

For this purpose, the existing database reader, which could previously only be used interactively, was expanded to include necessary functions.

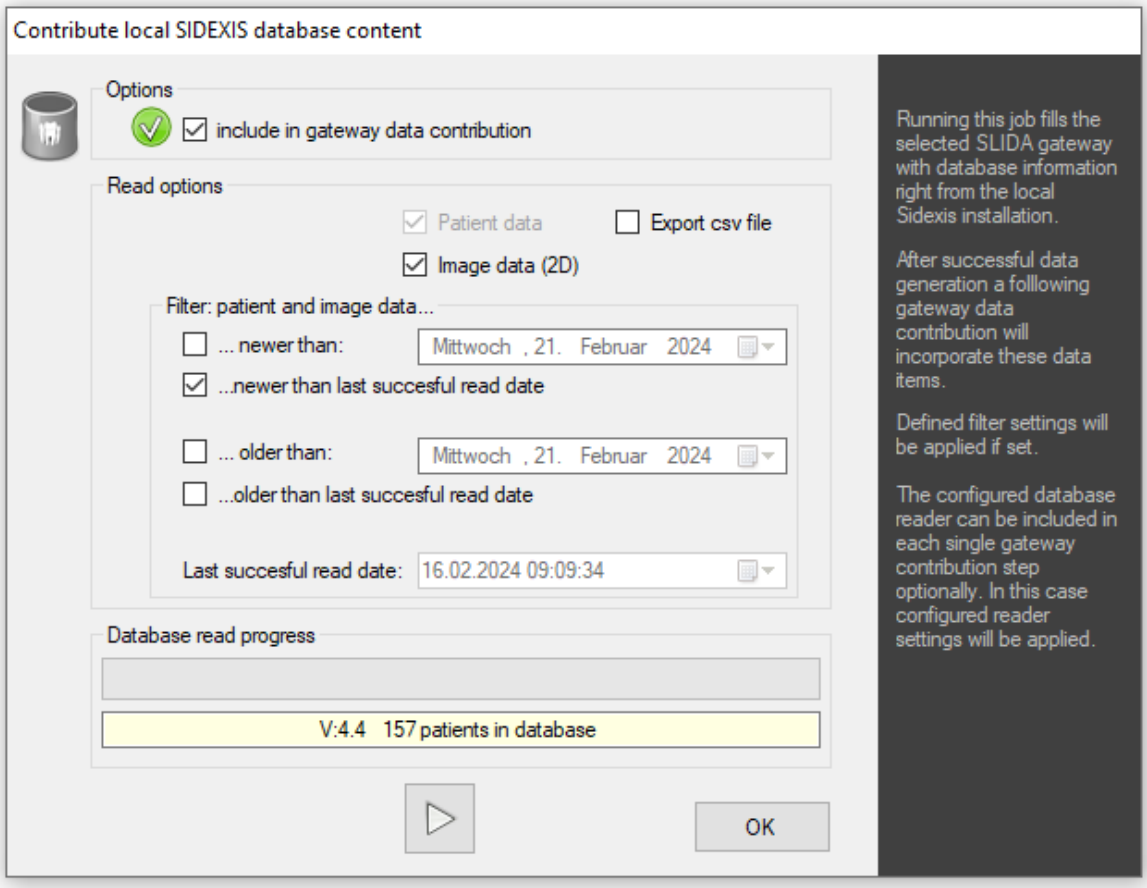


Figure 6 new database reader configuration

With the setting shown, the following is achieved in operational gateway operation:

1. Database read operation is performed leading
2. Only images and patients that were added after the last logged database reading process are taken into account
3. Corresponding data is transferred to the gateway's input
4. The current date and time are logged as the last pass
5. Now the actual transfer to the configured gateway destination takes place

This means that 2D image and patient data that were only imported into Sidexis, e.g. from third-party modalities, can also be synchronized.

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The Database Reader Gateway option is also available in the new broadcast gateway and thus allows the high-performance distribution of Sidexis database data to any number of SLIDA gateways with just one readout process!

CSV import/export tool

The following workflow is available with the new tool:

1. The existing patient data is exported from an existing Sidexis installation as a CSV file in a structured form.

2. Modifications are made to this file, e.g. a change/adjustment to the existing card index numbers.

3. The CSV file modified in this way can now be selected as a source for patient data changes to be applied via Sidexis Sync Services Tools. After starting the change process, existing Sidexis patient data will be changed according to the CSV specification.

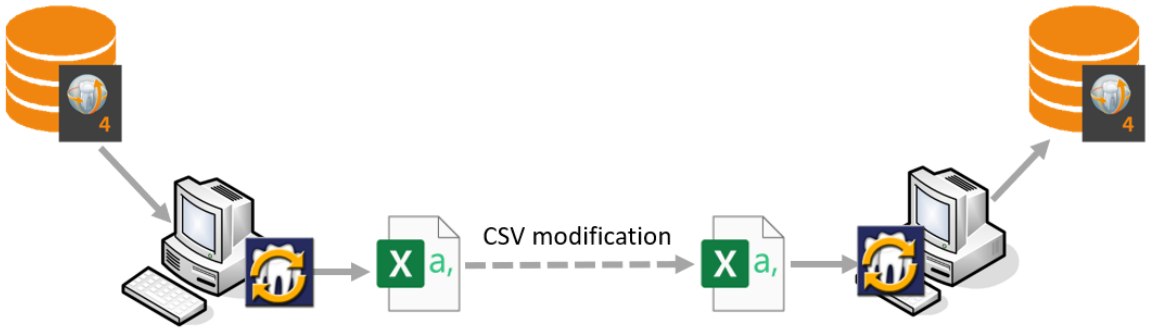


Figure 7 CSV export-/import-workflow

PMS connectors

This release introduces the Sidexis Sync Services PMS Connector.

With RDS access to a centrally installed PMS, this allows the processing of corresponding X-ray orders in the local Sidexis installation.
The following PMS are (currently) supported:

1. **DAMPSOFT DS-Win**

2. **SOLUTIO charly**

By using the PMS Connector, the following services are provided:

- Automatic (and correct!) transfer of the patient registration (including card number!) from the leading PMS

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- Automatic opening of the corresponding Sidexis client on the local PC.
- Automatic triggering of a Sidexis X-ray order: after selection in the PMS (in the RDS window), you can continue with this patient registration directly in the locally installed Sidexis client

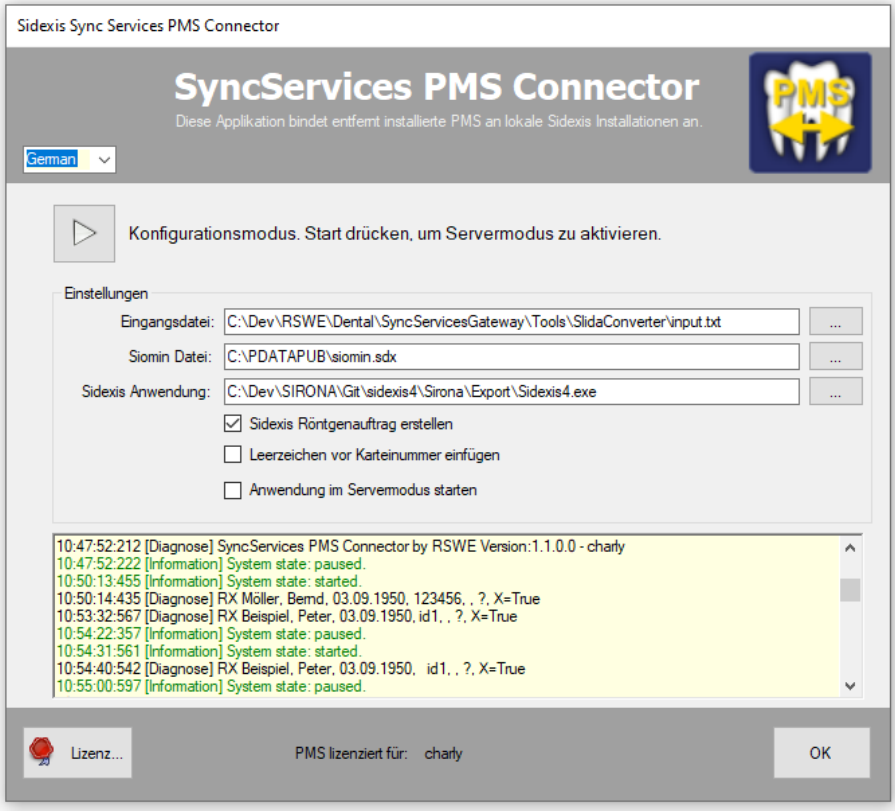


Figure 8 PMS connector application form

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System requirements

Supported Windows operating systems

- Windows XP
- Windows 2003/2008
- Windows Vista
- Windows 7 (32 + 64 Bit)
- Windows 8 (32 + 64 Bit)
- Windows 10 (64 Bit)
- Windows 11

Supported SIDEXIS versions

- SIDEXIS XG 2.2x or following (for 2D operations only)
- SIDEXIS XG 2.53 or following (for 3D and 2D operations)
- SIDEXIS XG 2.56 or following (for direct XG database read operations)
- SIDEXIS 4.1.3 or following

Other prerequisites

- .NET Framework 4.5.2 (will be installed, if required)
- SyncServicesControl and PMSConnector do need access to an opened Windows desktop with both logged in user and available Sidexis client.
- Patient registration data (name, last name, birthdate, card id). must be identical at all Sidexis clinic locations. Especially the card id is an unique identifier over all included Sidexis installations.

Supported networks

- Any LAN or VPN allowing shared windows folder file access (read, write, delete)

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- The remote \PDATA share must be accessible (read and write) from any source SidexisSyncServices location.

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Installation

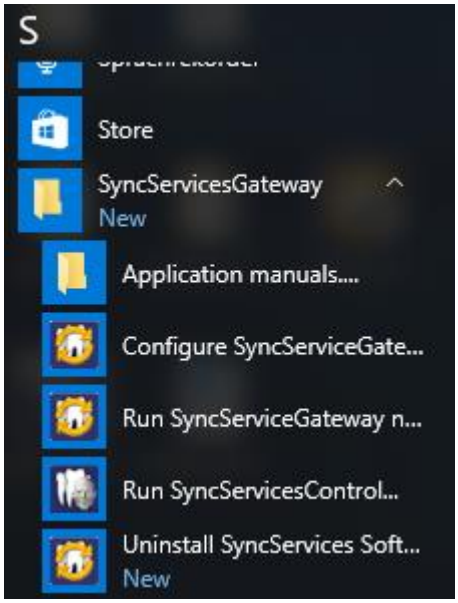
To install or update SSG please start the provided installation application named InstallSyncServicesGateway.exe.

The complete installation process is realized by this single file installer.

SSC will be installed in addition to SSG as default.

Right after installation the SSG configuration form is opened.

Configuration



Right after start menu selection of the SSG application following form opens. Use this form for all configurations and testing purposes, e.g.:

- Review of existing gateways
- Adding/modifying/removing gateways
- Testing gateway settings
- Adding electronic licenses

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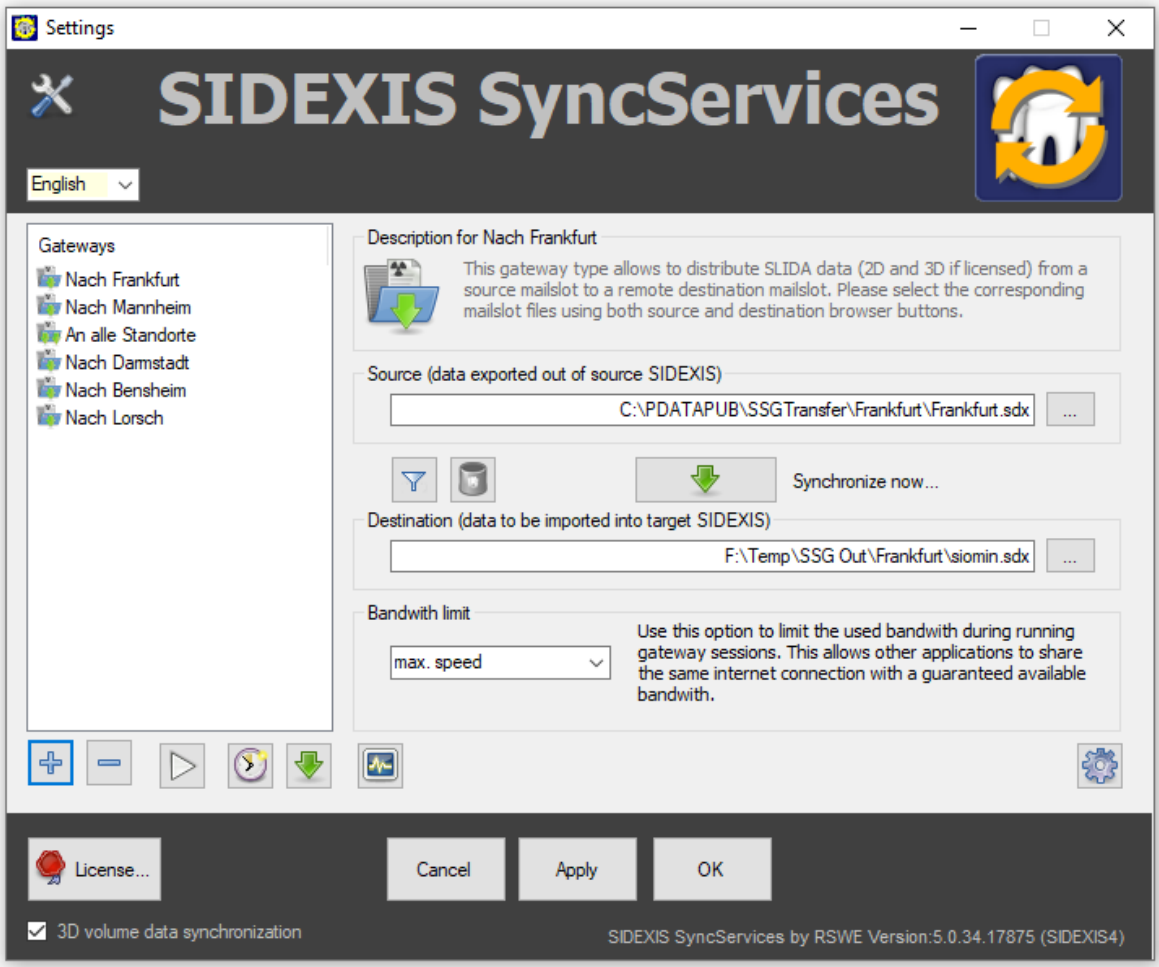
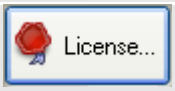


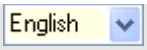
Figure 9 Main configuration form

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Inside this form all configuration options are shown as follows:

Gateway list	This list shows all configured gateways. Each gateway can be a SLIDA folder pair or a pair of standard file system folders
Description frame	Inside this frame both a description of the selected gateway type and the gateway name are shown.
Source frame	Inside this frame the selected source location is shown. It can be entered manually or interactive by hitting the presented browse button.
Destination frame	Inside this frame the selected target location is shown. It can be entered manually or interactive by hitting the presented browse button.
Synchronize now…	Hitting this button will contribute the selected source data to the configured target location immediately. Only the selected gateway content will be contributed.
Bandwidth limit	This dropdown list allows defining a maximum data transfer bandwidth used during send operations. Use alternative settings if You want to reserve transfer bandwidth for other applications sharing Your internet connection.
Apply button	Any modifications to the shown gateway settings have to be confirmed by pressing the apply button.
Toolbar	In the lower pane of the settings form a series of tool buttons with following options are shown:
	Add a new gateway to the existing configuration. Please refer to chapter Adding new gateways for details.
	Delete the selected gateway settings.
	Starts/stops the automatic gateway operations mode.
	Open the schedule task folder to edit the SSG operations schedule. Please refer to chapter *Running gateway unattended* for details.
	Run the complete gateway synchronization of all configured gateways now. Right after activation all shown gateways will be started once from top to down.
	Open the trace form to show diagnostic traces. Please refer to chapter Using the trace form for details.
	Opens license dialog (see Licensing)

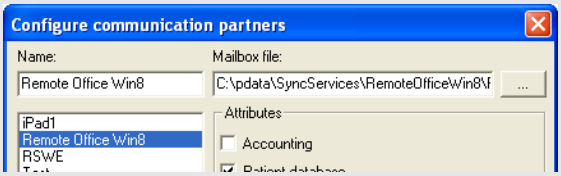
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	Language selector. Allows selecting the shown language.
	In case of a SLIDA gateway the gateway filter settings form will be opened. Standard folder gateways do not support this feature.
	In case of a SLIDA gateway the SIDEXIS database reader form will be opened. Standard folder gateways do not support this feature.
	Opens SidexisSyncServices tools

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Adding new gateways

Whenever a new gateway setting should be added to the existing configuration You have to decide what kind of gateway should be considered. Following types are available:

 SLIDA folders	This gateway type allows contributing SLIDA data from a SIDEXIS source mailslot to a remote destination mailslot. During operations the source mailslot file will be read and all of it's content synchronized to the given target mailslot. In case of requested image file transfers these files will be contributed, too. **Rules of thumb:** The SSG source is the output of the (local) source SIDEXIS as configured inside SIDEXIS's configuration partner section, eg:  The SSG destination is SIDEXIS's reading (input) mailslot file at the remote location (aka siomin.sdx).
 Standard file folders	This gateway type allows contributing any file data from a source folder to a remote destination folder.
 SLIDA broadcast	SLIDA broadcast distributes received Sidexis data to predefined SLIDA gateways.

Right after selecting the add gateway tool button following selection dialog is shown:

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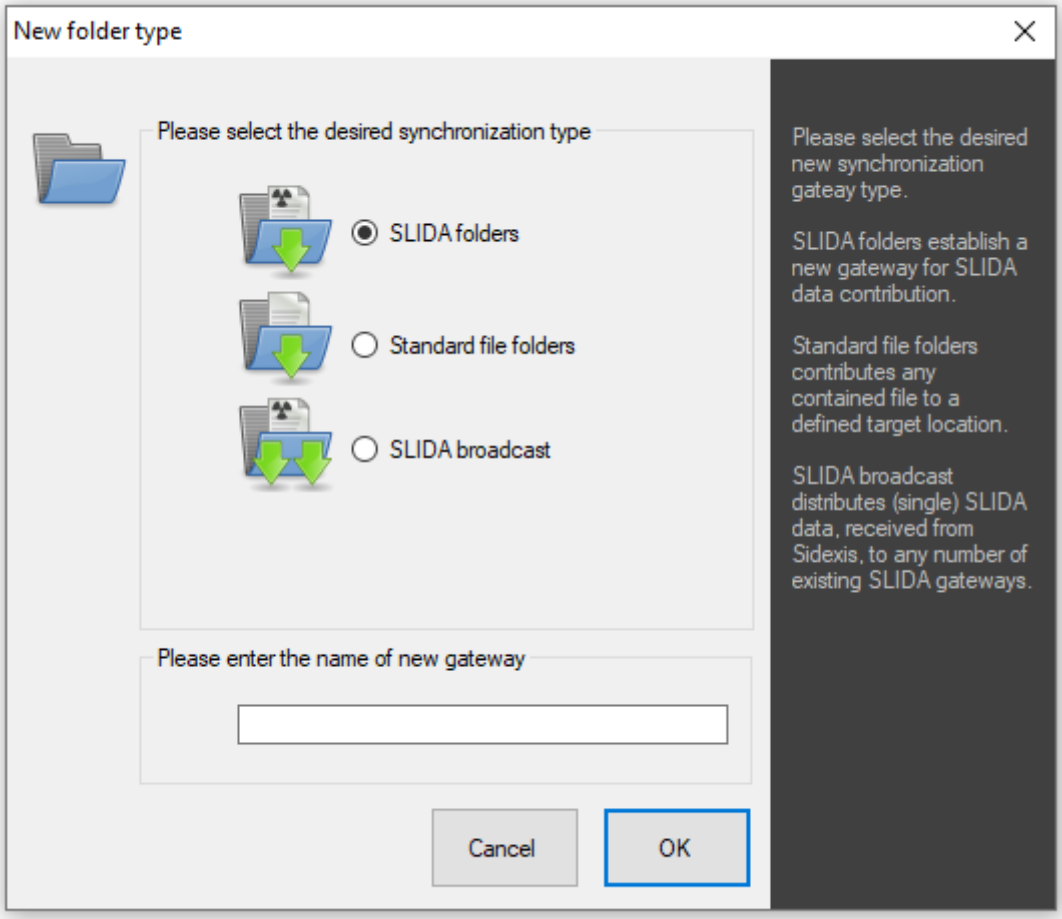


Figure 10 Selection of new gateway type



Use a suitable name for the new gateway settings. This name will be referenced when running the SSG using command line options, e.g. inside the task scheduler.
In case of defining and referencing multiple gateway configurations these names do help a lot in order to distinguish these different gateways.

