



sedex-Adapter Installer User Manual

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Parties involved	
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Users:	Business and technical users who partake to sedex: communes, cantons and the BFS

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Table of contents

1	INTRODUCTION	3
1.1	sedex-Adapter	3
1.2	Overview	3
1.3	Adapter Interface	5
1.4	References.....	5
2	INSTALLATION	5
2.1	System requirements	6
2.1.1	Supported Platforms	6
2.1.2	CPU.....	6
2.1.3	RAM	6
2.1.4	Disk Space	6
2.1.5	Maximum Message Size.....	7
2.1.6	Firewall.....	7
2.1.7	Network Speed.....	8
2.2	Delivery Content	8
2.3	Installing the Adapter	9
2.4	Installation Check	15
2.5	Uninstall	15
2.6	Updating / Migration Notes	16
3	STARTING THE ADAPTER	17
3.1	Manual Start.....	17
3.2	Automatic Start (Installation as a Service).....	17
3.3	Install several Adapter Instances on the same Machine	17
4	CONFIGURATION REFERENCE	18
4.1	Adapter main Configuration	18
4.2	Certificate configuration	19
4.2.1	Optional elements	20
4.3	Logging Configuration	22
5	MONITORING	23
6	COMMON PROBLEMS AND SOLUTIONS	24
7	APPENDIX	25
7.1	Glossary.....	25
7.2	Receipt Versions	25
7.2.1	Overview	25
7.2.2	Version 1.0.....	25
7.2.3	Version 2.0.....	26

1 Introduction

This document describes the Sedex-Adapter installation and configuration using the new Sedex graphical installer. The Sedex-Adapter is a Java application that is required on end-systems to securely and reliably exchange messages between sedex participants. The end-systems are typically Swiss communes, cantons and federal offices like BFS, ZAS, and Infostar.

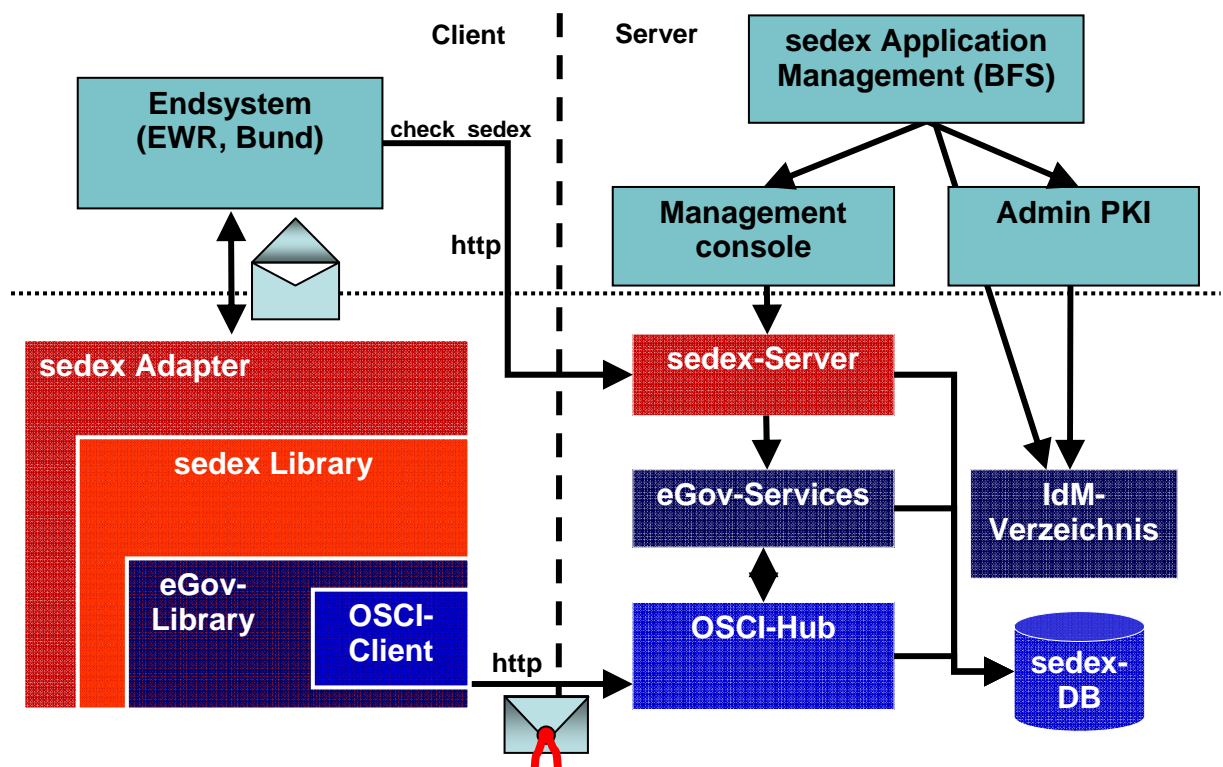
1.1 sedex-Adapter

The sedex-Adapter provides the following functionalities:

- secure transport of sensitive data (International and Swiss standard on data security level 3)
- sender side message encryption for target recipients – only the recipients can decrypt the message)
- message content integrity check through digital signatures
- reliable transport for very large messages (1 GB or higher compressed or uncompressed)
- sending and receiving of messages are indisputable
- audit trail of the message exchange (envelope information only)

1.2 Overview

The figure below gives an overview of the server components:



The server components can be divided into "client side", "server side" and "external systems".

