



Release Notes sedex Client 6.0.10

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1 Introduction

The release notes contain a summary of new features, changes and bug fixes for the software releases of the sedex client.

Basically we recommend to use only the latest installer for new installations and to keep existing installations up-to-date.

Before you start upgrading from a previous sedex client version to the latest version, you should also read and understand all release notes of the intermediate releases.

The release notes are not a substitute for the installation manual and the other handbooks that can be downloaded from www.sedex.ch.

2 Release Notes sedex client

2.1 sedex Client 6.0.10

This release does not introduce any new functionality, but optimizes the Windows start script and updates 3rd party libraries.

- **Improvement of a Windows start script:** A Powershell script was adjusted to start the client on Windows 11 computers within the federal government.
- **Internal improvement:** Updating some 3rd party libraries to their latest versions. The previously used versions of these libraries have known vulnerabilities, but these could not be exploited in the context of the sedex client. Nevertheless, the libraries were updated to the latest versions without known vulnerabilities.
- **Fix in client migration:** The previous versions of the sedex client installer did not migrate the values of the following properties during a migration:
`wsproxy.http.disabled`, `wsproxy.users.allow-anonymous`

2.2 sedex Client 6.0.9

This release does not introduce any new functionality, but resolves an issue of the sedex Client.

- **Fix of asynchronous sedex messaging:** If the sending business application retains a file lock on the payload file it has generated in the outbox for a longer period of time, it may happen in rare cases that the sedex client is unable to send individual messages as a result and these messages may get stuck in the internal "working" directory instead. This has been corrected.

Note: If your business application does not retain a lock on the generated payload file, you should not be affected by this problem and do not necessarily need to upgrade to this new version.

2.3 sedex Client 6.0.8

This release introduces minor improvements of the sedex Client and a bug fix for Docker environments.

- **Improvement of the entire client:** The standard truststore supplied has been extended to include the latest server TLS certificates and Governikus transport certificates. Note: Older installed clients automatically download this truststore from the sedex server, so this is not a reason for an update.
- **Improvement of WS-Proxy:** In high load scenarios (many web service requests per second), the WS-Proxy could consume a large amount of RAM. Memory consumption in such situations can now be significantly reduced by avoiding unnecessary http session management.
- **Improvement of WS-Proxy:** Starting from this version, the sedex WS proxy also supports the retrieval of WSDL descriptions for SOAP web services from a different host than the web service host. This allows offering WSDL files which are hosted separately from the SOAP endpoint.
- **Improvement of WS-Proxy:** Updating some 3rd party libraries to their latest versions. Among other things, Spring Core has been upgraded to a version that eliminates the Spring4Shell vulnerability. Note: The requirements that Spring4Shell can be exploited are not met for the sedex client, so there is no security risk even for older client versions.
- **Fixes when used in a Docker container:** When running the sedex client in a Docker container, changes to certificates stored in external volumes were not always detected automatically. This has been corrected.

2.4 sedex Client 6.0.7

This release does not introduce any new functionality, but resolves issues and improves some operational aspects of the sedex Client.

- **Fix:** WS-Proxy: Even if access was turned off for anonymous, it may still have been possible for business applications to anonymously access web services from the sedex Webservice Proxy. This has been corrected.
- **Fix:** WS-Proxy: The sedex Webservice Proxy monitors the configuration file `sedex-wsproxy-user-configuration.properties` and reloads it automatically if changes are detected. This mechanism did not work reliably within the Docker container. This has been corrected.
- **Improvement:** Force TLS 1.2: For security reasons, TLS 1.2 is now used by default. The older TLS 1.0 and TLS 1.1 are disabled. In case of (unexpected) need, old TLS versions could be enabled.

2.5 sedex Client 6.0.6

This release does not introduce any new functionality, but resolves minor issues and improves some operational aspects of the sedex client.

- **Fix:** During each startup, the sedex client automatically checks that it has write permission on all required folders and files and aborts the startup if the check is not completely successful. This check also includes the messaging interface folders (outbox, inbox, receipts, processed). If a business application or an administrator creates files in one of these folders using a different user, the sedex client may not have write permission on these externally created files and the check will fail during the next startup of the sedex client. This version fixes the problem by checking only the folders for existing write permissions, but not the individual files.
- **Fix:** In rare situations, problems could occur under Windows when receiving sedex

messages if non-ASCII special characters were used in the file name. This version fixes the problem by using UTF-8 for the internal encoding, even if the operating system specifies a different encoding.