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Gateway filter settings



An unfiltered SSG gateway contributes all pending data items.

With an optional set of rules pending items can be filtered in order to limit the data contribution to certain filter criteria.

These rules can be defined using the gateway filter settings form as shown:

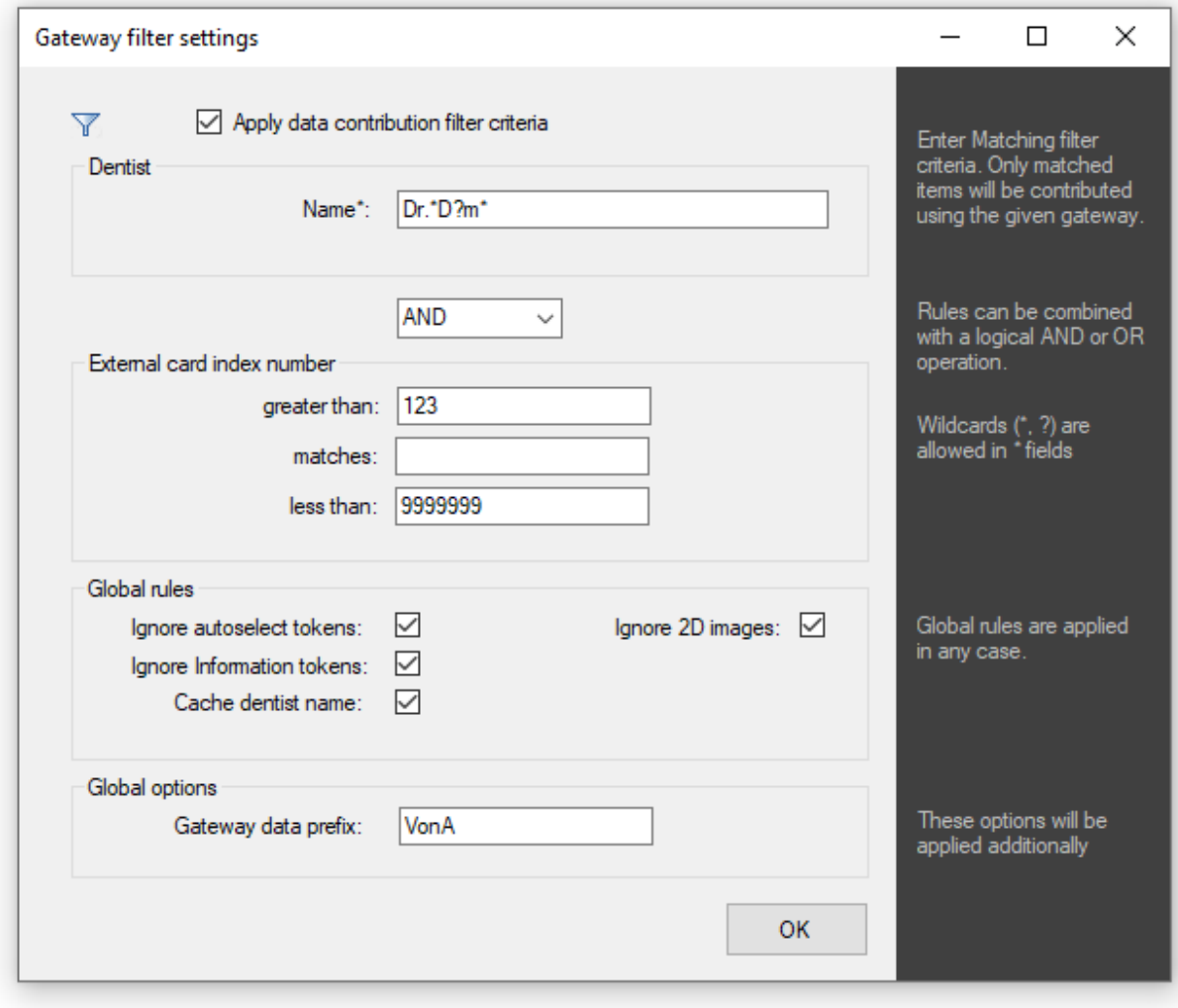


Figure 11 Gateway Gateway filter settings

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Apply data contribution criteria	Enables/disables filter settings for this gateway.
Dentist	If the SIDEXIS database contains a permanent dentist entry for the given patient a corresponding filter setting can be set here. Only matching items will be transferred. The filter definition allows to use * and ? wildcards as follows: Permanent dentist is “Dr. Demo” Following filter settings will match: Dr* Dr*D?m* The * character is a placeholder for one or more characters. The ? character is a placeholder for exactly one character.
AND, OR	Logical combination with the following filter rule.
Card index number Greater than (value) matches (value) less than (value)	If the SIDEXIS database contains card index number entry for the given patient a corresponding filter setting can be set here. Only matching items will be transferred. A numerical comparison will be applied. If an exact match is entered, only this criteria will be applied.
Global rules	These global rule settings override any previous definitions (for this gateway!):
Ignore autoselect tokens	If activated no corresponding tokens will be transferred.
Ignore information tokens	If activated no corresponding tokens will be transferred.
Cache dentist name	If activated dentist names will be cached during a single SSG gateway session. This is especially helpful in case of using TWAIN imaging sources inside SIDEXIS. SIDEXIS itself does not inform foreign communication partners about the corresponding dentist in image tokens (if the patient does have a responsible dentist). The SSG cache option solves this problem.
Gateway data prefix	During gateway transfers, this prefix is placed in front of the file names exported by Sidexis (image data or folder with volume data). This means they can be better differentiated in installations with many incoming gateways (n to 1).
Ignore 2D images	If activated no 2D image data will be contributed to the target location.

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SIDEXIS database reader



Pressing above tool button opens the database content reader form:

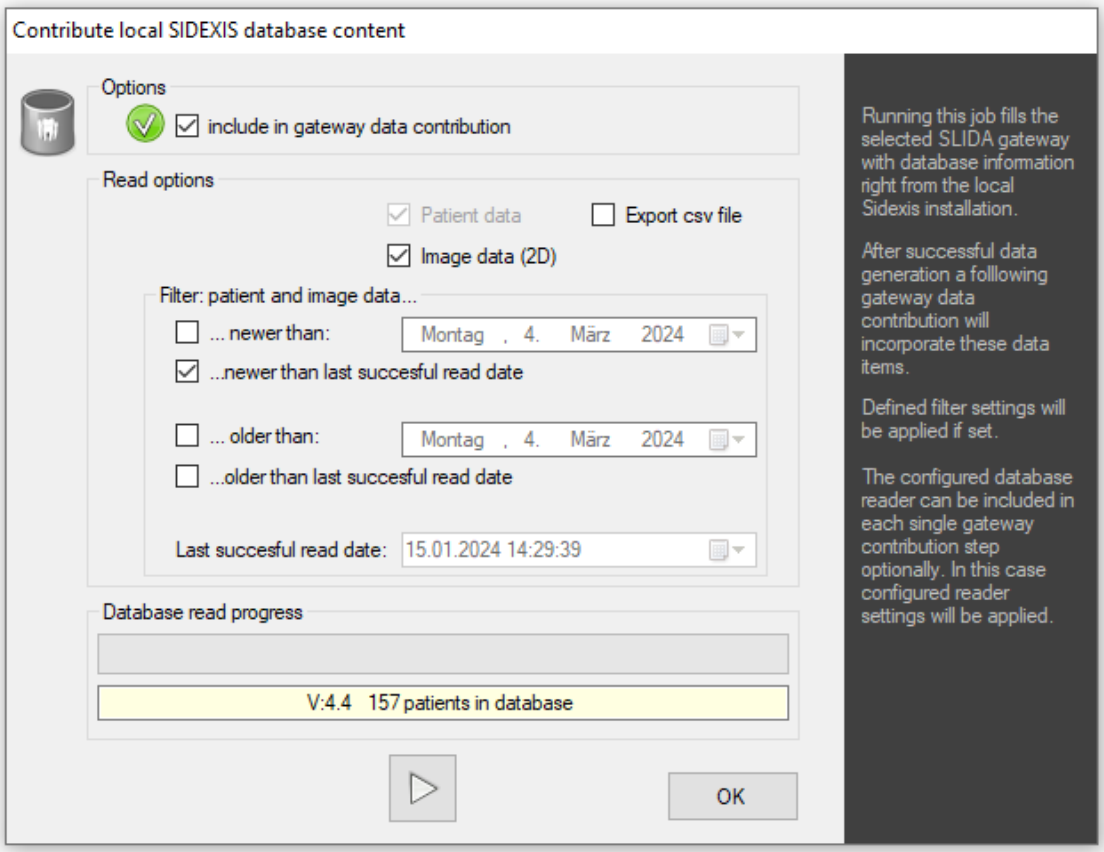


Figure 12 Database content reader form

Read options	
Include in gateway data contribution	Includes the configured database reader in every gateway run operation. The database content will read first (2D image and patient data) and into the gateway input location. Afterwards the data will be contributed to the configured target location. 

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	This mode is visualized with an additional icon in the configuration form.
Options	
Patient data	Includes patient data (default)
Image data (2D)	Includes 2D image data to read patients (optionally)
Filter	Setting any of the shown filter criteria limits the read content to the selected filter criteria.
Database progress	Displays: • Database reader version and SIDEXIS database information prior reading. • Read patient amount after finished database read process.
	Starts the database read process.

The operation is quite simple:

- Select an existing gateway configuration.
- Open the (new) database reader form.
- Setup read options, e.g. if 2D image data should be included.
- Start the read process. This may take some amount of time.
- Run the selected gateway after the database read job has been finished. Now the database data will be contributed to the configured SSG target.

At the target side the contributed data will be imported when SIDEXIS is activated the next time. The import process will take some time, depending to the size of the contributed database content. During this period SIDEXIS will “block”.

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A SSG based SIDEXIS database contribution creates a lot of data at the receiving SIDEXIS site. It is recommended to deactivate running Sync Services Control (SSC) applications at the receiving side for the duration of an ongoing SIDEXIS data import.
SSC can be reactivated after finished database content import.



The database content will be captured similar to SIDEXIS's *send image* option. All 2D image data, including existing diagnoses, will be covered and transported.
The intended use of database content reader is to diagnose image data ONLY at originating SIDEXIS source side and not at the remote side after data contribution.





The database reader option should be activated in one single gateway configuration only to avoid multiple, identical Sidexis database read operations.
In order to distribute this database content to multiple targets the new broadcast gateway type should be used.

CSV file export

If the corresponding checkmark is set, the desired target CSV file must be specified. When the export is then carried out, the CSV file is filled with patient data from the available Sidexis database.

After appropriate modification of the CSV data, adjustments to the Sidexis patient data can be carried out automatically.

The structure of the CSV file is described in the Sidexis patient data changes via CSV file chapter

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The CSV export must be covered by this SidexisSyncServices license and must be requested when placing a corresponding order.

Sync Services Tools



This button opens the tools window with tools for preparing and optimizing a Sidexis Sync Services installation.



The tools offered must be covered by this SidexisSyncServices license and must be requested when placing a corresponding order.

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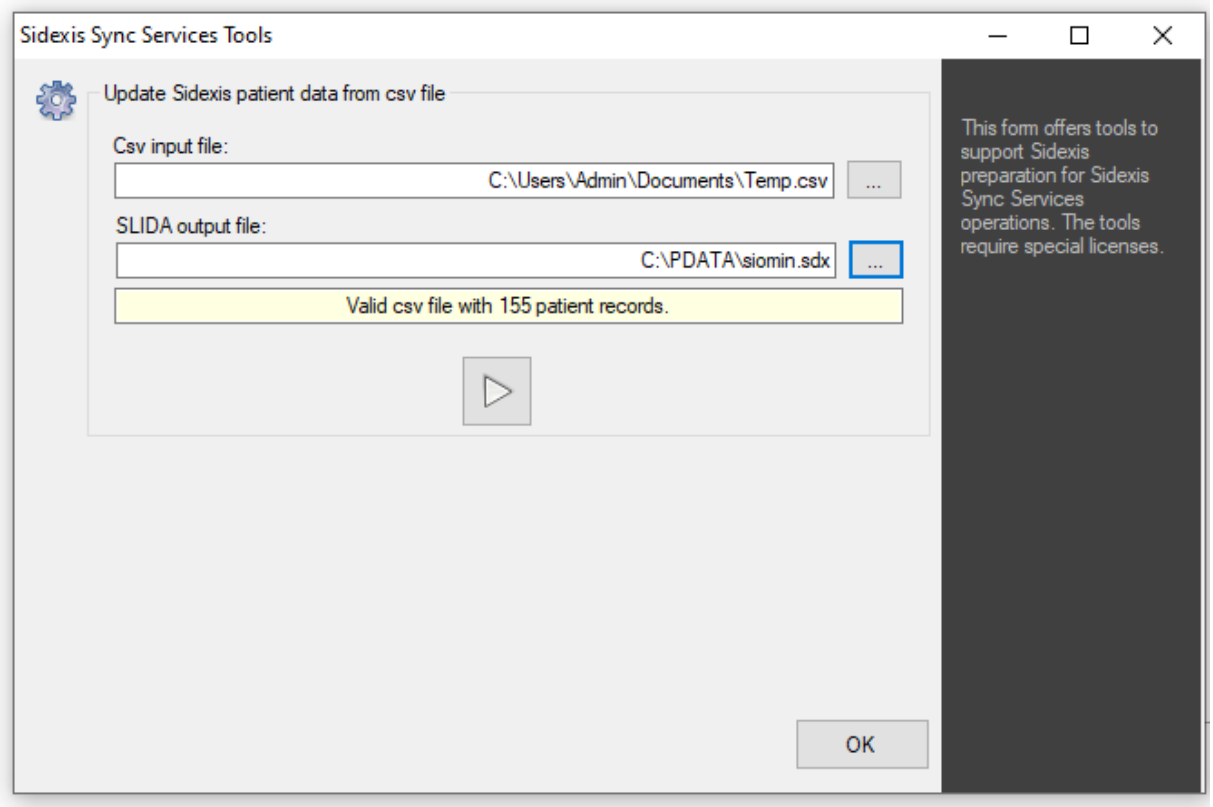


Figure 1 Sidexis Sync Services tools

Sidexis patient data changes via CSV file

Mit dieser Funktion können Sidexispatientendaten in einer existierenden Sidexisinstallation anhand tabellarischer Quelldaten in einer Csv-Datei modifiziert werden.

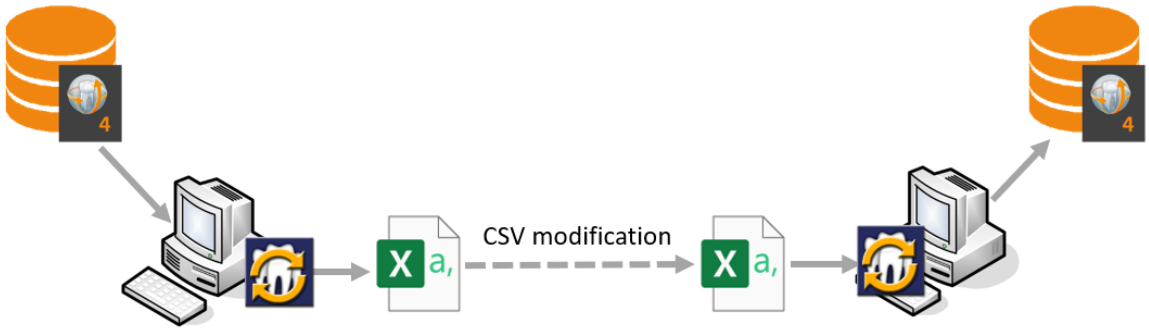


Figure 2 Use Case: change Sidexis data via CSV file

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Options	
CSV input file	File name of the CSV change specification to apply
SLIDA output file	SLIDA mailbox file containing patient change instructions to be written. This is usually the configured Sidexis incoming mail slot (siomin.sdx)
	Starts applying change information to the SLIDA output file. Corresponding instructions will be automatically adopted in Sidexis the next time Sidexis is activated.

The CSV file is structured as follows:

CSV file	
First line with header information	`Name;FirstName;DateOfBirth;ExternalCardId;NewName; NewFirstName;NewDateOfBirth;NewExternalCardId; NewSex;NewPermanentDentist`
Name	(do not change!) existing name
FirstName	(do not change!) existing first name
DateOfBirth	(do not change!) existing birthdate
ExternalCardId	(so not change!) existing card id
NewName	New name
NewFirstName	New first name
NewDateOfBirth	New birth data
ExternalCardId	New card id
NewSex	New sex (optional)
NewPermanentDentist	New dentist (optional)

Sample of CSV file with changed card id

```
Name;FirstName;DateOfBirth;ExternalCardId;NewName;NewFirstName;N
ewDateOfBirth;NewExternalCardId;NewSex;NewPermanentDentist
Sidexis;Test;;ID5.567;Sidexis;Test;;ID5.567-123;;
```

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Running and testing gateways

After adding new gateway configurations initial tests can be triggered right from the open settings form. Pressing any of the run gateway buttons will initiate gateway operations. In that case a gateway operation progress form pops up and displays progress data of the shown gateway:

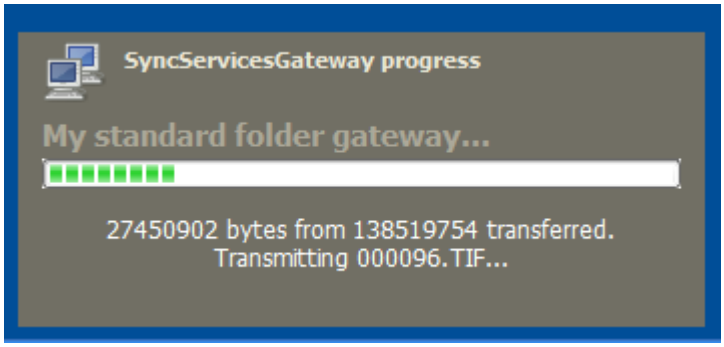
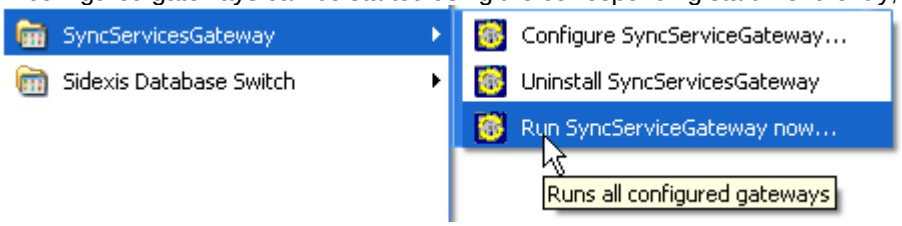


Figure 13 Progress window

All configured gateways can be started using the corresponding start menu entry, too:



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Using the trace form

During SSG configuration new or modified gateway settings can be tested immediately using any of the existing contribute buttons. To “see” what’s happening during synchronization a trace form may be opened using the corresponding tool button. The trace form actually displays the same content as written to the log file in the background.