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Components on the client side include:

- **Sedex Adapter** includes all the functions that are necessary for a secure and reliable exchange of messages on the client side and can be further divided into:
 - **OSCI-Client** implements the OSCI-Protocol for a secure message exchange based on certificates; it communicates with the OSCI-Hub.
 - **eGov-Library** uses the OSCI-Client and completes it with additional functions such as message segmentation, message publish, public keys lookup, logging, status persistency, status monitoring and alerting.
 - **sedex-Library** makes use of the eGov-Library for a secure and reliable message exchange and completes it with functions such as message envelopes validation, message mapping to the subscription topic, configuration, routing and authorization.
 - **Adapter** is a Java standalone application, which makes use of the sedex-Library and serves as interface between the sedex system and the participant end-systems.
 - **Wrapper**: The Wrapper makes it possible to install a Java application as a Windows Service. For more information about the wrapper visit the wrapper home page¹.

Components on the server side are:

- **OSCI-Hub** (Meldungs-Intermediär) covers the core functions of the server for a secure and reliable message exchange. The OSCI-Hub provides an inbox for each participant who owns a certificate. The OSCI-Client communicates via http with the OSCI-Hub through polling.
- **eGov-Services** (eGov-Dienste) complement the functions of the OSCI-Hub with generic functions like reporting.
- **sedex-Server** includes services for the message transport as well as further modules and interfaces for the participants administration. Its services cover specific functions, particularly authorization and routing.
- **IdM-Directory** (IdM-Verzeichnis): Metadirectory of the system participants that provides interfaces to the data sources.
- **Sedex-Database** is used by the OSCI-Hub, the eGov-Services and the sedex-Server. They use different schemas inside the same physical database.

External systems are:

- **Office directory** (Amtsstellenverzeichnis): The office directory holds data on Swiss communes, cantons and federal offices like BFS, ZAS, Infostar, and so on. For the time being, the Office directory is administered by the BFS (Federal Statistical Office). It will be superseded by the BK (Federal Chancellery) Office directory in the future.
- **Admin PKI** is the BIT (Federal Office for Information Technology and Telecommunication) Certificate Authority that delivers certificates for physical entities (persons) as well as legal entities (organizations).
- **SAP CRM**: sedex “service clientele” or customer care management system, which takes care of the contracts with the sedex- participants, and therefore their authorization and representation.

¹ see <http://wrapper.tanukisoftware.org/doc/english/introduction.html>

- **Endsystems** (Teilnehmersysteme): Endsystems that use the platform for message exchange such as communes, cantons and federal registers.

1.3 Adapter Interface

A file based interface is used between the EWR system and the sedex-Adapter. The EWR systems have to save the data and the envelope in the outbox directory and have to poll the inbox directory for new data and envelopes.

- Envelope
 - XML format
 - naming convention: envl_XXX.xml
 - must be compliant to the envelope Schema Definition (XSD)
- Reference data
 - XML format
 - naming convention: data_XXX.xml
 - must be compliant to the Schema Definition (XSD) specified in the XML

The base name (XXX in this example) must match. The envelope and reference data files must be placed into the same directory. The Adapter will transfer the data only, if the corresponding envelope is compliant with the XML schema eCH-0090.

The detailed structure of the envelope and interface between EWR system and adapter is specified in [1].

1.4 References

[1] sedex-Handbuch v4.0 (14.04.2011)

[1] Manuel sedex v4.0 (14.04.2011)

2 Installation

The sedex-Adapter is a Java standalone application. It has to be installed in the network zone of the participant which shall be physically connected to the sedex platform. It can be installed on the same server as the participant system, if that server fulfils the system requirements described below.

Note: to make sure that the sedex-Adapter is able to run after the machine is rebooted, it is required to configure it as a service (Windows) or with start script on UNIX.

Note: please use always the sedex-Adapter installer program to install a sedex-Adapter. For example, do not copy a existing installation to another machine bypassing running the installer.

2.1 System requirements

2.1.1 Supported Platforms

The sedex-Adapter is a pure Java application. It runs on all platforms supporting Java 1.6.0 or later. As the adapter installer is shipped with an appropriate JRE, no installation of a separate JRE is necessary. However, the sedex-Adapter was only fully tested on the following platforms:

- Windows 2003 Server 64Bit
- Windows XP
- Windows Vista Enterprise (equivalent to Windows Vista Business version)
- SuSE Linux 11.0

2.1.2 CPU

As the sedex-Adapter is not a CPU time consuming application, any CPU capable of running a supported operating system is sufficient.

2.1.3 RAM

There should be at least 256MB of memory available for the sedex-Adapter.

2.1.4 Disk Space

The disc space needed for the sedex-Adapter installation is about 200MB.

The disc space needed for the sedex-Adapter at runtime heavily varies depending on the size of sent and received messages, the frequency of sent and received messages, and finally on the time, sent and received messages are kept in their inbox, outbox, or sent messages directory. The following section provides general rules for disc space planning when maintaining a sedex-Adapter. Please note that all values below require a network connection capable of transferring large messages within a reasonable timeframe. For limitations imposed by the network connection please see chapter 0 "Network Speed"

2.1.5 Firewall

The Sedex Adapter uses the following outgoing connections:

- www.governikus.admin.ch port 80

sedex-Adapter Installer User Manual (English)

- www.oscityv-gw.admin.ch port 443
- www.sedex-gw.admin.ch port 443
- www.osciservices-gw.admin.ch port 443

Make sure that these connections are allowed
Network”.

Sending messages: during the time when sending a message, approximately 3 times the sum of all concurrently send messages is required. The required disk space is distributed as follows:

- The outbox directory must be capable of holding all messages to send at one time including the envelope files.
- The adapter installation directory must be capable of holding data equal to the size of three times of all messages to send at one time.
Note: if the adapters outbox directory is located within the adapters installation directory, its space requirement must be added resulting in a minimum free space of 4 times equal to the size of all messages to be send at one time.
- The sent messages directory must be capable of holding all messages to send at one time including the envelope files.

Please note that the adapter will remove a sent message from the outbox directory, but will never remove any messages from the sent messages directory. Therefore, the sent messages directory must be capable of holding all ever sent messages until cleaned.

Receiving messages: during the time when receiving a message, approximately 3 times the sum of all concurrently received messages is required. The required disk space is distributed as follows:

- The inbox directory must be capable of holding all messages to receive at one time including the envelope files.
- The adapter installation directory must be capable of holding data equal to the size of 3 times of all messages to send at one time.
Note: if the adapter inbox directory is located within the adapter installation directory, its space requirement must be added resulting in a minimum free space of 4 times equal to the size of all messages to be received at one time.

Please note that the adapter will never remove a received message from the inbox directory. Therefore, the inbox directory must be capable of holding all ever received messages until cleaned.

2.1.6 Maximum Message Size

The maximum size of a single message the adapter can send is currently limited to 10GB.

2.1.7 Firewall

The Sedex Adapter uses the following outgoing connections:

- www.governikus.admin.ch port 80
- www.oscityv-gw.admin.ch port 443
- www.sedex-gw.admin.ch port 443
- www.osciservices-gw.admin.ch port 443

Make sure that these connections are allowed

2.1.8 Network Speed

Sedex needs a connection that can upload **5 Megabytes in 5 Minutes**. Therefore, the **minimum recommended upload speed for sedex is 150 kbit/s**.

Please note that this recommendation assumes that the whole bandwidth of the network connection is available for the adapter. If the adapter has to share the available bandwidth with other applications using networking resources, it might be necessary to increase the capability of the network connection. Otherwise, message transmission using the sedex-Adapter might not be successful.

The following table gives an overview over the amount of time which is required to transfer the payload of a message.

Network speed / message size	150 kbit/s	300 kbit/s	1'000 kbit/s	10'000 kbit/s
5 MB	4,5 minutes *	2,3 minutes *	36 seconds *	3,6 seconds *
50 MB	44,5 minutes *	22,3 minutes *	6,6 minutes *	36 seconds *
500 MB	7,4 hours *	3,7 hours *	1,2 hours *	6,7 minutes *
1000 MB	14,8 hours *	7,4 hours *	2,3 hours *	13,4 minutes *

Table 1: Payload transfer times

* These values are only transmit times for the payload of a message. You must consider that a real sedex Message has some overhead which may extend the real transmit time especially for small messages.

2.2 Delivery Content

The sedex-Adapter software is delivered as a windows installer program. After installation, the folder structure looks as follows:

Directory	Description
/axis2	Webservice Proxy files
/bin	Scripts to manually start and stop the sedex-Adapter: start.bat/stop.bat start.sh/stop.sh
/conf	Configuration files: sedexAdapter.properties – sedex-Adapter properties file log4j.xml – logging properties file wrapper.conf – configuration for installing adapter as Windows service certificateConfiguration.xml – configuration of Credentials (Certificate and Password)
/deploy	Deploy directory for Webservice Proxy
/eGovTmp	This directory is auto created on the first start of the adapter. Used as a temporary directory for eGov-Library.
/h2db	Database for eGov-Library
/inbox	Default "inboxDir" location.
/internalmessages	Directory for sending and receiving internal messages. This directory is managed by the adapter itself.

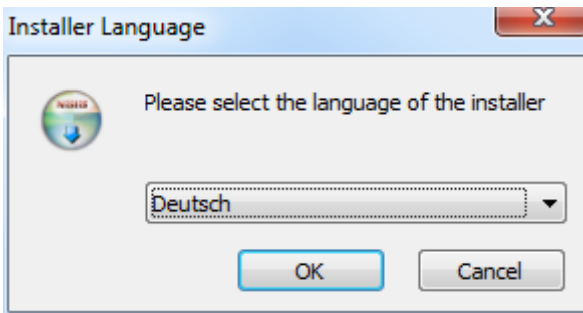
Directory	Description
/jce	Java Cryptography Extension Policy files for Unlimited Strength. Provided for sun and ibm based java runtime environment.
/lib	Contains all required libraries
/logs	Contains all logs
/messagestorage	Default messagestorage location. Used by the adapter to manage registered outgoing messages.
/outbox	Default "outboxDir" location.
/receipts	Default "receiptsDir" location.
/schema	All schemas used by the adapter. This Directory contains also the eCH0090 schema which is used for sedex messages.
/sent	Sent messages will be put here. Please note that this directory will keep all sent messages by the adapter. This might result in a full filesystem if messages are not frequently removed from the sent directory.
/zertifikate	Private Keys and Certificates needed to communicate with OSCI server