The contents of the diagnostic window are continuously saved to the SSG log files, even if this window is not open

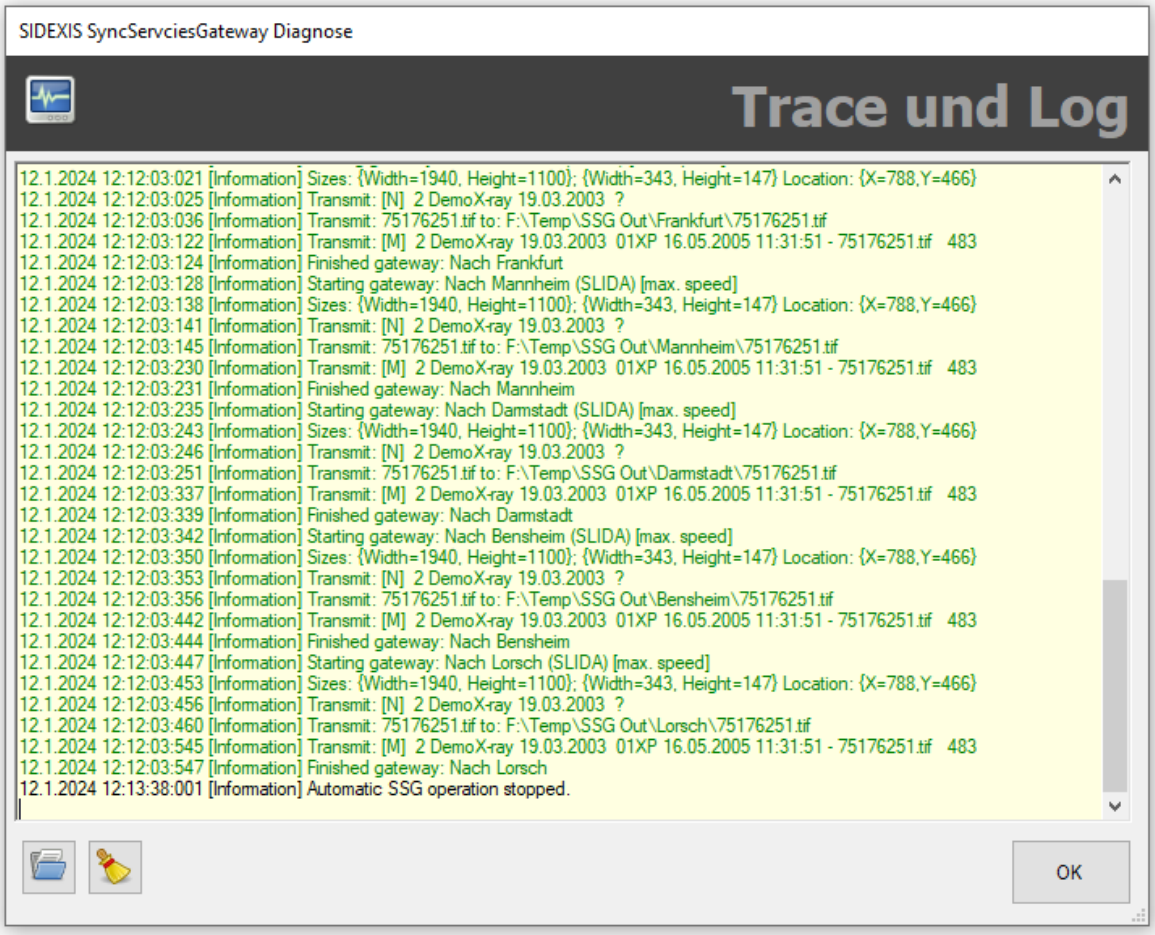


Figure 14 SSG trace form

Trace form output	Displays occurring diagnostic output in real-time. All shown information will be stored inside the daily log file, too. Inside the output area several types of diagnostic information are shown
[Information]	Just displayed for informational purposes.

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[Warning]	An issue occurred but operations can continue without interruption.
[Error]	An error occurred. Running operations may fail.
[Exception]	A serious exception has occurred.
Toolbar	
	Opens the central log file folders.
	Deletes the trace form content.

Running gateways unattended

In order to run gateways unattended the Windows task scheduler is referenced. Using this option fully automatic gateway configurations can be realized where all source data folders are contributed to their remote target locations following preconfigured schedules.

Please refer to the Windows task scheduler reference for schedule options and attributes (can be triggered using the F1 function key).

Please refer to the appendix *Using the windows task scheduler* for details how to setup a concrete SSG task.

In order to setup a SSG task inside the scheduler the described SSG command line options have to be used. Any available command line option may be applied with a concrete schedule task.



Using the available command line option any kind of gateway schedule can be realized by adding task schedules as required. Following this pattern named gateway sessions (/gw option) may all have an individual schedule. A combination of different SSG tasks using the /gw command line option leads to fine tuned gateway operations.

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Command line options

In order to run selected or all configured gateways the SSG process can be activated using following command line options:

Option	Description
/ALL	Runs all configured gateways Example: **SyncServicesGateway.exe /ALL**
/GW: <name>	Runs selected gateway with given name only Example: **SyncServicesGateway.exe /GW:"My SLIDA folders"**
/RUN	Immediately starts active gateway transfer mode and minimizes the application form. Equals pressing the start button:  Example: **SyncServicesGateway.exe /RUN**

Note:

- Encapsulate gateway names with included spaces in " ".
- Running SyncServicesGateway.exe without command line parameters launches the settings form.

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Application configuration file

The central application settings are stored in SyncServicesGateway.exe.config. This file has been installed into following folder:

XP:

\Documents and Settings\All Users\ApplicationData\RSWE\SIDEXISSYNCSERVICES\Config

Win7:

\ProgramData\ RSWE\SIDEXISSYNCSERVICES\Config

ReporterLogfilePath	Path to the root log folder. All daily log folders will be created inside this root folder.
ReporterWriteFile	Log file content filter for file based log information. Any combination of following items separated by comma: Information, Warning, Error, Diagnose
ReporterWriteDiagnose	Log file content filter for trace window output. Any combination of following items separated by comma: Information, Warning, Error, Diagnose
ReporterWriteEventLog	Log file content filter.for event log entries. Any combination of following items separated by comma: Information, Warning, Error, Diagnose
ReporterLogDays	Number of days of persistent log folder storage. If a number <> 0 is stored, this number defines the folder deletion age in days. In this case any folder older than the configured age will be removed automatically.
GatewayconfigFile	Location of the gateway settings file.
DefaultBandwith	Default setting for new gateways.

There is no need to modify existing attributes after initial installation. All required settings are created through the setup application itself.

Example configuration file:

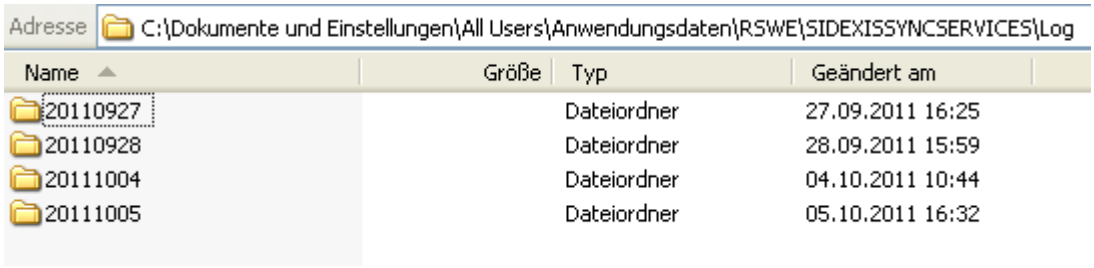
```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <appSettings>
    <!-- Reporting and Logging-->
    <add key="ReporterLogfilePath" value="C:\dev\rswe\Dental\SyncServicesGateway\Log\"/>
    <add key="ReporterWriteFile" value="Information,Warning,Error"/>
    <add key="ReporterWriteDiagnose" value="Information,Error,Warning,Diagnose"/>
```