2.3 Installing the Adapter

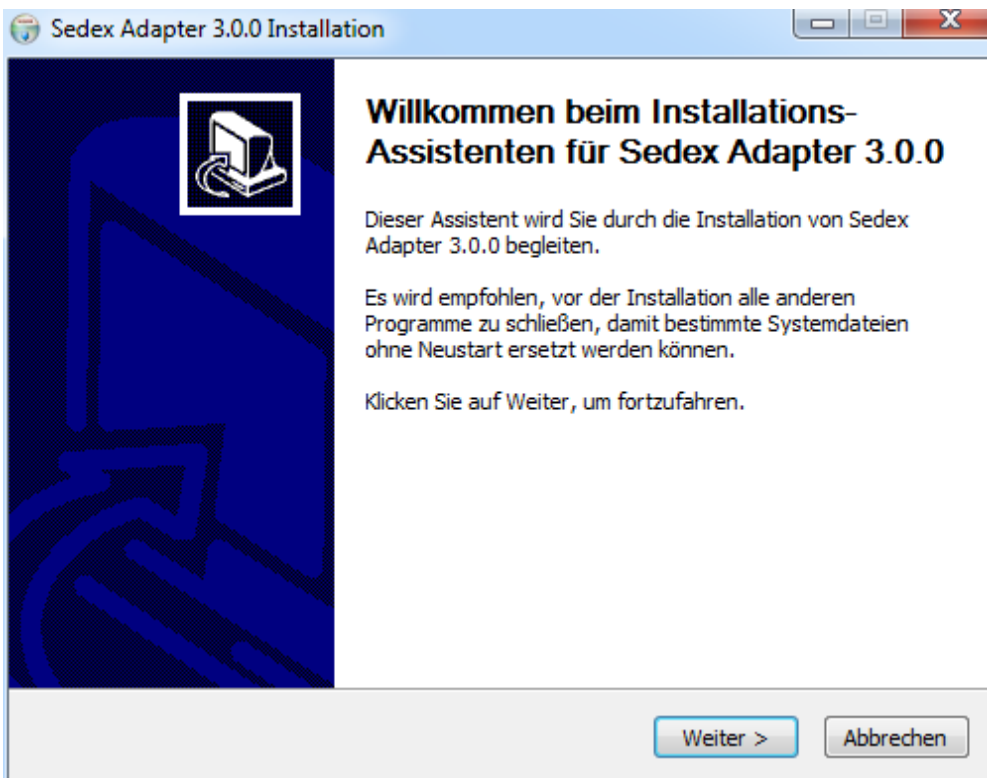
To install the adapter, run the installer program. The installation program will present you a number of screens as described below:

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The first screen allows you to choose the language used to guide you through the installation:

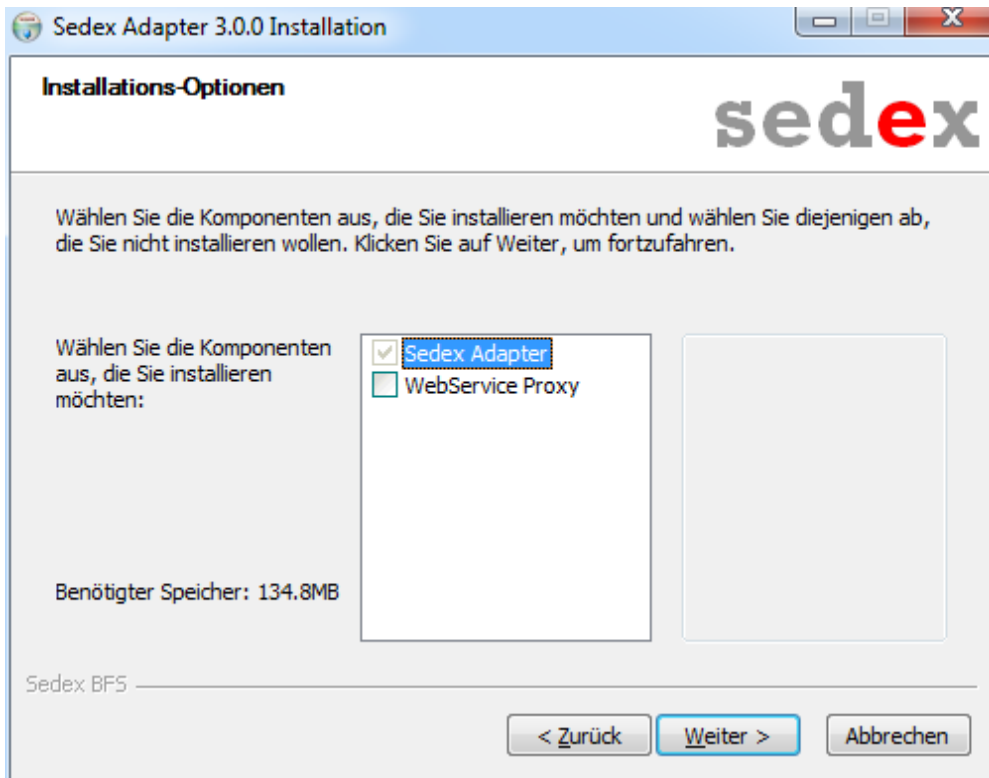


The following screen has no own functionality but is simply an introduction to the installation:



sedex-Adapter Installer User Manual (English)

The following screen allows you to select the components to install. This currently includes the adapter, which always gets installed, and the Webservice-Proxy, which is optional:



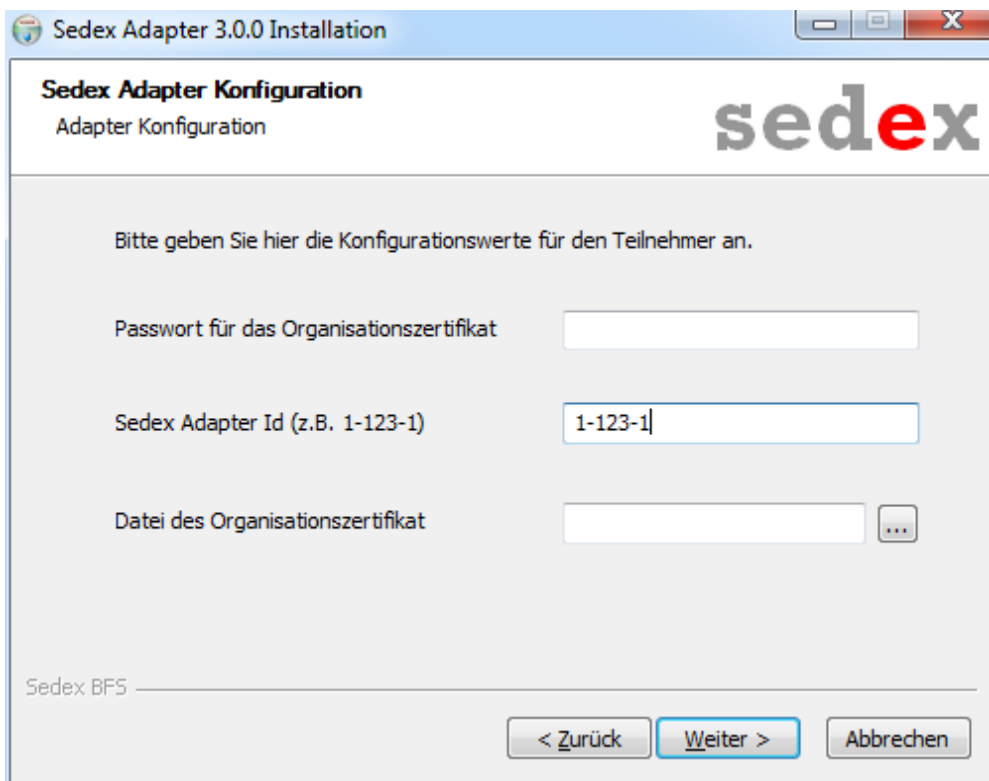
The following screen allows you to choose the base directory for the installation. You can choose different installation directories for different installations.



sedex-Adapter Installer User Manual (English)

The following screen provides input fields for basic adapter configuration values. You must enter:

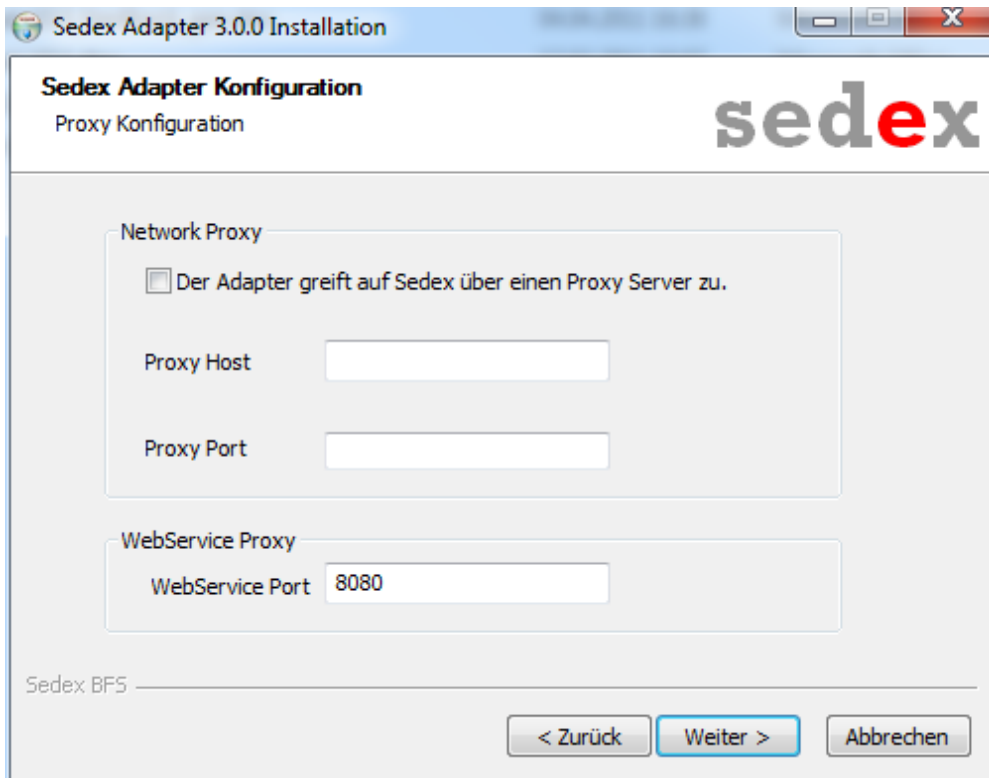
- The password for the private certificate the adapter uses.
- The sedex-Id of this adapter installation.
- The private certificate used by the adapter. The file you specify here is copied into the adapter directory structure. This allows you to specify a certificate from a location not available after the installation, for example a certificate file from a USB stick. The specified filename must end with the .p12 extension.



The screenshot shows a Windows-style window titled "Sedex Adapter 3.0.0 Installation". The main content area is titled "Sedex Adapter Konfiguration" and "Adapter Konfiguration" with the "sedex" logo in the top right. Below the title, there is a prompt: "Bitte geben Sie hier die Konfigurationswerte für den Teilnehmer an." (Please enter the configuration values for the participant here). There are three input fields: "Passwort für das Organisationszertifikat" (empty), "Sedex Adapter Id (z.B. 1-123-1)" (containing "1-123-1"), and "Datei des Organisationszertifikat" (empty with a browse button "..."). At the bottom left, it says "Sedex BFS". At the bottom right, there are three buttons: "< Zurück", "Weiter >" (highlighted in blue), and "Abbrechen".

sedex-Adapter Installer User Manual (English)

The following screen allows you to specify whether the adapter accesses the sedex system through a proxy server. If this is the case, check the appropriate checkbox and specify the proxy host and port.



The screenshot shows a window titled "Sedex Adapter 3.0.0 Installation" with the subtitle "Sedex Adapter Konfiguration" and "Proxy Konfiguration". The Sedex logo is visible in the top right corner. The window contains two main sections: "Network Proxy" and "WebService Proxy".

Network Proxy

Der Adapter greift auf Sedex über einen Proxy Server zu.

Proxy Host

Proxy Port

WebService Proxy

WebService Port

Sedex BFS

< Zurück Weiter > Abbrechen

sedex-Adapter Installer User Manual (English)

The following screen allows you to specify the message directories for the adapter.

The screenshot shows the 'Verzeichnisse' (Directories) screen for 'Nachrichten Verzeichnisse' (Message Directories) in the Sedex Adapter 3.0.0 Installation window. The window title is 'Sedex Adapter 3.0.0 Installation'. The 'sedex' logo is in the top right corner. The screen contains four rows of text input fields, each with a '...' button to its right for file selection:

- Outbox Verzeichnis: C:\SedexAdapter\outbox
- Gesendete Nachrichten Verzeichnis: C:\SedexAdapter\sent
- Inbox Verzeichnis: C:\SedexAdapter\inbox
- Verzeichnis für Quittungen: C:\SedexAdapter\receipts

At the bottom, there is a 'Sedex BFS' label followed by a horizontal line. Below this line are three buttons: '< Zurück', 'Weiter >', and 'Abbrechen'.

Finally, on the last screen you can specify the directories for the adapter and the wrappers log file. The installation starts after pushing the "Install" button.

The screenshot shows the 'Verzeichnisse' (Directories) screen for 'Log Verzeichnisse' (Log Directories) in the Sedex Adapter 3.0.0 Installation window. The window title is 'Sedex Adapter 3.0.0 Installation'. The 'sedex' logo is in the top right corner. The screen contains two rows of text input fields, each with a '...' button to its right for file selection:

- Adapter Log Verzeichnis: C:\SedexAdapter\logs
- Wrapper Log Verzeichnis: C:\SedexAdapter\logs

At the bottom, there is a 'Sedex BFS' label followed by a horizontal line. Below this line are three buttons: '< Zurück', 'Installieren', and 'Abbrechen'.

2.4 Installation Check

To verify a correct installation and configuration, the adapter can be started and a test message can be send.

To start the adapter, run the steps described in chapter "Starting the Adapter", section "Manual Start". When configured correctly, the adapter starts up and polls for inbound/outbound messages. In case of an error, the adapter will terminate with an error message. Most often, this leads to a wrong configuration. Please see chapter "Common Problems and Solutions" for common configuration mistakes.

After the adapter has successfully started, a test message can be send. To send a test message, create two text files with a text editor:

1. data_test.txt
In this file, simply enter some text. This file contains the data to be transferred.
2. envl_test.xml
In this envelope file, enter the metadata for the message. A typical envelope file looks like follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<eCH-0090:envelope version="1.0" xmlns:eCH-
0090="http://www.ech.ch/xmlns/eCH-0090/1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.ech.ch/xmlns/eCH-0090/1 eCH-
0090-1-0.xsd ">
<eCH-0090:messageId>TestMessageId</eCH-0090:messageId>
<eCH-0090:messageType>94</eCH-0090:messageType>
<eCH-0090:messageClass>0</eCH-0090:messageClass>
<eCH-0090:senderId>Your Sedex ID here</eCH-0090:senderId>
<eCH-0090:recipientId>Your Sedex ID here</eCH-
0090:recipientId>
<eCH-0090:eventDate>2008-02-06T13:30:00</eCH-0090:eventDate>
<eCH-0090:messageDate>2008-02-06T13:30:00</eCH-
0090:messageDate>
</eCH-0090:envelope>
```

Please note that you must replace the string "Your Sedex ID here" with the sedex-ID you have placed in the configuration file. Further, you may have to amend the "messageType" and "messageClass" entity values to match the allowed message types for your sedex-ID.

Finally, copy or save the files into the sedex-Adapter outbox directory. If the sedex-Adapter is configured correctly, sedex will send the message, and as the message recipient is the sending adapter itself, the send message will appear in your adapter inbox directory. While the adapter is sending the message, you can monitor the adapter log file to see its progress or detect possible errors.

2.5 Uninstall

When running the uninstall program from <sedex_home>/uninst.exe, registry keys (including configuration for sedexID, message boxes, log folders) and the following directories including subfolders and files will be removed:

Directory	Description
/axis2	Webservice Proxy files
/bin	Scripts to start and stop the sedex-Adapter
/deploy	Deploy directory for Webservice Proxy
/internalmessages	Directory for sending and receiving internal messages. This

Directory	Description
	directory is managed by the adapter itself.
/lib	Contains all required libraries
/conf	Configuration files
/jre	The JRE shipped with an used by the adapter.
/zertifikate	Private Keys and Certificates needed to communicate with OSCI server

The following directories are removed only if they are empty:

Directory	Description
/logs	All logs
/inbox	Received messages
/outbox	Message to send
/sent	Already sent messages
/receipts	Receipts of sent messages

2.6 Updating / Migration Notes

The Sedex Adapter 3.0 is not backward compatible to previous versions. If installed over an existing lower version, all already started sending or receiving tasks will not be completed after the update. This also includes not yet received receipts of already sent messages.

To avoid this, it is highly recommended to wait with upgrading until the adapter has finished all sending and receiving tasks.

When you run the Sedex Adapter as a Windows Service, the service should be stopped (using Windows Service Management) and deregistered (using the script UninstallWindowsService.bat shipped with the Sedex Adapter) before installing the new version. Also, when updating an existing installation, please make sure to configure the same Window Service Name as for the existing installation.

3 Starting the Adapter

3.1 Manual Start

The sedex-Adapter can be started / stopped by running the following commands in the <sedex_home>/bin folder from within a command line:

- <sedex_home>\bin\start.bat - to start the adapter
- <sedex_home>\bin\stop.bat - to stop the adapter

Important: please set first the configuration described in chapter “Configuration”

3.2 Automatic Start (Installation as a Service)

If you want to start the adapter automatically (for example after reboot), run InstallAsService.bat to install the sedex-Adapter as a service. To uninstall it use the script UninstallWindowsService.bat.

You can also reconfigure the service installation settings using <sedex_home>/conf/wrapper.conf. For more information about starting a java program as a Windows service, see <http://wrapper.tanukisoftware.org>.

Note: you have to configure the adapter before installing it as service. Don't forget to configure conf/log4j.xml as the path to the log file must be absolute when used as Windows service.

3.3 Install several Adapter Instances on the same Machine

Although it is possible to install multiple adapters on the same machine using the adapter installer, it is recommended to install a adapter only once, especially if the adapter shall run as a windows service. If several adapters are needed on the same machine, please use the ZIP package of the adapter.

4 Configuration Reference

4.1 Adapter main Configuration

The main configuration is stored in `<sedex_home>/conf/sedexAdapter.properties`. The following configuration options can be used to modify the adapter configuration after installation.

Property	Description	Default Value
Basic Configuration		
sedex_home	Directory, where sedex-Adapter is installed. For example <code>c:/sedex_adapter</code> . It is important to use the “/” sign as a path separator, even on Windows.	n/a
sendingSentToServerMsg	If set to true, generate a receipt for each recipient after successfully sending a message to the server.	false
inboxDir	Location of received and already decrypted files for EWR applications. The EWR applications will read the files from this directory.	<code>\${sedex_home}/inbox</code>
outboxDir	Directory for files waiting for encryption and transmission. The EWR applications will place those files here.	<code>\${sedex_home}/outbox</code>
sentItemsDir	Sent messages will be saved here	<code>\${sedex_home}/sent</code>
receiptDir	Location of receipts for EWR applications. The EWR applications will read the files from this directory. If not set, the default location “ <code><sedex_home >/receipt</code> ” is used.	<code>\${sedex_home}/receipt</code>
receiptConfiguration	For Backward compatibility, older version can also be configured. Possible values are: <code>V2_0</code> , <code>V1_0</code> . See chapter 7.2 for Details.	<code>V2_0</code>
Configuration of credentials		
adapterSedexId	Adapter sedex-ID	n/a
Proxy		
ch.admin.bit.egov.e govlib.transport.osc i.TransportFactoryI mpl.proxy.host	Proxy host <i>Note: you should not use Erreur ! Référence de lien hypertexte non valide. in proxy host, it must looks like: myproxy.server.ch</i>	n/a, by default is not used

Property	Description	Default Value
ch.admin.bit.egov.e govlib.transport.osc i.TransportFactoryI mpl.proxy.port	Proxy port	n/a, by default is not used
ch.admin.bit.egov.e govlib.transport.osc i.TransportFactoryI mpl.proxy.user	Proxy user. You can also use proxy without a user/password	n/a, by default is not used
ch.admin.bit.egov.e govlib.transport.osc i.TransportFactoryI mpl.proxy.password	Proxy password. You can also use proxy without a user/password	n/a, by default is not used
Cleanup		
cleanSentFilesOlder Than	Clean sent messages which are older than the number of days specified (use -1 to disable automatic message deletion)	-1

4.2 Certificate configuration

The configuration for certificates and private keys is located in an external xml-file, in `conf/certificateConfiguration.xml`. The file has the following structure:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<certificateConfiguration xmlns="http://www.sedex.ch/xmlns/certificateConfiguration/1/0">
  <privateCertificate>
    <location>(location)</location>
    <password>(password)</password>
  </privateCertificate>
  <transportCertificate>
    <location>${SEDEX_HOME}/zertifikate/prod-bit/AdminCA-CD-T01.cer</location>
  </transportCertificate>
  <webserviceTruststore>
    <location>${SEDEX_HOME}/zertifikate/prod-bit/adaptertrust.jks</location>
    <password>trustme</password>
    <truststoretype>JKS</truststoretype>
  </webserviceTruststore>
</certificateConfiguration>
```

The field **location** has to point to a valid p12 keystore containing the private key, the field **password** holds the appropriate password to the keystore.

An Adapter is able to handle more than one certificate:

```
[...]  
<privateCertificate>  
  <location>(location 1)</location>  
  <password>(password 1)</password>  
</privateCertificate>  
<privateCertificate>  
  <location>(location 2)</location>  
  <password>(password 2)</password>  
</privateCertificate>  
[...]
```

4.2.1 Optional elements

The following elements are optional and mostly set by the adapter itself.

Restriction: This element is mostly likely set by in the automatic certificate renewal.

```
[...]  
<privateCertificate>  
  <location>(location)</location>  
  <password>(password)</password>  
  <restriction>READONLY</restriction>  
</privateCertificate>  
[...]
```

Possible restrictions are:

Restriction Type	Impact
READONLY	This certificate cannot be used for sending messages, only for receiving
DISABLED	This certificate cannot be used at all

sedex-Adapter Installer User Manual (English)

Optional Info: When the adapter updates the certificate configuration, it also adds the optional element **optionalInfo** for informational purposes

```
<privateCertificate>
  <location>(location)</location>
  <password>(password)</password>
  <optionalInfo>
    <issuer>CN=vAdminCA-CD-T01,OU=Certification[...]</issuer>
    <serial>4545</serial>
    <expirydate>2012-06-19T13:34:50.000+02:00</expirydate>
  </optionalInfo>
</privateCertificate>
```

4.3 Logging Configuration

Logging in sedex-Adapter based on [Log4j](#), a powerful log manager that supports the Commons Logging Interface.