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```
    <add key="ReporterWriteEventLog" value="Warning,Error"/>
        <add key="ReporterLogDays" value="100"/>
    <!-- Gateways-->
    <add key="GatewayconfigFile"
value="C:\dev\rswe\Dental\SyncServicesGateway\Config\gateways.config.xml"/>
    <add key="DefaultBandwith" value="128 kBit/s"/>
    </appSettings>
        </configuration>
```

Log files

The SSG application stores a daily log file in separated folders. Each log file contains all log information as defined inside the application configuration file. The log file folder can be opened using the tool button inside the trace form.





In case of serious operation problems a zipped archive of all shown log file folders can be send to Your distributors support address. This information may help the support staff to find the cause of any occurring and therefore reported problem.

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Licensing

//todo

Both applications, SSG and SSC, come with an embedded 30 day evaluation license. After this evaluation period a valid license file has to be installed in order to run this application.

The license management can be accessed by pressing the License… button shown in the main configuration form:

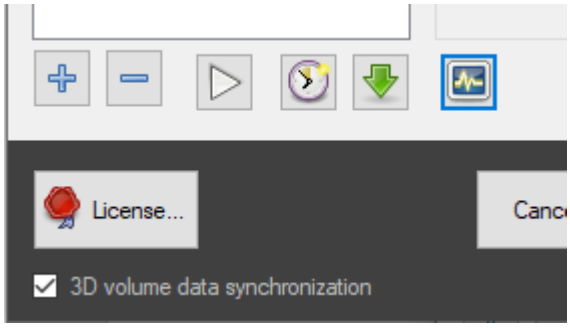


Figure 15 License... button in SSG

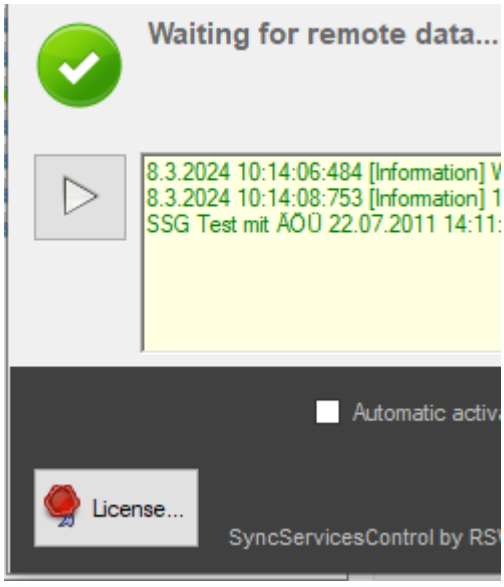


Figure 16 License... button in SSC

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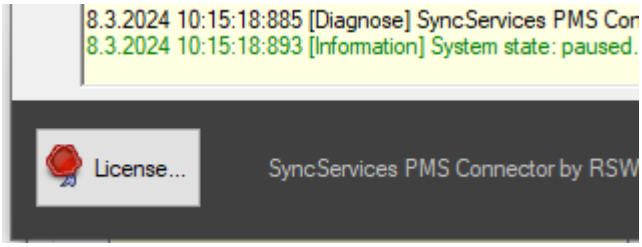


Figure 3 Licnese button in PMS connector

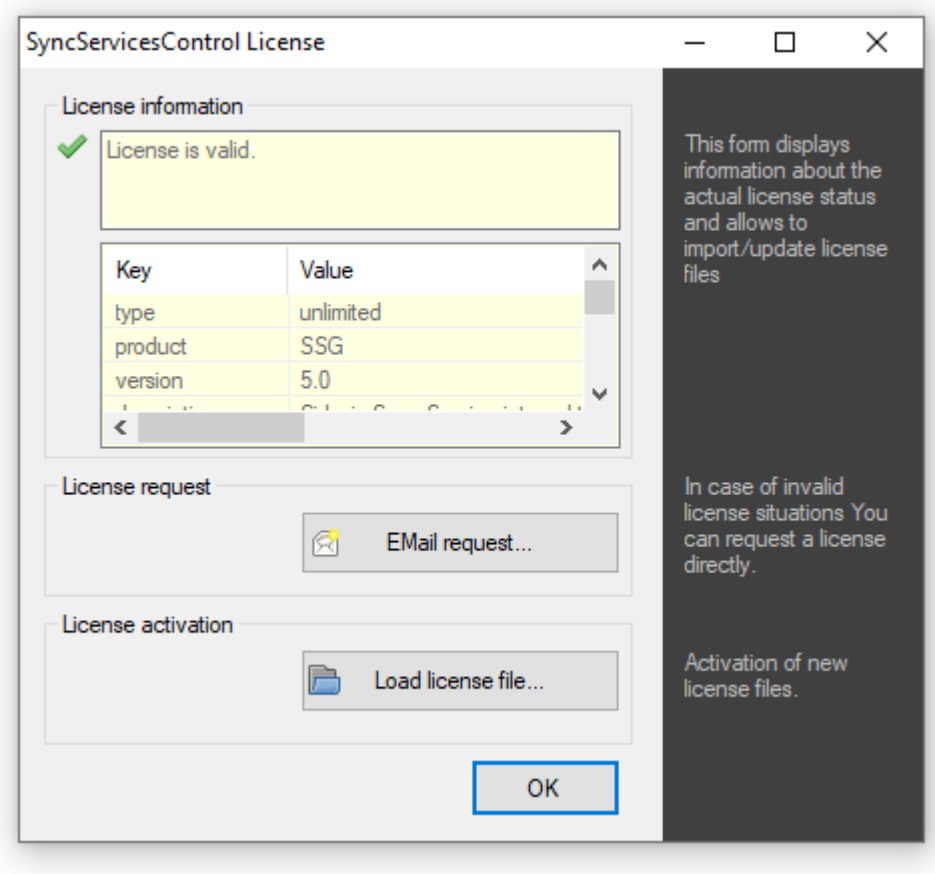


Figure 17 License form showing a valid application license

Function	Description
Email request…	Opens a preaddressed E-mail form using the local mail client. This mail can be send to RSWE in order to request a personal license. If you are located in the USA, please contact your Dental Dealer to purchase a license from Sirona Dental Systems.

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Load license file…	Using this option a received license file can be applied to the existing application installation. A file selection dialog is shown where the given license file has to be selected. This is a file showing a .lic file extension. Right after the license file selection and having pressed the OK button this file will be imported and checked for valid license data. The result is shown in the license dialog immediately.

Following figures show alternative licensing situations:

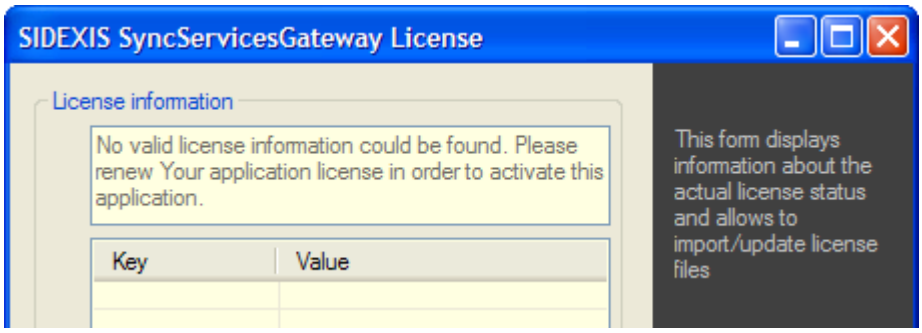


Figure 18 Invalid/missing license information

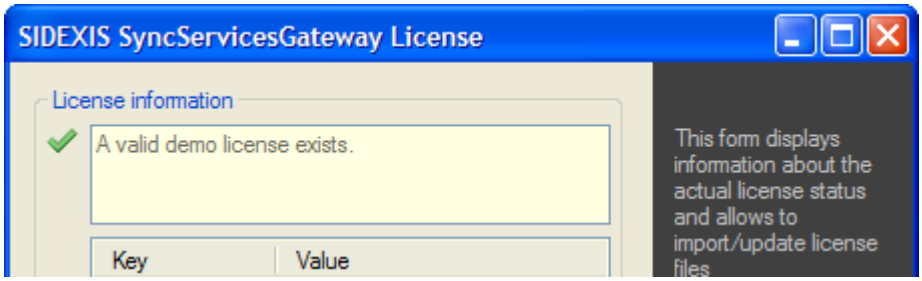


Figure 19 Valid demo license

The actual licensed option (3D or only 2D data operations) is displayed in the main form:

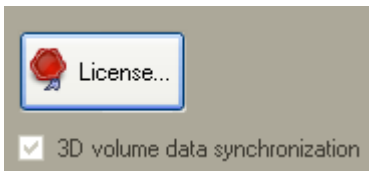


Figure 20 Existing 3D license (SSG)

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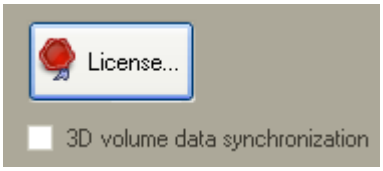


Figure 21 2D only license (SSG)



3D data synchronization of Sirona Galileos or Sirona XG3D data is only available in combination with an installed SIDEXIS XG version 2.53 or higher.

Please install this needed update first prior starting the SSG configuration.

Purchasing a license

When the demo license expires an official SSG license has to be purchased in order to continue data synchronization operations. Following sources can deliver these software licenses:

1. Direct sales from SIDEXISPLUGINS.COM. Please use the official contact form on this website or hit the “Email request” button inside the SSG license form.

2. Your dental reseller.

If you are located in the USA, please contact your Dental Dealer to purchase a license from Sirona Dental Systems.

Following license attributes have to be defined in order to deliver appropriate license files:

License attribute	Description
targets	Defines the number of gateways to be configured. In the base license 2 distributed locations can be synchronized. If more locations should be incorporated in the data synchronization scenario, more targets have to be licensed. A SSG base license ships with a targets value of 1. Using

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	this license one Slida and one Standard gateways can be configured. To establish a bidirectional synchronization connection, a second instance of SSG has to be installed at the remote location.
synctypes	Defines which image types can be handled by the SSG application: **2D**: only 2D image types generated by Sirona modalities can be included in the sync process. **All**: 2D and (new) 3D image/volume types can be synchronized.

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Sync Services Control

In order to import 3D volume data sets on the receiving SIDEXIS side, this application has to be installed on any receiving SIDEXIS PC.

SSC runs without prior configuration. It determines the installed SIDEXIS location and detects already transferred 3D datasets (transferred using SSG) automatically.

SSC should be run in “idle” Sidexis situations; during an ongoing data import operation the corresponding PC workstation should not handle other tasks.

SSC can be run in one of the two following variants:

1. Interactive. This way the SSC control application waits for new incoming data (pushed via SSG), grabs the new data (patient data, 2D **and** 3D image data) and triggers the SIDEXIS import process. This process will continue as long the SSC application window is open.

2. Scheduled operation, either by batch or Windows scheduler. In this variant the SSC application is told to check for new data one single time and finish operation after one single run. Using this option the import process can be triggered at predefined schedules, e.g. every morning or during night time.

Important: 3D volume data synchronization requires an existing Sirona SIDEXIS XG version 2.53 or higher. If an older version is installed, please contact Sirona in order to get Your SIDEXIS XG software update.

Installation

To install or update SyncServicesControl (SSC) please start the provided installation application named InstallSyncServicesGateway.exe.

The complete installation process is realized by this single file installer.

The shown installation option must be enabled (this is the default case).

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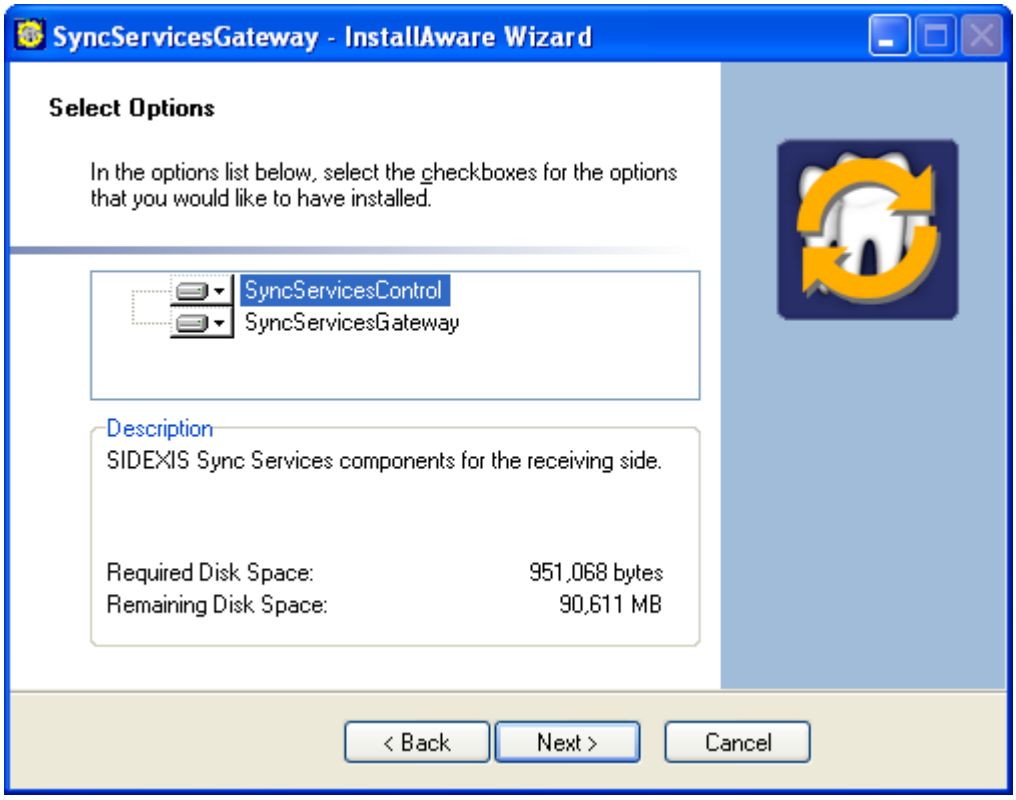


Figure 22 Installation options

In order to start the SSC application please select the corresponding start menu entry:

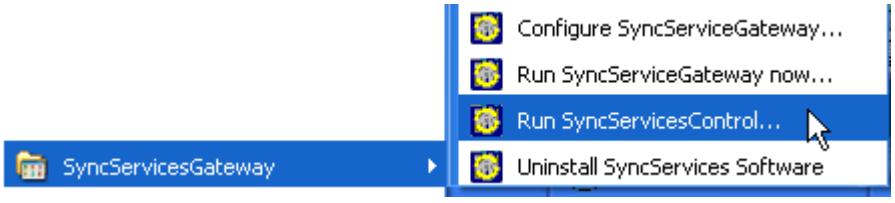


Figure 23 Running SSC

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Operation

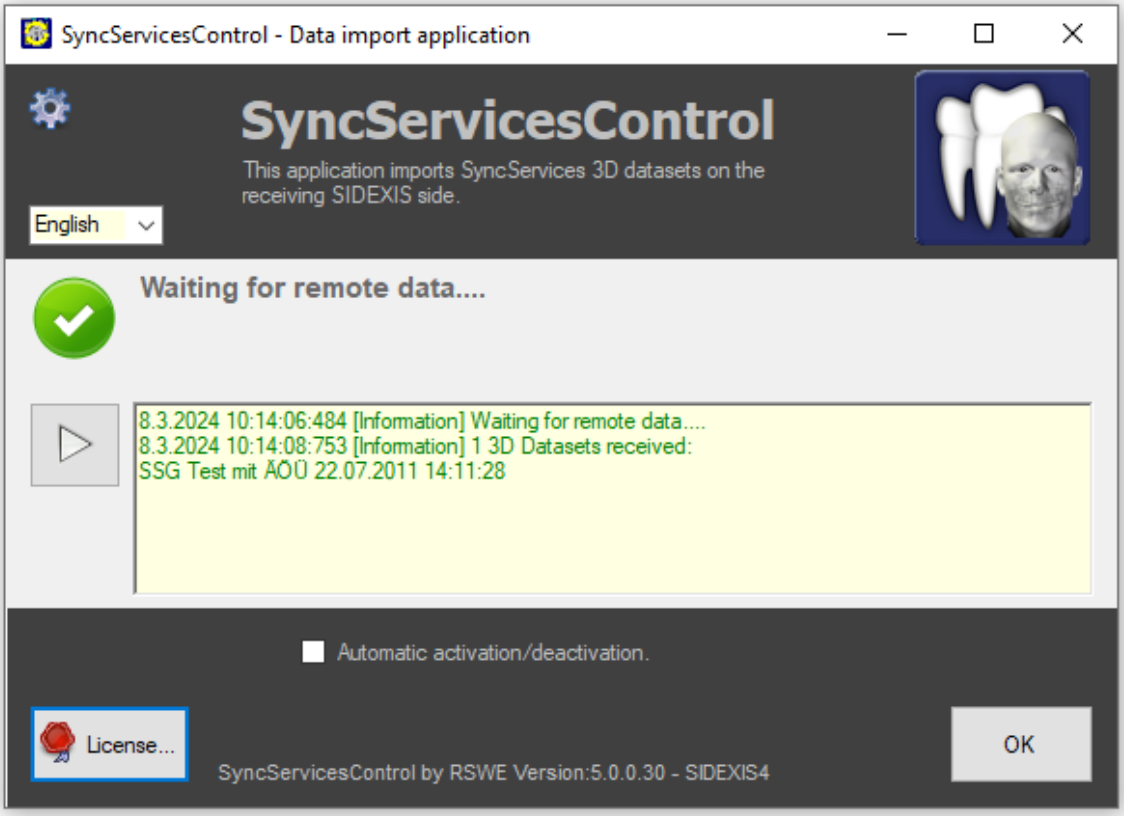
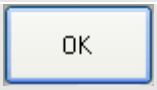
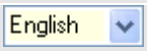


Figure 24 SyncServicesControl application

Inside this form following options are shown:

	Overall status icon. Represents a valid/invalid operation state. On the right side a description of the ongoing operation is displayed.
	Ongoing 3D data import.
	Ongoing 2D data import.
	SSC is in state: paused Incoming (3D) datasets will be notified to the user in the SSC status output and via sound alert, but no active import process into SIDEXIS will be triggered.

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	SSC is in state: running Incoming (3D) datasets will be imported into SIDEXIS immediately.
	Setting this option SSC will detect if the PC is in an idle state (20 seconds without any user activity) and will activate the running state automatically. As soon as the user triggers keyboard or mouse activity, SSC will go to paused state again and wait for the next idle state.
	Closes the application form and its operation.
	Language selector. Allows to select the shown language.
	Opens license dialog (see Licensing). If only a 30 day evaluation license is installed, SSC operation will terminate automatically after 5 Minutes.



During a running data import task SSC requires (nearly) exclusive access to the local PC; no other applications can be used in parallel during these situations. Following options are available:

 SSC is permanently active and automatically triggers the data import process as soon as possible. This mode is recommended for PC where no other applications should be used most of the time.

 SSC is in a paused state but still detects any new incoming 3D datasets. In these cases SSC will notify the user via text and sound output about details of the new received data, but no data import tasks will be started. The user can decide when to start this job by pressing the shown start button.

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Command line options

In order to run the import process one single time SyncServicesControl can be activated using following command line options:

Option	Description
/SINGLERUN	Runs the import process only one time Example: **SyncServicesControl.exe -SINGLERUN** The standard application form will be displayed but terminated automatically in case of a single import run or if no import data is pending.

Note:

- Running SyncServicesControl.exe without command line parameters launches the main form.

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Sync Services PMS Connector

Installation

To install, start the InstallSyncServicesGateway.exe program. The complete installation is carried out and completed by this setup program.

The option shown below must be selected during installation:

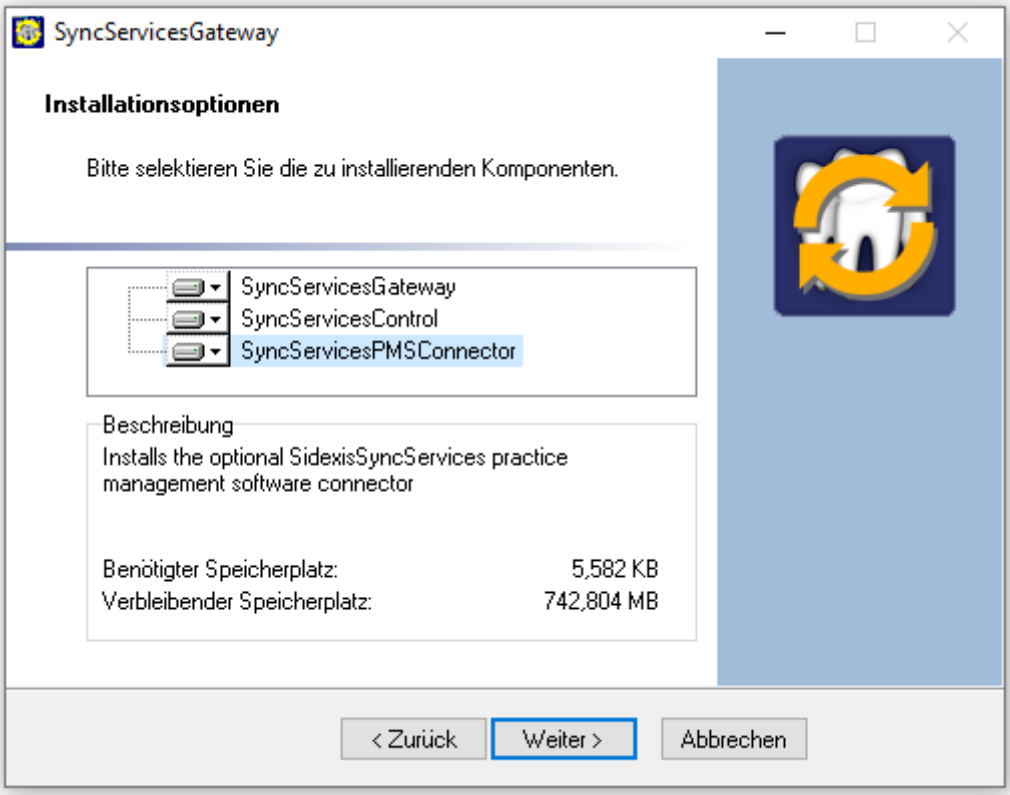


Figure 25 PMS Connector installation options

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A notice:

• The PMS Connector must be installed on all Sidexis X-ray PCs on which X-ray orders from the remote PMS are to be accepted (RDS scenario)

• The PMS Connector can also be installed on a non-X-ray PC to activate a patient from the PMS in Sidexis (RDP scenario).

• SyncServiceGateway and SyncServiceControl do not necessarily have to be installed on this PC

• To operate the PMS Connector, a license including the PMS Connector option is required and must be specified when ordering.

• The optional PMSProxy tool will be installed when selection the PMS Connector option as well

The PMS Connector can be activated via the start menu:

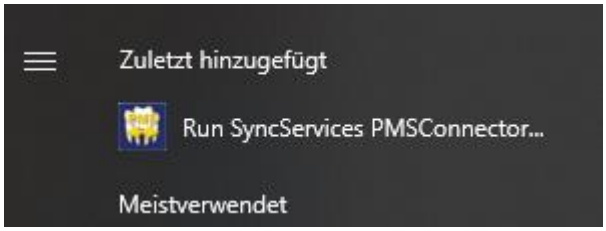


Figure 26 PMS Connector start menu



Using the PMSConnector on the *remote* X-ray PC solves the problem of incorrect patient registrations in remote Sidexis databases.

Many PMSs only work in the local network; in most cases, a removed Sidexis installation is not accessible from the PMS's perspective for the automatic transfer of the correct patient registration (including card numbers).
The SidexisSyncServices PMS Connector implements a kind of extension for transmitting the PMS patient registration to the respective Sidexs PC locations.
This effectively avoids the error-prone manual entry of patient data directly into Sidexis.
.

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Operation

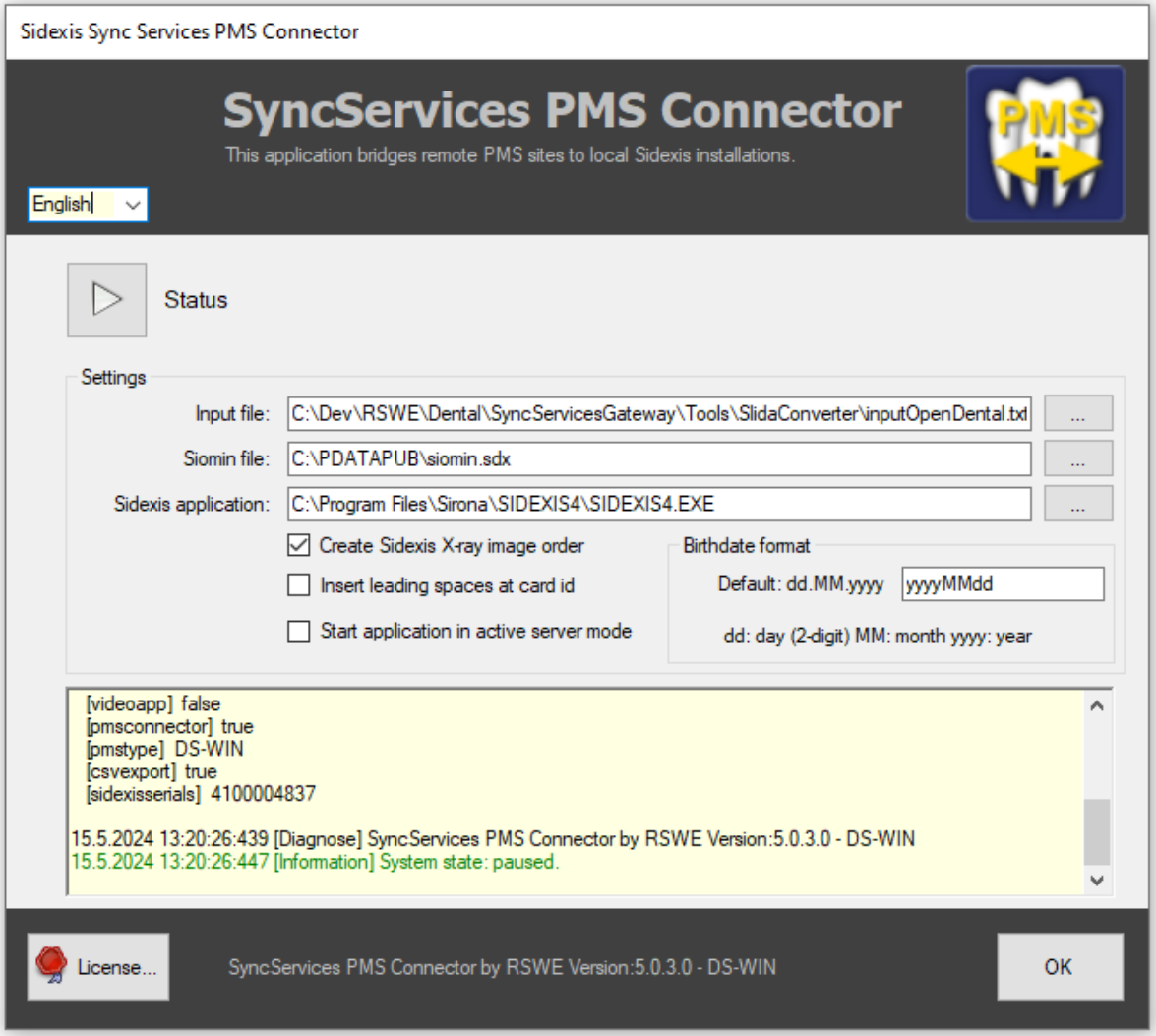
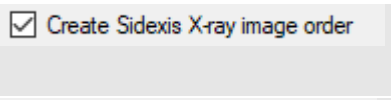
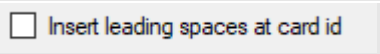
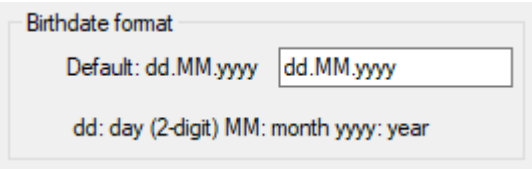
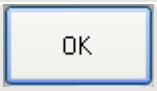
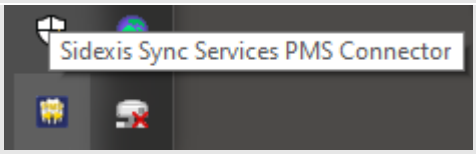
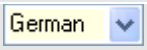
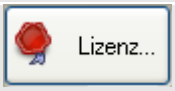


Figure 27 Sidexis Sync Services PMS Connector application

Input file:	This is the export file to be set in the respective PMS. A description of this is listed in the respective PMS settings.
Siomin file:	The local Sidexis incoming mail slot file. Typically \PDATA\siomin.sdx.
Sidexis application:	Path to the locally installed Sidexis program installation. Note: this path is automatically found during installation and entered in advance.

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	Option as to whether a Sidexis X-ray order (X token) should be automatically created when PMS patient data arrives.
	Option as to whether spaces should be added before the card number (analogous to the corresponding setting in DAMPSOFT DS-Win)
	Option whether PMS Connector is started directly in active “server mode”. Useful in combination with installing the PMS connector in the startup folder.
	Option to set the received birthdate format. Changed data will be saved upon text field exit.
	PMS Connector is paused. New orders arriving will not be processed. Configurations can be carried out in this mode.
	PMS Connector is active. New incoming orders are processed immediately. No configurations can be carried out in this mode.
	PMS connector window closes but is still active. The application window can be reopened via the status menu
	Status menu icon with the following command options: 1. Settings: opens PMS connector window 2. Terminate: terminates the PMS Connector
	Language selection. Allows (immediate) switching of the displayed language.
	Opens the license dialog. Details under “Licensing”.

Command line options

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The following command line options are available for starting the program

Option	Description
/min	Starts PMSConnector with the application window minimized.
/server	Activates server mode immediately after starting the program.

PMS Configuration

The respective source PMS must be configured for operation in combination with the PMS Connector. The aim is to export appropriate patient data directly from the PMS at the push of a button. The PMS connector records this data in the remote network and processes it to suit the local Sidexis installation.

A separate “export” from the PMS must be configured for each Sidexis X-ray PC. These settings appear to the PMS user either as additional buttons in the PMS menu or as sub-menu items in the PMS application menu.

The PMS export file must be stored at the target location. A suitable new subfolder in the existing PDATA share is ideal here. Both the sending PMS and the remote PMS connector have access to this.

General

The PMS Conncetor expects a text line with patient registration data in the following format in the configured input file:

```
<Firstname>;<Lastname>;<Patientbirthdate>;<Cardnumber>;<Dentist>
```

Cardnumber and dentist are optional.

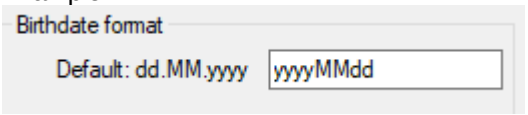
Patient birthdate has following format: dd.MM.yyyy.

Example:

```
Möller;Bernd;03.09.1950;123456;
```

The patient birthdate format can be adjusted using the settings form.

Example:



Allows the following input file entries:

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```
Möller;Bernd;19500503;123456;
```

DAMPSOFT DS-Win settings

DS-WIn allows the configuration of external buttons in the PatInfo tab. Corresponding buttons represent individual Sidexis X-ray PCs at the remote locations:

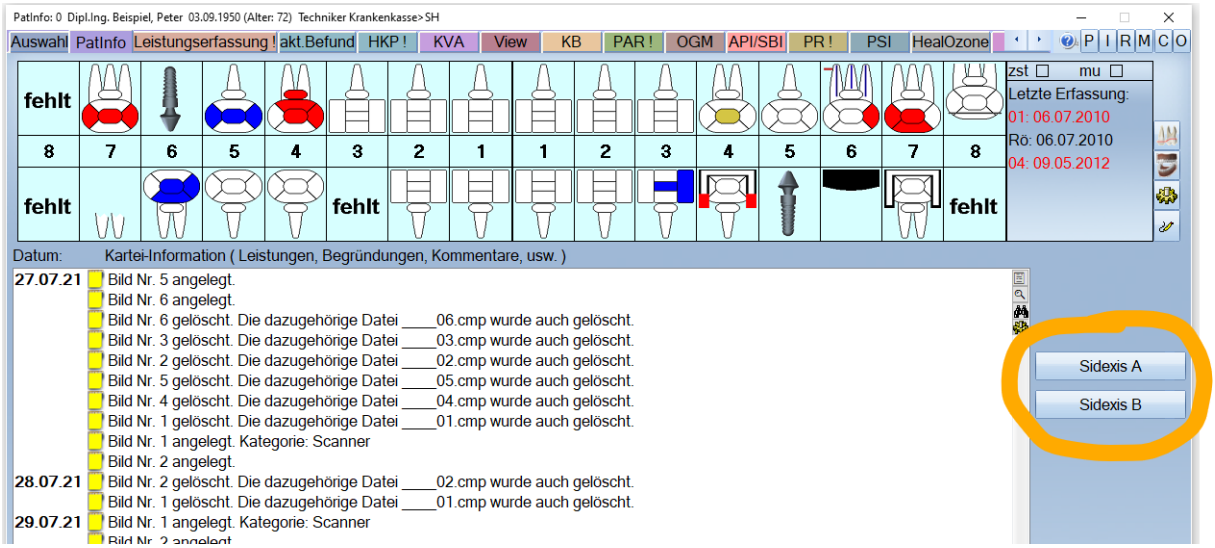


Figure 28 DS-Win buttons

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For the corresponding configuration, select the Patient data export menu item under *Settings->Other Settings* while holding down the shift key.