Your logging configuration file is located in <sedex_home>/conf/log4j.xml file, and look something like this:

Default console appender, used to write log direct in console:

```
<appender name="stdout" class="org.apache.log4j.ConsoleAppender">
  <layout class="org.apache.log4j.PatternLayout">
    <param name="ConversionPattern"
      value="%d{ABSOLUTE} %5p %c{1}:%L - %m%n" />
  </layout>
</appender>
```

This appender write the logs in rolling files:

```
<!-- Properties for file appender, we use rolling file -->
<appender name="sedex-logfile"
  class="org.apache.log4j.RollingFileAppender">
  <!-- Where to write log files -->
  <param name="file"
value="c:/Temp/SedexAdapter_0.9.4/logs/sedex-adapter.log" />
  <!-- After restart we add new log to last file -->
  <param name="Append" value="true" />
  <!-- each file has maximal size 10MB-->
  <param name="MaxFileSize" value="10MB"/>
  <!-- we write 5 files, then logger will be "rolled" -->
  <param name="maxBackupIndex" value="5"/>
  <!-- used layout -->
  <layout class="org.apache.log4j.PatternLayout">
    <param name="ConversionPattern"
      value="%d{ISO8601} %-5p [%t] %c: %m%n" />
  </layout>
</appender>

<!-- logger for sedex classes -->
<category name="ch.admin.bit.sedex">
  <!-- logging level -->
  <level value="INFO" />
  <!-- used appenders -->
  <appender-ref ref="sedex-logfile" />
  <appender-ref ref="stdout" />
</category>
<!-- logger for eGovLib classes -->
<category name="ch.admin.bit.egov">
  <!-- logging level -->
  <level value="INFO" />
  <!-- used appenders -->
  <appender-ref ref="sedex-logfile" />
  <appender-ref ref="stdout" />
</category>
<!-- root logger -->
<root>
  <level value="ERROR" />
</root>
```

5 Monitoring

The sedex-Adapter can be monitored like any other standard process or registered service. When registered and run as a service on Windows, the Windows Computer Management Console can be used to check or change the status of the adapter.

The adapter itself does not provide any further monitoring services by itself.

6 Common Problems and Solutions

The following section describes some often encountered problems and how to fix them.

1. The Adapter cannot restart after a crash.

Solution: please check and delete (if exist) the file `<sedex_home>/adapter.lock`

2. Message in logfile:
`java.lang.SecurityException: Invalid Password or invalid private certificate`

Solution: open `<sedex_home>/conf/certificateConfiguration.xml` and check the password and location to the private certificate

3. Message in logfile:
`Could not find private key file in <[...]>`

Solution: open `<sedex_home>/conf/certificateConfiguration.xml` and fix the path the private certificate

4. A message was not received; instead a receipt containing the text "Not allowed to send" arrived at the sender.

Solution: check if the configured sedex-ID is allowed to send messages.

5. A message was sent by the adapter but was not received. No receipt arrived, no error was written in the adapters log file.

Solution: the receiving adapter might be down or not responsive. (Re-)start the receiving adapter.

7 Appendix

7.1 Glossary

Term	Definition
BFS	Federal Statistical Office
CA	Certificate Authority
Keystore	A keystore is a database of keys. Private keys in a keystore have a certificate chain associated with them, which authenticates the corresponding public key. A keystore also contains certificates from trusted entities.
Meta-directory	Identity management component used to harmonize two different directories by mapping the meta-data together
PKI	Public Key Infrastructure which implements an independent trusted third-party which vouches for the real identity of IKT users
public key certificate	You can think of a public key certificate as the digital equivalent of a passport.

7.2 Receipt Versions

7.2.1 Overview

New Releases may contain new Message Codes and may use a different xml namespace that requires changes in the application. To offer backward compatibility, the adapter can be configured to use an old message error schema with old message error codes.

7.2.2 Version 1.0

Since: Adapter 1.0
Receipt xml namespace: eCH0090/1
Configuration setting: receiptConfiguration = V1_0
 Full list of Codes:

Code	Remark
100	Message correct transmitted
200	Invalid Envelope Syntax
201	Duplicate Message ID
202	No payload found
300	Unknown sender id
301	Unknown recipient id
302	Unknown physical sender id
303	Invalid message type
304	Invalid message class
310	Not allowed to send
311	Not allowed to receive
312	User certificate not valid
320	Message expired

Code	Remark
400	Network error
401	OSCI hub not reachable
402	Directory not reachable
403	Logging service not reachable
500	Internal error

7.2.3 Version 2.0

Since: Adapter 2.0
 Receipt xml namespace: eCH0090/2
 Configuration setting: receiptConfiguration = V2_0

New Codes since version 1.0:

Code	Remark
203	Message too old to send
204	Message expired
313	Other recipients are not allowed to receive
330	Message size exceeds limit
404	Authorisation service not reachable
501	Error during receiving
601	Message successfully sent
701	Message expires soon

Deprecated Codes since 1.0:

Code	Remark
320	Changed to Code 204 Message expired

Full list of Codes:

Code	Remark
100	Message correct transmitted
200	Invalid Envelope Syntax
201	Duplicate Message ID
202	No payload found
203	Message too old to send
204	Message expired
300	Unknown sender id
301	Unknown recipient id
302	Unknown physical sender id
303	Invalid message type
304	Invalid message class
310	Not allowed to send
311	Not allowed to receive
312	User certificate not valid
313	Other recipients are not allowed to receive

sedex-Adapter Installer User Manual (English)

Code	Remark
330	Message size exceeds limit
400	Network error
401	OSCI hub not reachable
402	Directory not reachable
403	Logging service not reachable
404	Authorisation service not reachable
500	Internal error
501	Error during Receiving
601	Message successfully sent
701	Message expires soon