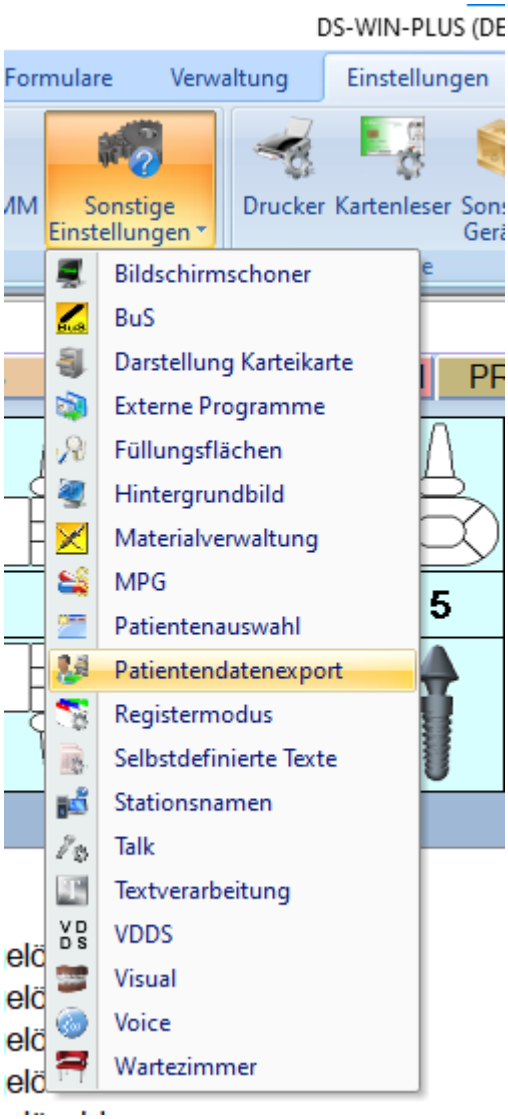


Figure 29 DS-Win settings menu

Here you can create a new export configuration using New.

The patient data to be exported is:

- Surname
- First name
- Date of birth
- Pat.No.

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The separation is a ; char.

The export target is the input file of the remote PMS Connector and must be configured with identical name.

Important: The new export entry must receive a J via the custom button. Only then will the new button under the PatInfo tab be visible and functional.

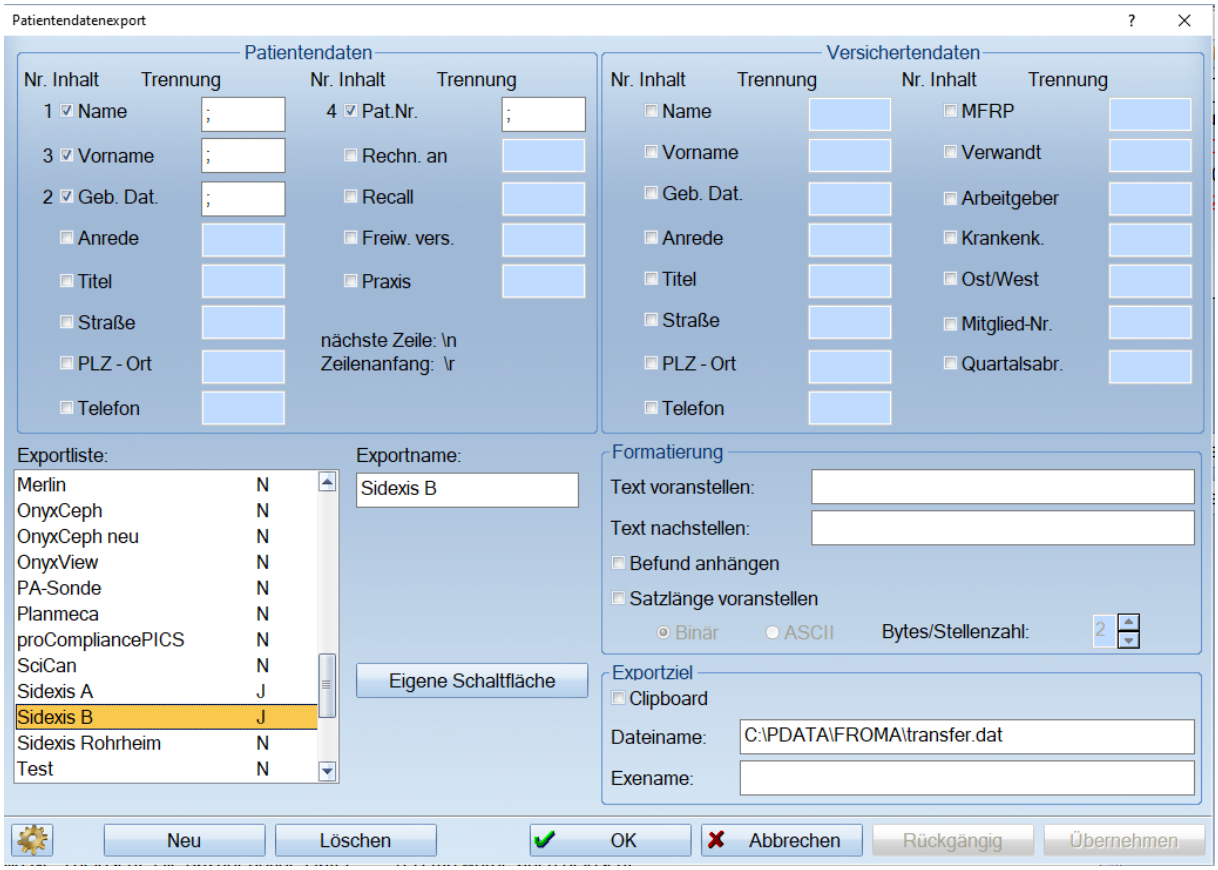


Figure 30 DS-Win patient data export.

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SOLUTIO charly settings

SOLUTIO charly offers via „*Menüformeln*“ options to add new entries in the start menu:

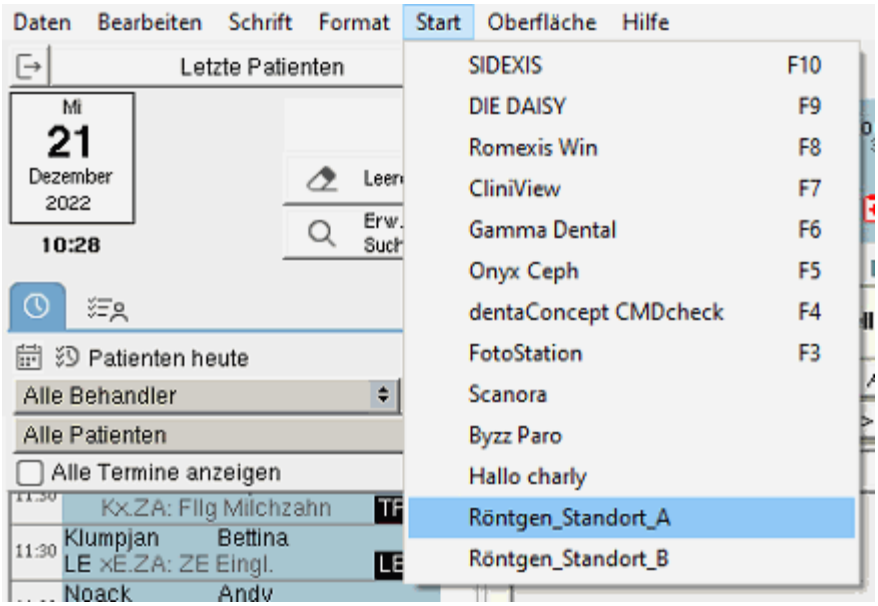


Figure 31 charly start menu

At this point, a dedicated menu entry can be provided for each Sidexis X-ray PC to be controlled. To do this, create a new formula under the Settings icon in the *Miscellaneous->Text* Templates tab and give it the appropriate name.

Select “FileWrite” as the function and fill the definition field as follows:

```
$text:= «pat_name» +";"+ «pat_vorname» +";"+ «pat_geb_datum» +";"+ «pat_nummer» +";";
$file:="Z:/temp/Röntgen_Standort_A.txt";
DateiSchreiben($file:$text);
```

A notice:

- $file points to a file that is to be selected as an input file at the remote location from the installed PMSConnector
- in the $text line the ; chars must be strictly adhered to as a separator

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Figure 32 charly formel editor

Now the formula is created.

In order to register this formula under “Start”, you now have to enter this formula as a “Menu formula”. You do this under “Settings” > “Other” > “Settings” in the “Menu Formulas” tab.

Now click on “Add menu formula”, select the formula you just created and click “OK”. After restarting charly, the created formula appears under “Start” under the same name.

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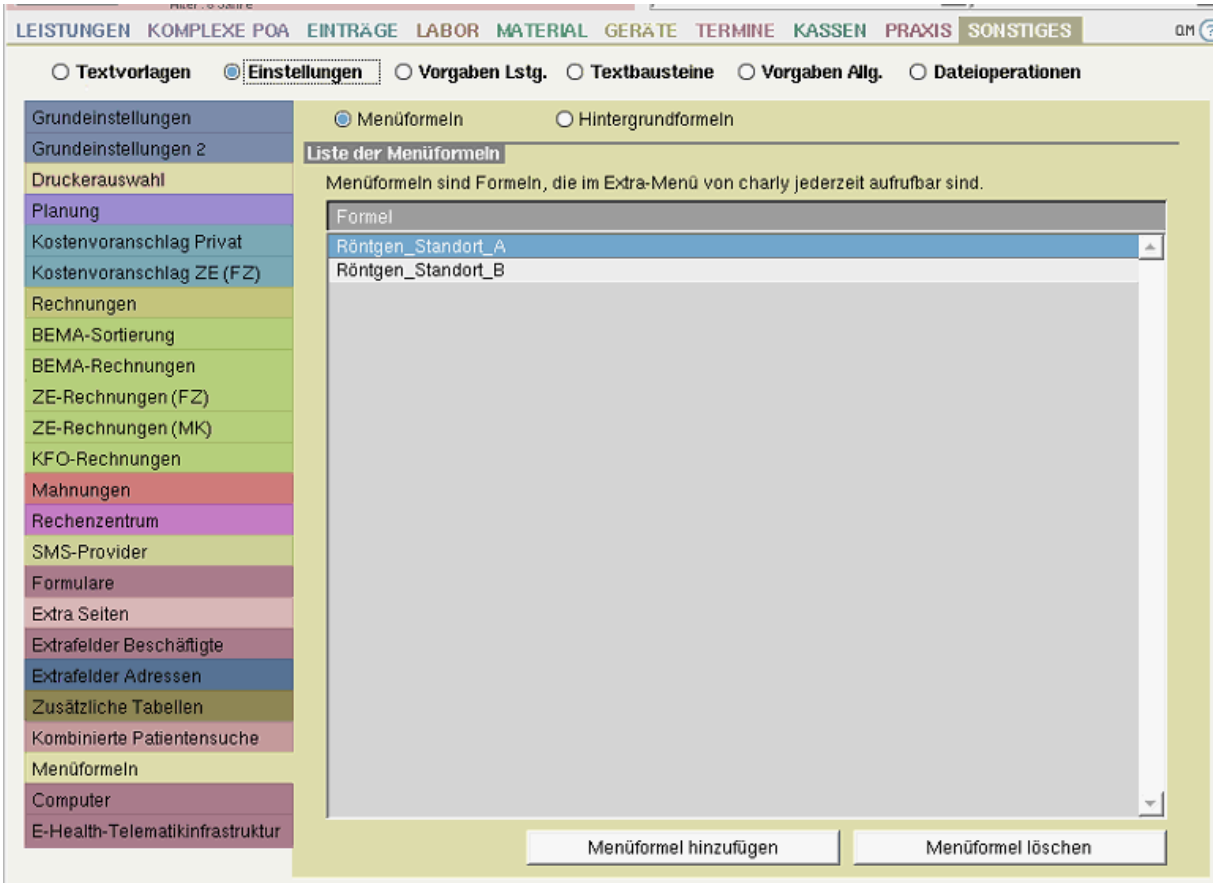
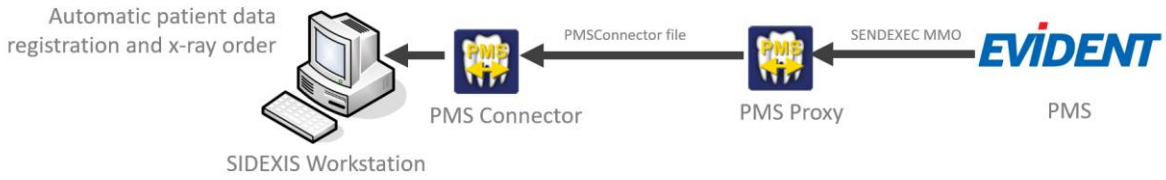


Figure 33 charly settings

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EVIDENT



The PMSProxy is used to connect the Evident PMS into a PMSConnector scenario. The PMSProxy is a program that can be found in the folder:

%ProgramData%\RSWE\SidexisSyncServices\Tools\PMSProxy

This folder contains, among other things, the executable file *PMSProxy.exe* and can be copied to desired locations.

The MMO object extension in Evident allows external programs to be called, including the transfer of patient registration data. To do this, a new MMO-object of the type X-ray order must be created in the MMO-object settings.

The path to the previously copied/installed PMSProxy-exe must be selected as the input method.

In the "Detail Script" setting, the following entry must be selected to transfer the necessary parameters to PMSProxy.exe:

```
SENDEXEC| -pmsconnectorfile=<filename> -pmstype=EVIDENT -data=
"Patient=<patnr=8>,<patname>"
```

PMSProxy command line

Parameter	Beschreibung
-pmsconnectorfile	Path and file name of the input file to be created for the PMSConnector. This file must also be configured as an input in the PMSConnector configuration. Sample: \\Share\temp\AusEvident.txt
-pmstype	Used PMS, here EVIDENT
-data	Data that is transferred from the source PMS via the command line. For Evident: `"Patient=<patnr=8>,<patname>"`

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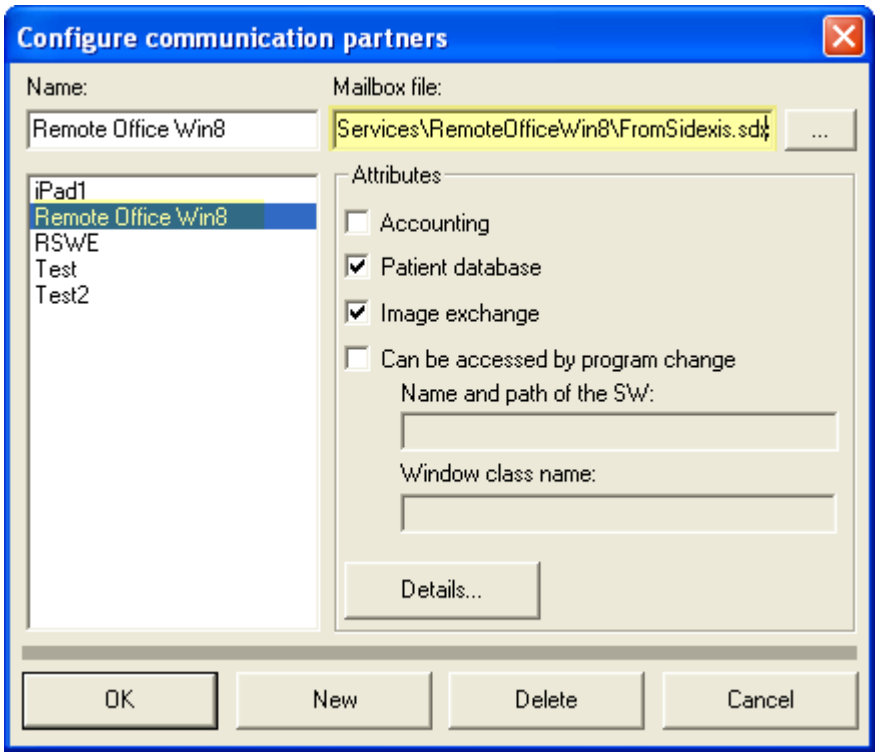
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Appendix

EXAMPLE: Typical setup of a SyncServices partner (2D image types):

A: On sending site:

Create a Sidexis partner for every location to be synchronized. (Make sure to click "New" before entering data):



Create a separate Mailbox file location for every remote location (every single SSG gateway).

Always check off **"Patient Database"** and **"Image exchange".**

"**Details…"** Button in the above dialog:

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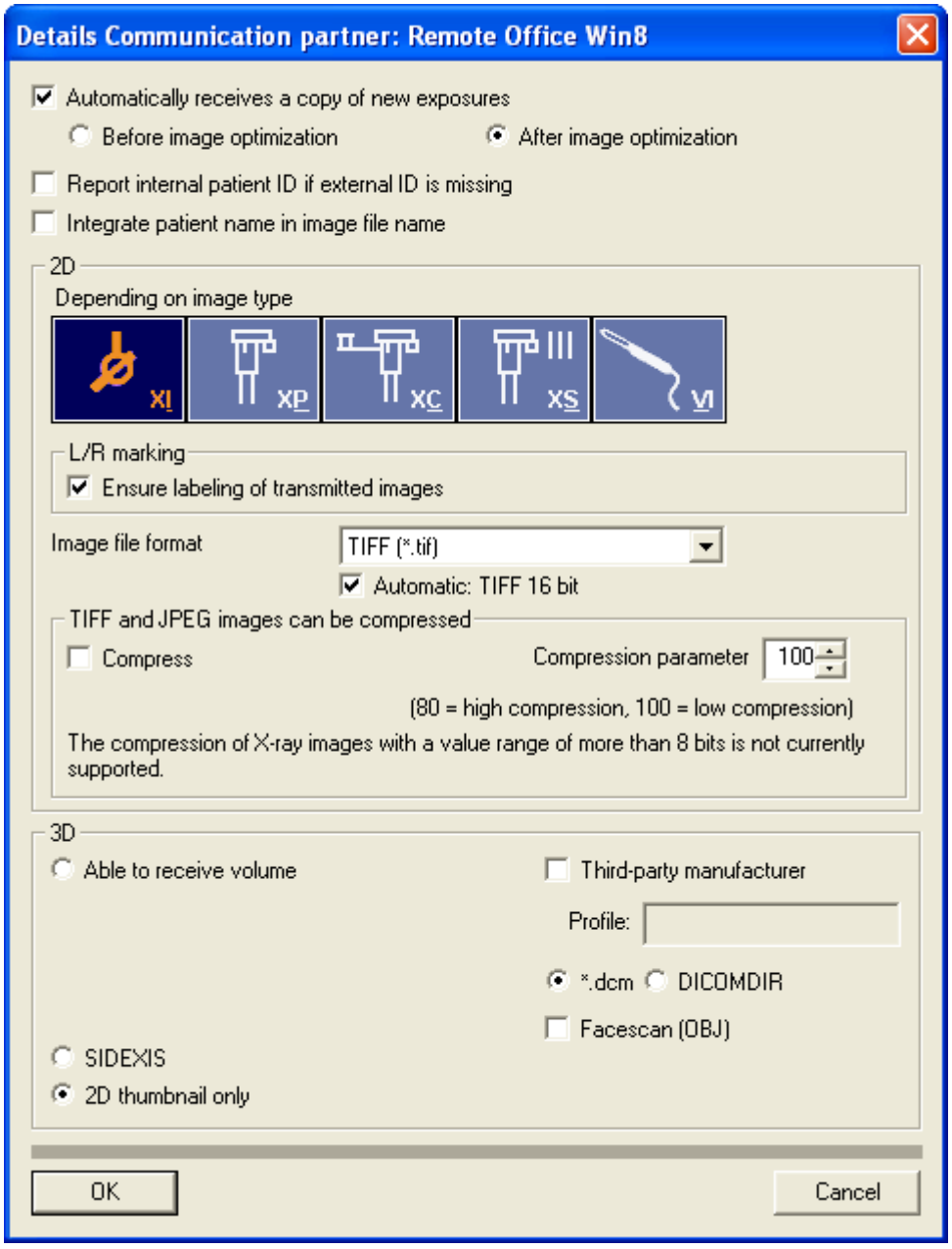


Figure 34 Communication partner setup in SIDEXIS XG

The settings above are probably the most common.

To hide patients name, uncheck the appropriate box.

It is not recommended to compress images!!!

It is not recommended to integrate patient name in image file name!!!

Please note: The Syncservices software can only work properly if the Patient database

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is the same on both sides. (Same patients with different ID Numbers and vice-versa, will lead to malfunctions and confusion).

Using SIDEXIS 4 the configuration example looks like following:

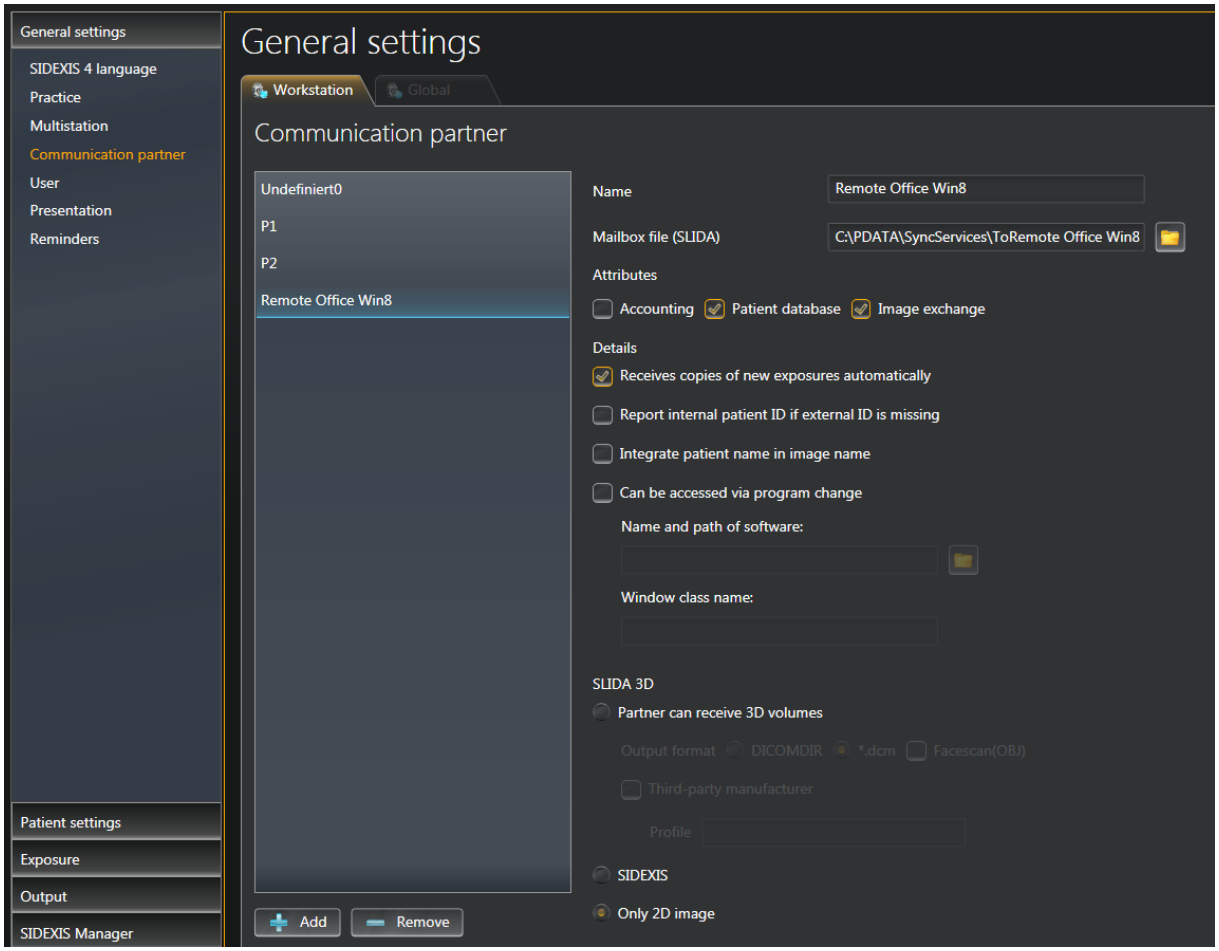


Figure 35 SIDEXIS 4 Communication partner setup

The 2D output profile should be set to TIF:

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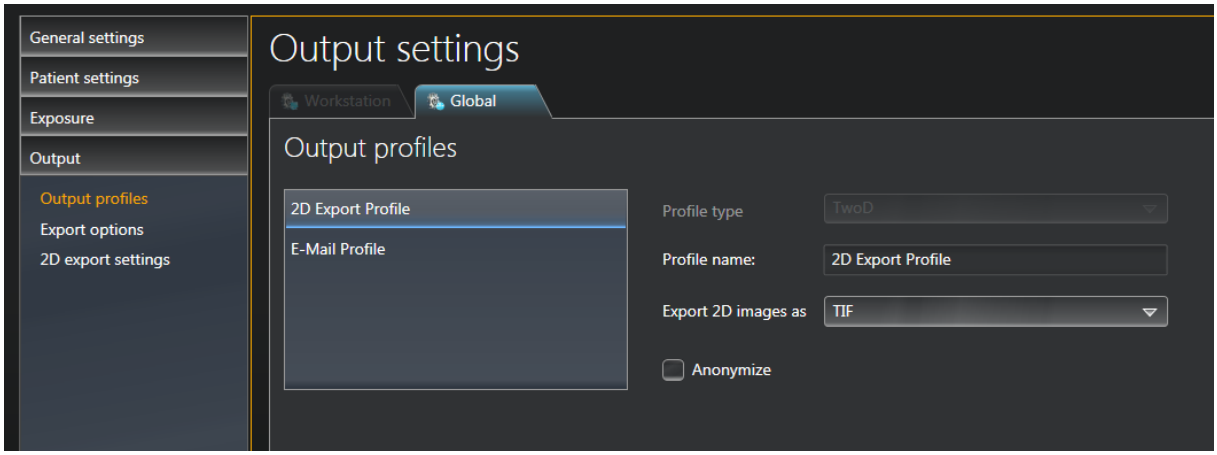


Figure 36 SIDEXIS 4 2D output profile

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Continued: On sending site:

After installing the SyncServices Software, add a gateway with the following settings:

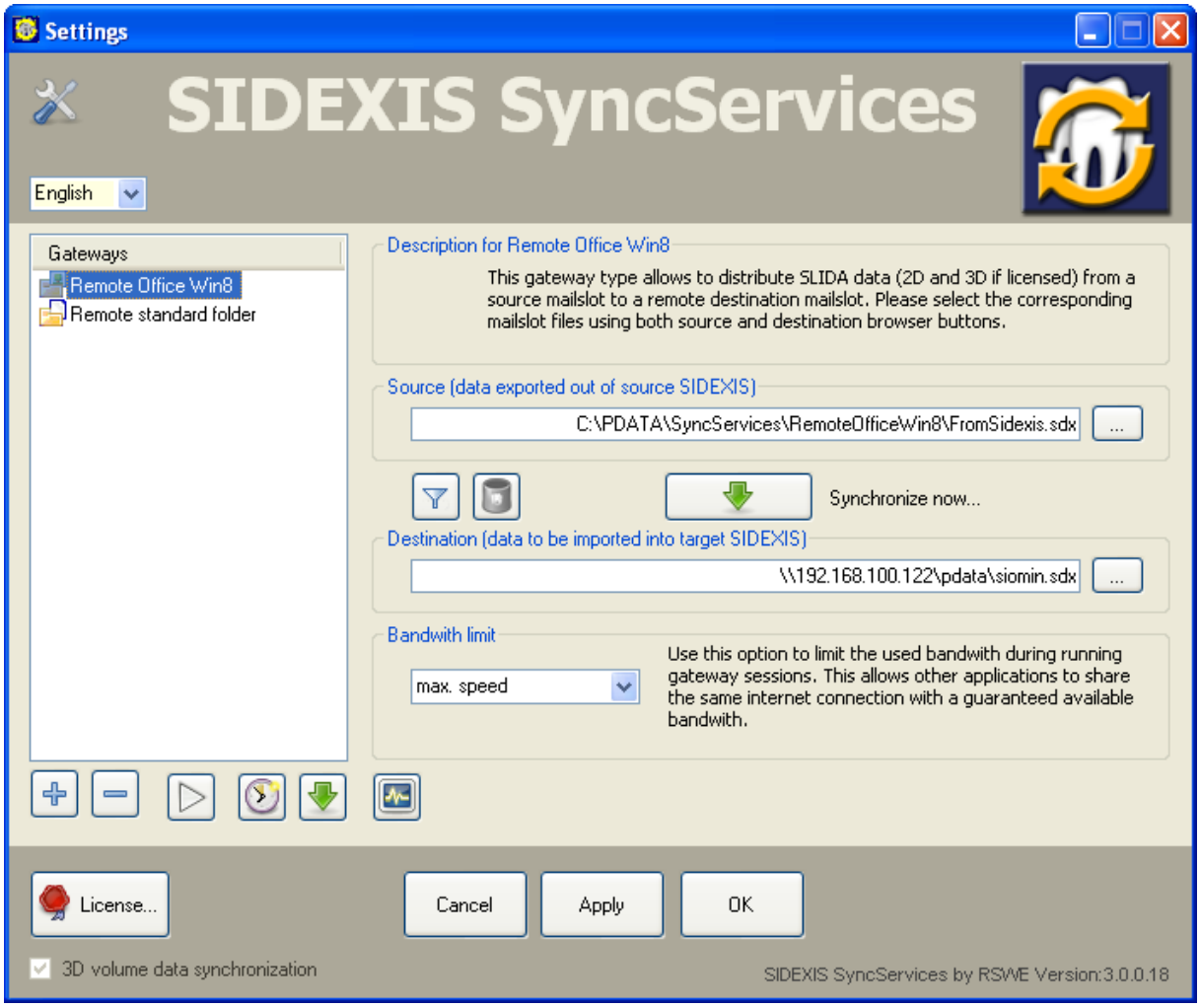


Figure 37 SSG configuration on sending side

Select a Bandwidth speed that is convenient and will not interfere with other activities.

The source path is the corresponding mail box path from your Sidexis partner (as configured in SIDEXIS just before).

For the destination path next chapter. (Receiving site).

You can add multiple Gateways to sync multiple offices. This optionally requires additional target licenses (see purchasing licenses).

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B: On receiving site:

Sidexis XG Service window:

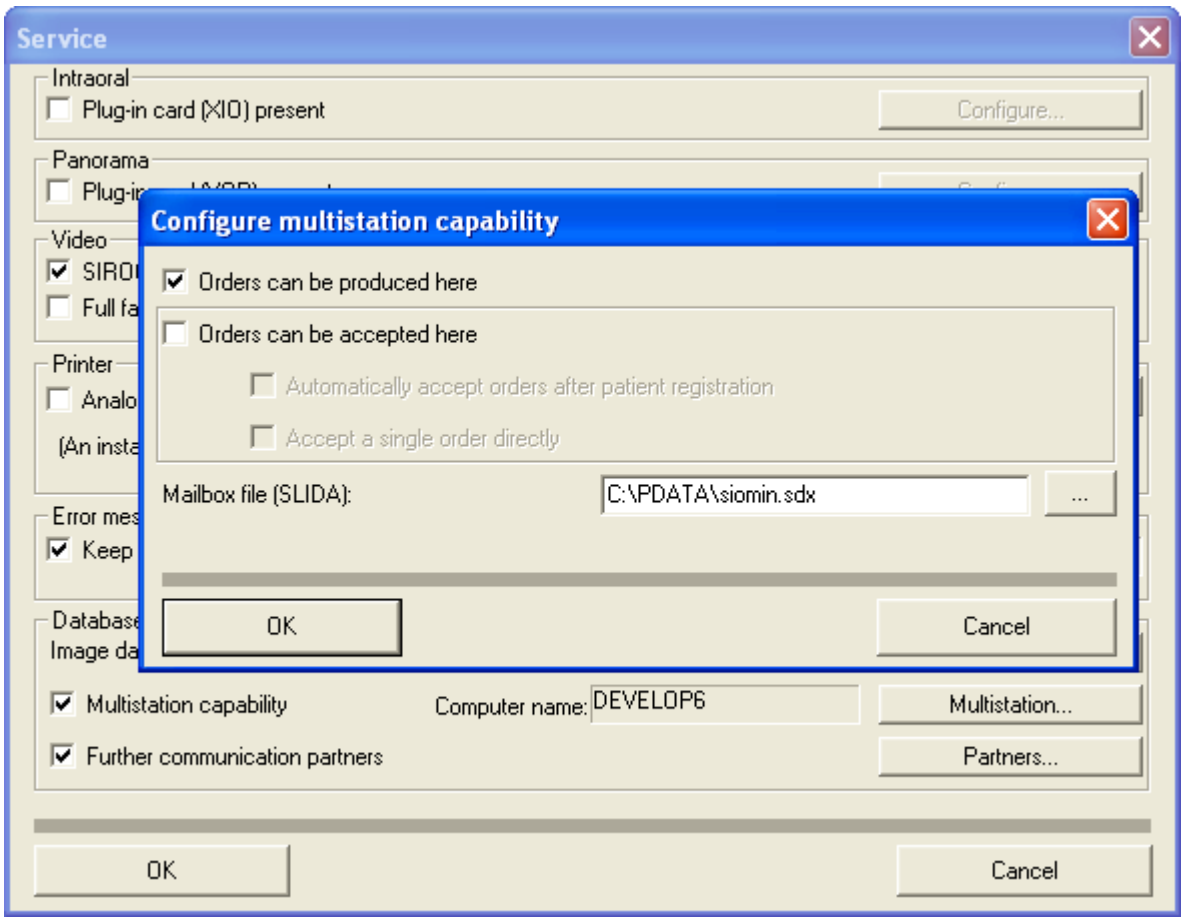


Figure 38 Sidexis XG configuration on receiving side (2D)

SIDEXIS 4 settings:

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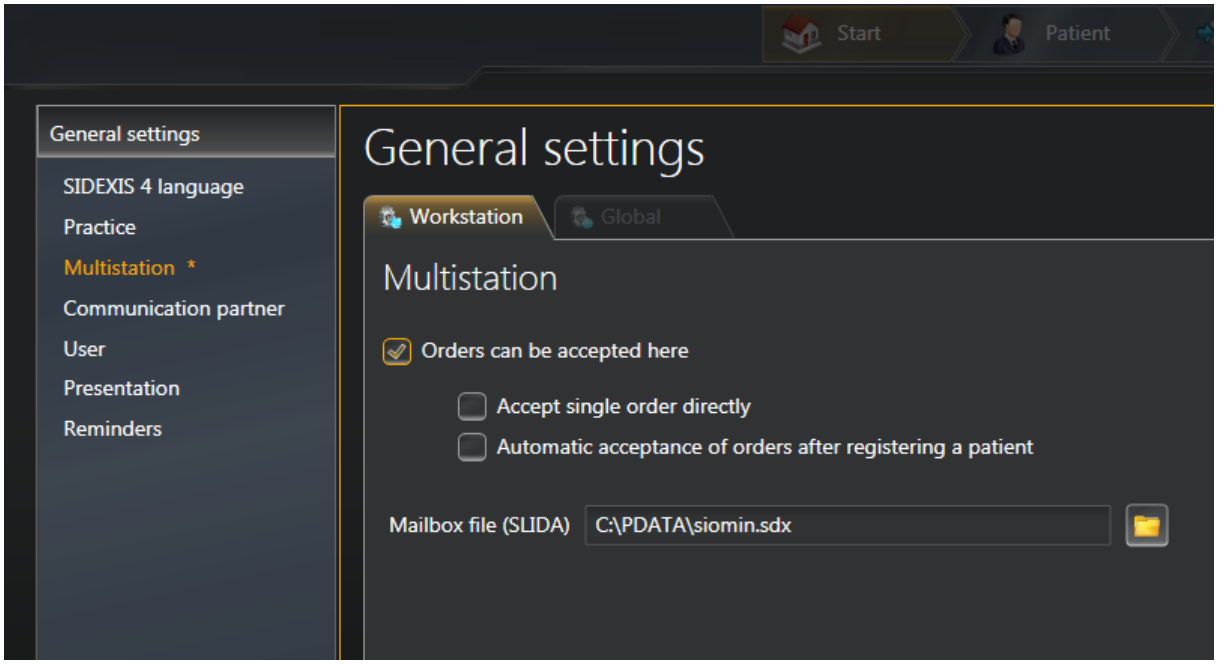


Figure 39 Sidexis 4 configuration on receiving side (2D)

Make sure “Multistation capability” is checked.

Click on Multistations and make sure the Mailbox path and file coincides with the “Destination” setting in SyncServices (See above).

The two check boxes that govern the handling of orders have no influence on the functionality of the sync services

Please note: Sidexis will import the images when started. Depending on the number of images to be imported, this might take some time.

In these cases it is recommended to start Sidexis through a scheduled task at a convenient time. (Early in the morning, Lunch break..).

If SSC is activated, the above Sidexis import trigger is handled by SSC automatically. No other Sidexis activations are required in that case.

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EXAMPLE: Typical setup of a SyncServices partner (3D and 2D image types):

The basic configuration is similar to the described 2D case with following additions:

A: On sending site:

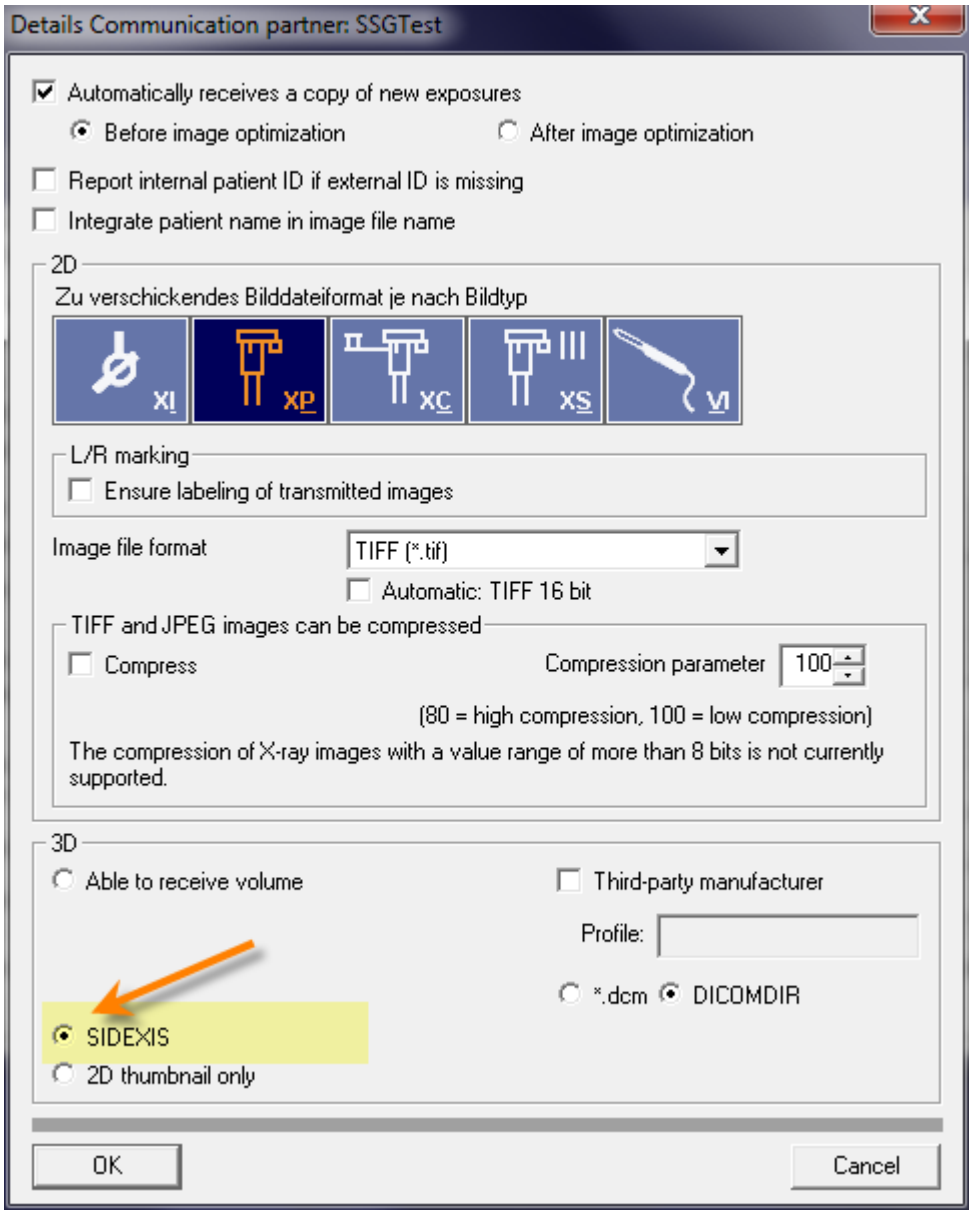


Figure 40 Enabling 3D data export in Sidexis XG

Above configuration tells SIDEXIS XG to export 3D volume data to the configured mailslot after each 3D scan.

Using SIDEXIS4 the configuration looks like following:

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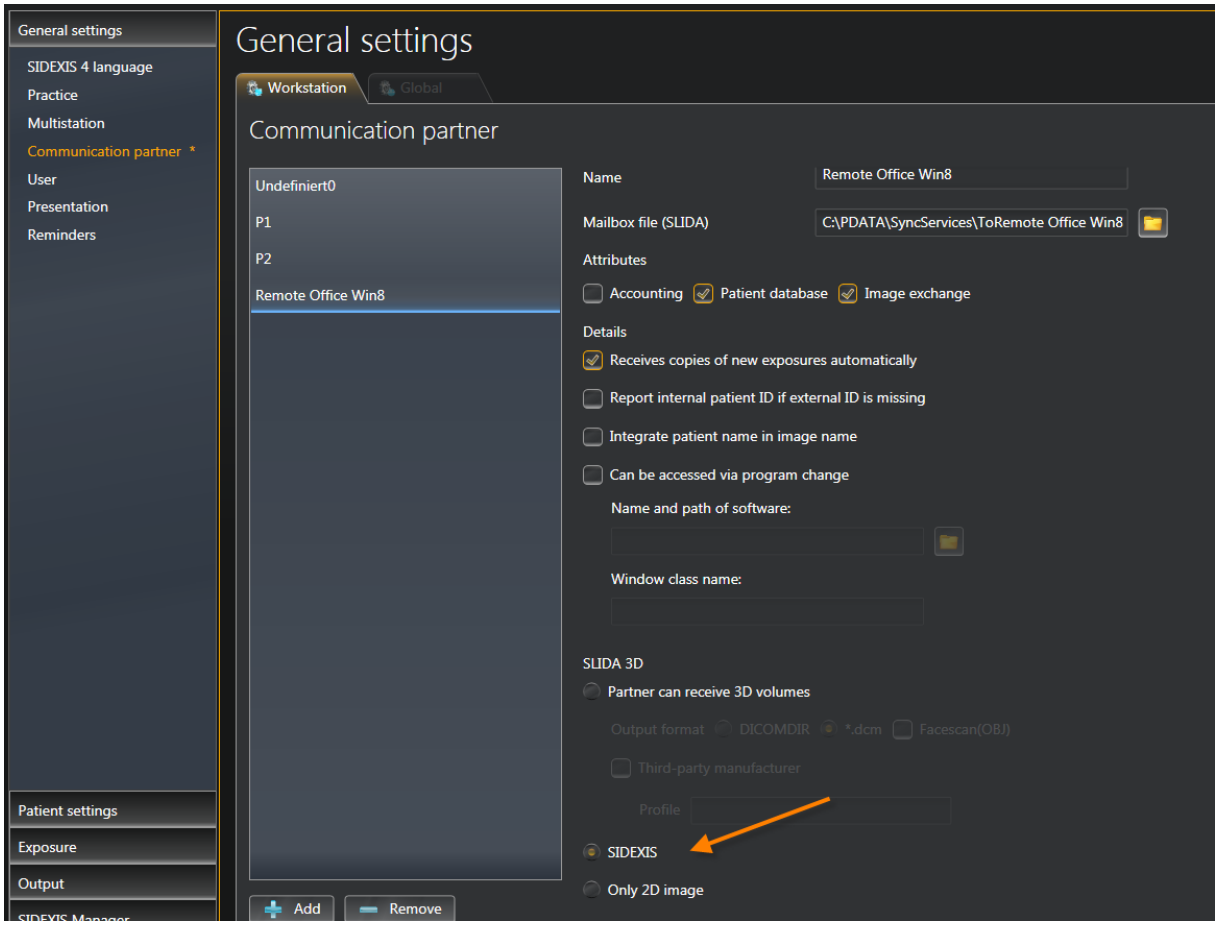


Figure 41 Enabling 3D data export in Sidexis 4

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B: On receiving site:

The SIDEXIS XG configuration on the receiving side remains identical to the 2D case.

In order to import the already “shipped” 3D data sets, SyncServiceControl application has to be run at least once. During the import process, the SIDEXIS workstation cannot be used for other interactive (Sidexis) operations.

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Using the windows task scheduler

Following this step-by-step instruction leads into an unattended SSG operation utilizing the Windows Task Scheduler. The Scheduler can be opened right from the SSG configuration form.

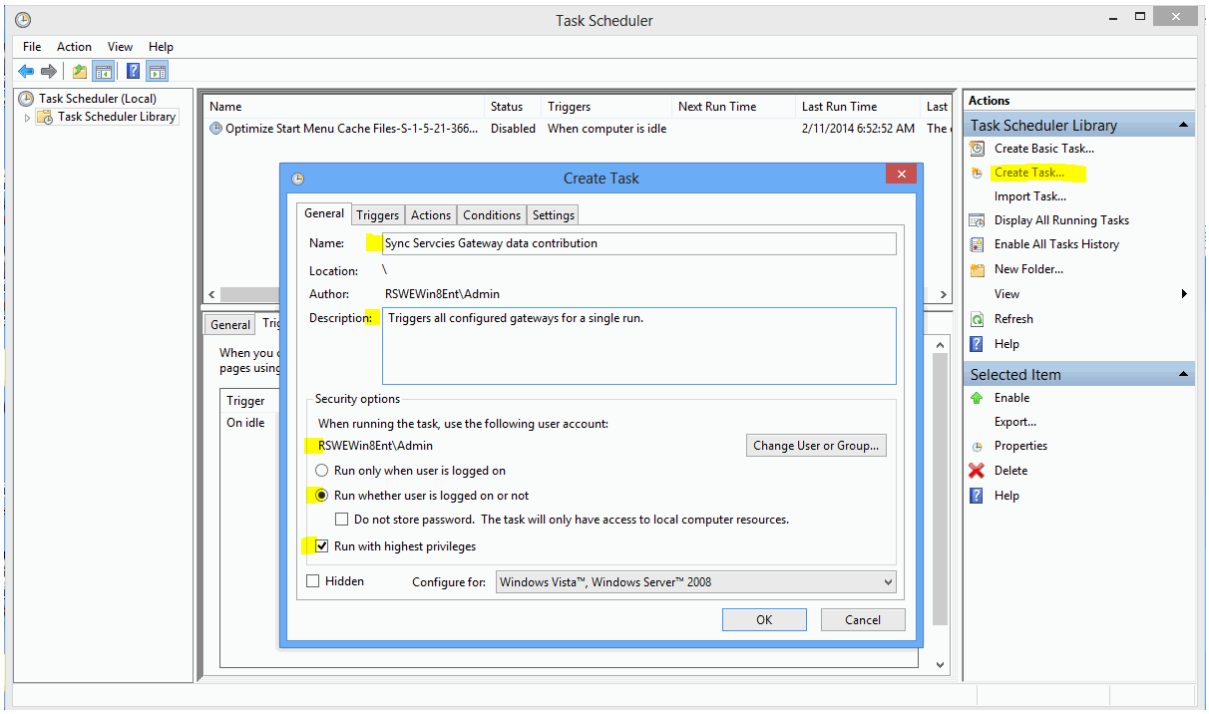


Figure 42 Windows task scheduler, create new task

A new SSG task can be added using the *create task…* option.
Inside the following forms a new task name, description and other options have to bee set.

The security options have to be configured carefully.
Using the offered local user account is preferred. In this case ensure correct file share access permissions on the remote site (the SSG target file/folder)

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If the remote PC with the shared drive is not on a common domain is where main problems may occur. In order to get this to work you will have to configure the Windows task to run as a specific user, and then you'll have to create an identical user on the remote system with the same password.

The problem stems from the fact that in order to log in to a machine not in a domain, you have to log into that machine using an account that exists on that machine. The machine account for something else definitely won't exist on that local machine. By creating an identical user with an identical password, you might be able get the login to work.

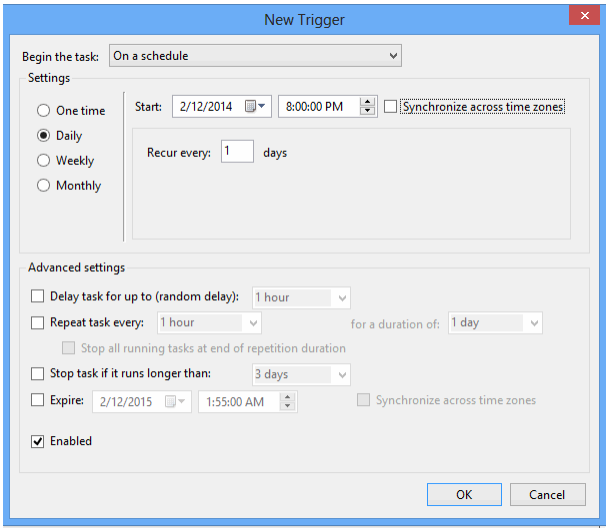


Figure 43 new trigger

The trigger can be set up as needed.

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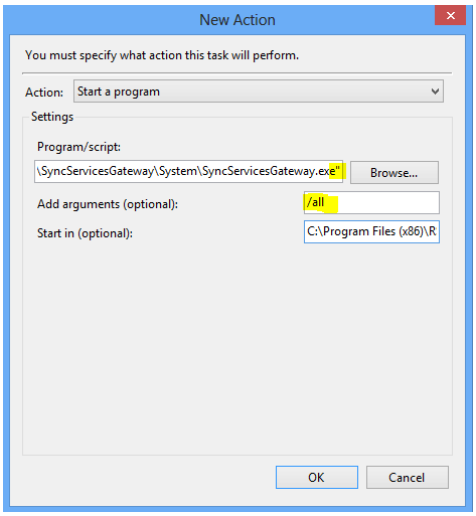


Figure 44 new task action

Inside the new action form browse to the installation directory of SSG as shown.
The /all option tells SSG to run all configured gateways once.
The start path should be set to the SSG folder, too.

The rest may be left as default.

Closing the task editor results in a user authorization dialog where the given user's password has to be entered.

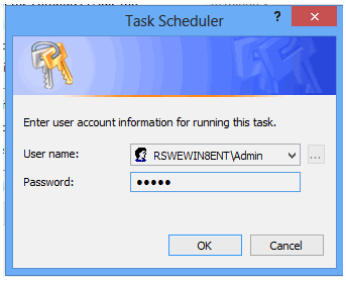


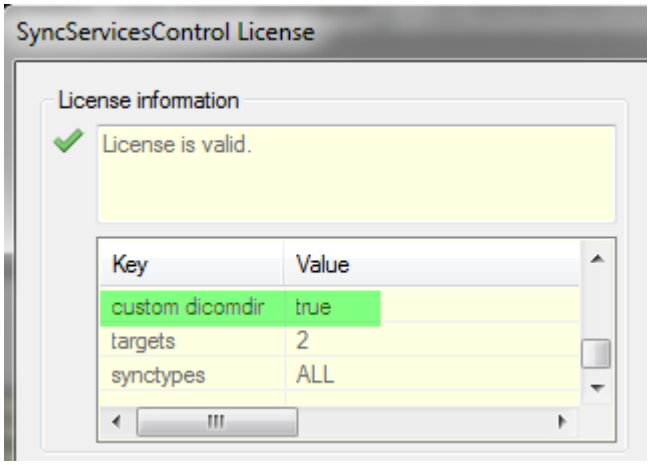
Figure 45 local user authorization

That's it. The new task can be triggered manually just by hitting the Run option inside the Windows Task Scheduler form. A look inside the SSG log file can prove proper operation.

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SSC custom DICOMDIR operation mode

Note: this option requires a special license



In order to automatically import SIDEXIS DICOMDIR data from a configurable folder, SSC can be configured to cover this requirement.

The workflow looks like this:

1. A new DICOMDIR folder will be stored inside this configurable folder.
2. SSC triggers this new DICOMDIR and starts the SIDEXIS import process
3. When all data from this single DICOMDIR is imported the patient will NOT be unregistered and the (left open) exam will not be stored. It is just visible to the user.
4. The user may save this new exam when the patient is unregistered or the exam is closed.
5. When SIDEXIS XG is back in an idle state (no exam left open, no patient registered), a new DICOMDIR import can be done via SSC.

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Configuration



	When checked SSC will ONLY observe the given root folder for new DICOMDIR subfolders.
	Opens a file browser dialog to select the custom DICOMDIR root folder.



Using this custom DICOMDIR operation mode it is *not* recommended to use the “automatic activation/deactivation” feature. It is assumed that the user is active on this PC and SSC import operations should not be delayed.

Found DICOMDIR data must be compatible to SIDEXIS. SSC does not validate the DICOMDIR data.

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What's new in version 4?

SIDEXIS Sync Services 4.0 (SSG) is a major upgrade offering full support for SIDEXIS 4 and SIDEXIS XG. Below the surface many enhancements have been incorporated to make this product even more usable, too.

So let's start with the main new features.

SIDEXIS 4 support



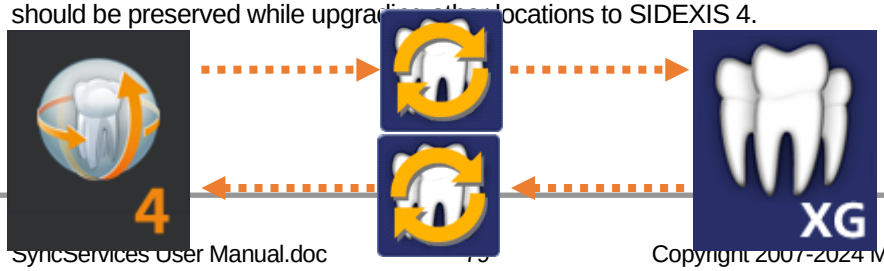
SSG now offers data synchronization between distributed SIDEXIS 4 installations. New 2D and 3D image acquisitions can be contributed to a second SIDEXIS 4 database fully automatically.



SIDEXIS 4 data synchronization can be configured essentially the same way as known from SIDEXIS XG systems.



Mixed installation of both SIDEXIS 4 and SIDEXIS XG are supported, too. This is very helpful in situations where existing SIDEXIS XG installations on dedicated locations should be preserved while upgrading other locations to SIDEXIS 4.

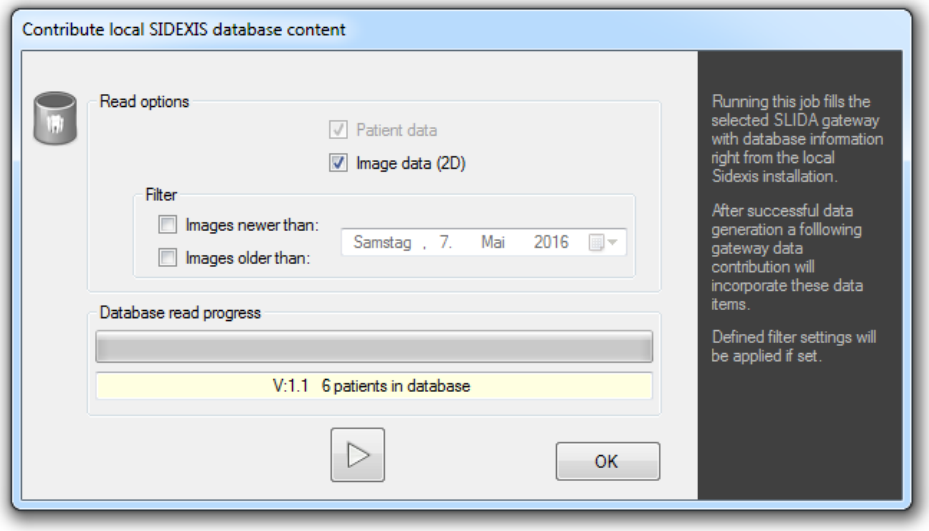


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SSG version 4 allows 2D and 3D data contributions in mixed installation scenarios in any direction.

Enhanced database reader

The well-known SSG database reader option to read existing patient and 2D image data for initial data collection purposes supports SIDEXIS 4 installations, too.
A new filter option allows to limit the retrieved amount of data to several new filter criteria.



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What's new in version 3?

SIDEXIS Sync Services 3.0 (SSG) is a major upgrade offering most requested additional features to broaden the possible field of applications. Below the surface many enhancements have been incorporated to make this product even more usable, too.

So let's start with the main new features.

Gateway filtering



Taking new exposures with SIDEXIS XG feeds the Sync Services Gateway inputs with new patient and image data. All these data items will be contributed to the target location whenever SSG is triggered for operation. Until now every target "sees" all new data generated right from the source SIDEXIS XG installation.

Starting with version 3 SSG allows filtering of the generated source data based on SIDEXIS XG patient attributes like dentist name or card index numbers.

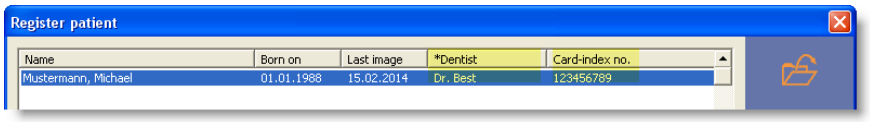


Figure 46 SIDEXIS XG patient attributes

This allows splitting SSG data streams to separated gateway channels according to the embedded data attributes, e.g. to contribute new data to locations based on the dentists names etc.

Another application is to simply drop unwanted data prior transferring it over a SSG gateway. So the SSG target locations do not see these filtered data items and the gateway network channels do not have to transport already dropped data at all.

The filter configuration can be configured optionally for each SSG gateway just by hitting the new tool button and selection of appropriate filter settings:

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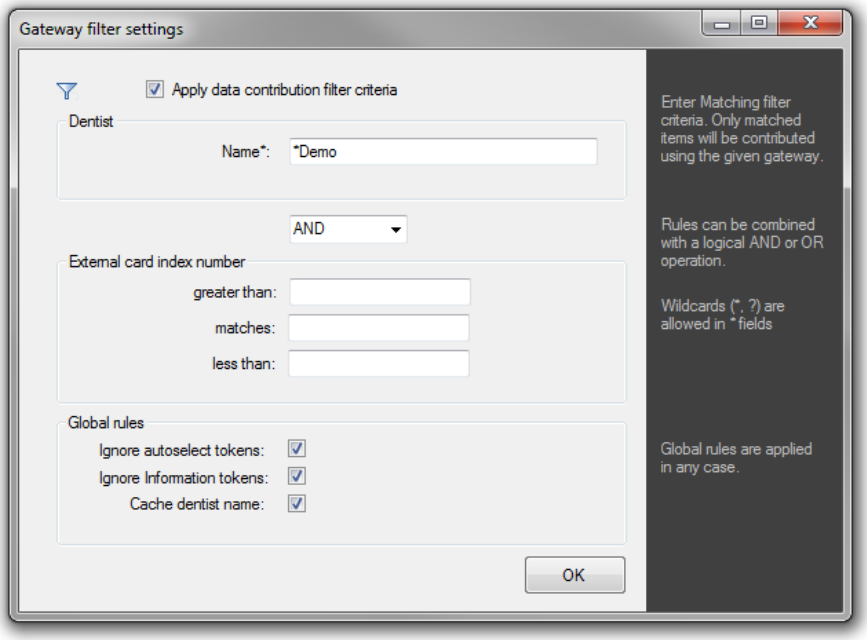


Figure 47 (new) Gateway filter settings form

SIDEXIS XG database content reader*



This long awaited new feature allows existing SIDEXIS XG data contribution with ease.

Until now SSG data contribution started with new image data generation, e.g. by taking new exposures with SIDEXIS XG supported modalities. Existing patient and image data has been out of scope and had to be moved to the remote location using tedious data backup/restore procedures. The situation got quite more complicated if the target SIDEXIS installation has been located at a remote location with limited data access capabilities.

Starting with version 3 a new SIDEXIS XG database content reader option allows putting existing patient and 2D image data into already configured gateways for direct data contribution to remote SIDEXIS XG installations. This way the setup and initial operation makes SSG a compelling one stop solution for both ongoing data synchronization and existing SIDEXIS content transport.

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The operation is quite simple:

- Select an existing gateway configuration.
- Open the (new) database reader form.
- Setup read options, e.g. if 2D image data should be included.
- Start the read process. This may take some amount of time.
- Run the selected gateway after the database read job has been finished. Now the database data will be contributed to the configured SSG target.

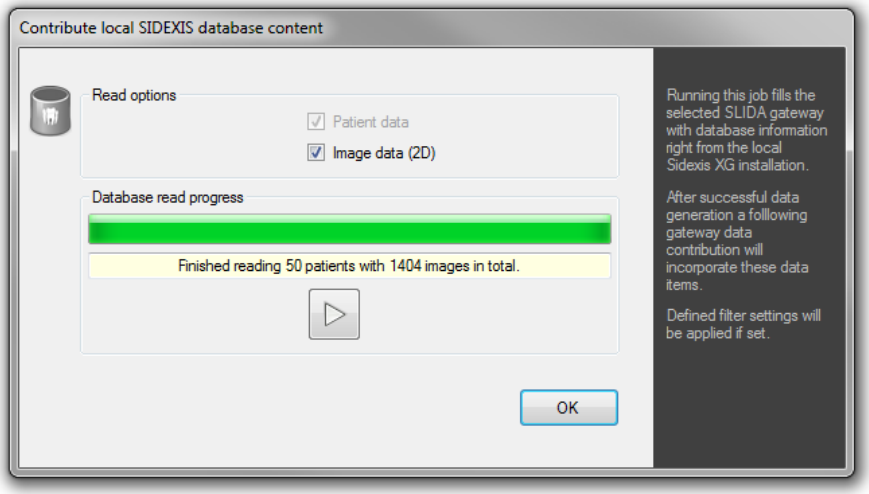


Figure 48 (new) SIDEXIS XG database reader form

In combination with the new gateway filtering capabilities even more applications are possible.

Based on patient attributes like responsible dentist or card index numbers existing SIDEXIS XG patient (and therefore image) data can be contributed in a filtered way, too. This way a split of a single node but multiple dentists SIDEXIS XG office to a multiple location practice network with filtered data subsets can be realized with ease.

The SSG demo version limits the reader capacity to 2 patients.

* Requires a installed SIDEXIS XG version 2.56 or higher. Only 2D image data is supported in the current version.

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What's new in version 2?

The key feature of this version is the additional support for 3D volume data sets. This allows to synchronize data generated from Sirona's 3D modalities (e.g. Sirona GALILEOS, Sirona XG3D) from one practice location to another one.

All transferred 3D data is available on the receiving side right from the local SIDEXIS database with full performance. The user can operate on these datasets in the same way as if they have been created on the receiving side. So there is neither learning curve for the users nor any additional reconfiguration of the existing SIDEXIS installation.

In comparison with a Terminal Server installation, which only handles standard Sidexis 2D images, SidexisSyncServices offers full 3D capabilities in a real distributed scenario.

The following figure shows a typical use case with all incorporated applications.

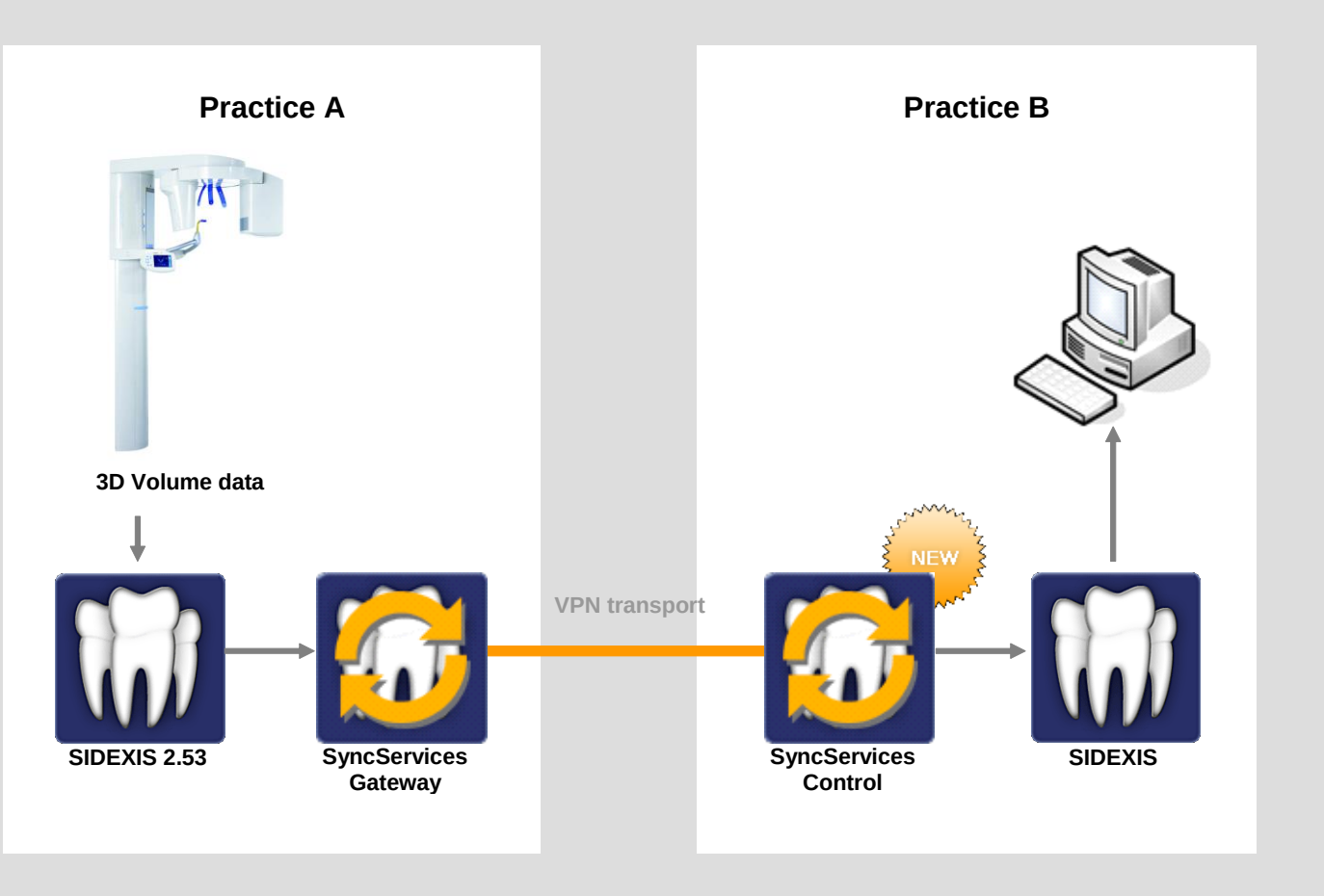


Figure 49 3D data transport with SyncServicesGateway and SyncServicesControl

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The basic workflow using the new 3D data capabilities looks like following:

1. A new patient scan has been completed in practice A
2. Corresponding 3D volume data is stored into the local SIDEXIS database of practice A
3. A copy of both new patient and 3D volume data is signalled to the local SSG installation
4. SSG will transport the new data to the remote practice location depending on the configured schedule and bandwith options.
5. In practice B all patient and 2D image data will be imported into the 2nd SIDEXIS database as usual. The additional 3D volume data sets will be imported using the new SyncServicesControl (SSC) application. This application processes the 3D data sets fully automatically without user intervention. SSC has to be installed on the receiving practice location.
6. As a result 3D volume data sets can now be inspected using GALAXIS right out from the SIDEXIS database.

A 2D only version of the SSG product is still available as a separate licensed version. Please refer to chapter “Purchasing a license” for a detailed description.

Starting with version 2 all applications of the SSG distribution are available in following languages (including on-the-fly language selection):

- English
- German

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A new operation mode for automatic gateway operations has been added to this version, too. This mode can be started with following new button:



Now all gateways are observed for new incoming data and will start data transfer operations immediately. During this operation mode all form controls are disabled:

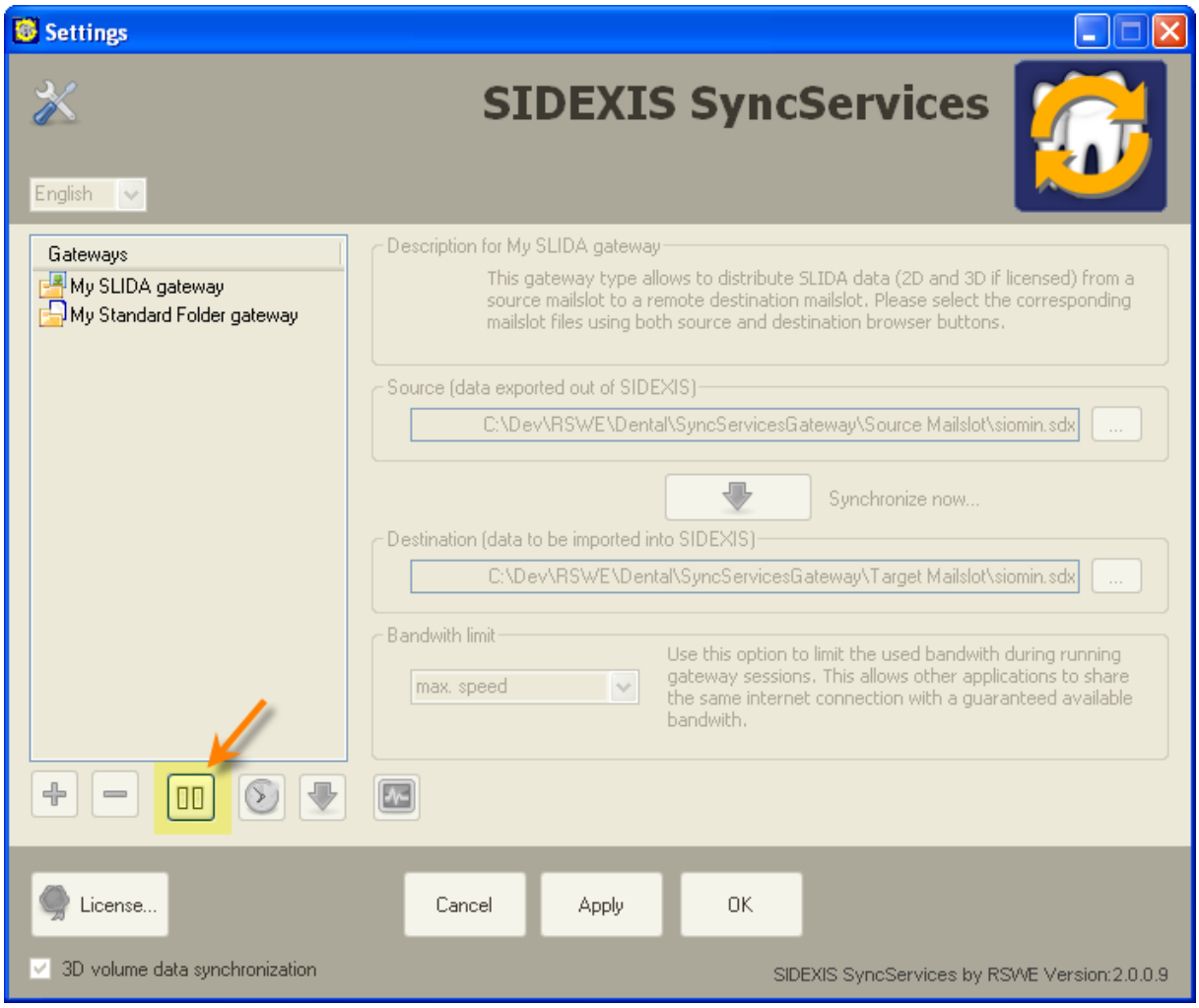


Figure 50 SSG in automatic operations mode

To terminate this mode the following button has to be hit again:



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On the data import side SyncServicesControl (SSC) offers automatic operations, too:

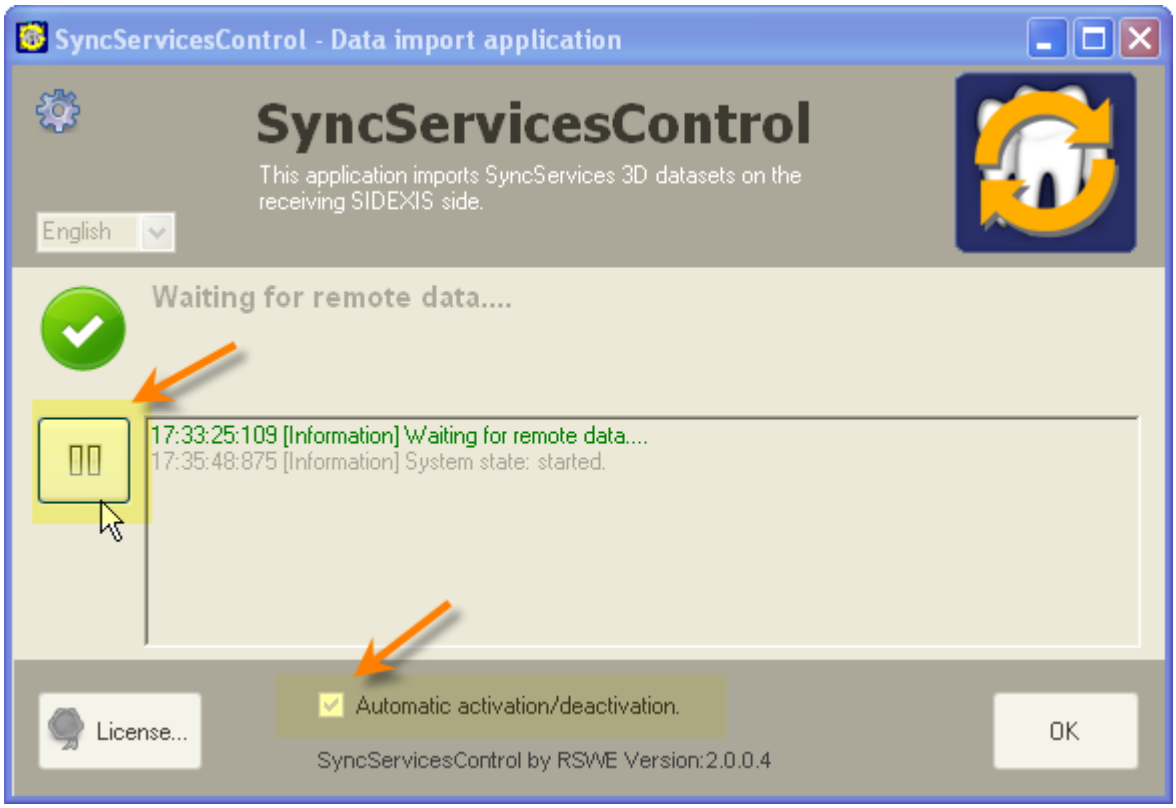


Figure 51 SSC in automatic data import mode

In this mode SSC will pause automatically if any interactive tasks are triggered by the user.

As soon as this PC will become idle again, SSC will reactivate itself and continue to watch for new incoming data.

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