- **Improvement:** The workaround introduced in 6.0.5 resulted in a log entry at WARN level on "IBM Java" (AIX, Linux), which is now at (the more appropriate) INFO level, since IBM Java is not affected.

2.6 sedex Client 6.0.5

This release does not introduce any new functionality, but resolves an issue and improves some operational aspects of the sedex client.

- **Fix:** When retrieving the monitoring page of the sedex client version 6.0.4 via http ([http://\[host\]:\[port\]/monitoring](http://[host]:[port]/monitoring)), the web server may be blocking in certain cases due to race conditions. This version fixes the problem.
- **Workaround:** The JVM Java 8 Update 291 and 292 from April 2021 (other versions are not affected) contain a known issue that causes the sedex client to fail to renew the participant certificate. This can lead to the error message "NoSuchAlgorithmException: unrecognized algorithm name" in `sedex-controller-technical.log`. The sedex client version 6.0.5 contains a specific enhancement which works around this JVM error. Nevertheless, we recommend switching to a newer JVM free of this issue as soon as it will become available.
- **Update:** The certificate with which remote update packages for the sedex client are digitally signed has been renewed. The corresponding truststore has been extended by this new certificate.
- **Update:** QuoVadis has revoked one of its intermediate certificates due to policy changes and replaced it with a new one. The corresponding truststore has been adjusted. Note: Older sedex clients automatically download the latest truststore from the sedex server.

2.7 sedex Client 6.0.4

This release does not introduce any new functionality, but improves some operational and security aspects of the sedex client and its installation program.

- **Improvement: Changes to WS-Proxy user permissions are applied automatically without a restart.** Since version 6.0.x, the sedex client offers the feature of assigning a user name and password to business applications in the configuration file `<sedex_home>/conf/sedex-wsproxy-user-configuration.properties`. This allows participants themselves to control which web services offered by the sedex WS-Proxy their business applications have access to. In previous versions of sedex Client (6.0.2 and 6.0.3), it was necessary to restart the WS-Proxy after changing this configuration file in order to apply the new permissions. As of sedex Client version 6.0.4, a restart is no longer required after changes to the `sedex-wsproxy-user-configuration.properties` file. WS-Proxy watches this file and detects changes during normal operation and applies them automatically. Whether the changes could be applied correctly can be seen from the technical logfile of the WS-Proxy and is in part also shown on the monitoring page of the WS-Proxy.
- **Change: New default RMI port.** The three processes controller, adapter, WSPProxy of the sedex client communicate with each other via an RMI server. The sedex clients from version 6.0.4 cannot use an RMI server of an older client and therefore need a

separate RMI server. The new RMI server now uses port 11899 by default. (Older sedex clients 5.x use port 11099 and sedex clients 6.0.2/6.0.3 use port 11999 by default). Of course, the RMI port to be used can be reconfigured in the `sedex-client-configuration.properties` file if necessary. Please consult the sedex client manual for details.

- **Change: Optional Restriction of access rights on new Windows installations.** On the Windows operating system, the installer program now can adjust the default permissions on the folders of the sedex client. It can limit access to the installing user, the built-in group Administrators and the built-in user SYSTEM. If chosen, all other users and groups will per default have no access to the sedex installation folder. After the installation/migration the folder permission have to be adjusted manually by the administrator so that other authorized users and end-user applications have access to the required folders. Please consult the sedex client manual for details.
- **Improvement: Minor internal client improvements.** Several dependencies/libraries have been updated and a few minor internal improvements to the client have been made. These internal improvements have no impact on the functionality, but will make it easier to run in a Docker container, for example.

2.8 sedex Client 6.0.3

This release only improves the installation program in the area of migration support. The sedex client itself is unchanged compared to 6.0.2:

- Improvement: The installer now also supports special cases where the interface folder names do not match the standard names.
- Fix: In very rare cases, a complete backup of the old client installation could not be created before a migration. This backup can now be created reliably even in such cases.

2.9 sedex Client 6.0.2

- General note: The sedex Client 6.0 differs significantly from older versions. For example the paths, names and structures of numerous files and folders have been changed in order to simplify the installation. In many cases this does not matter for already existing installations and they will continue to function unchanged after a migration. However, depending on how configuration or log files are accessed, adaptations may be necessary from end-user applications, backup programs, monitoring applications, etc. Therefore, study the following notes carefully and make sure you back up your old installation before migrating.
- Change: Simplification of the folder structure
- Change: Unified configuration file. Consolidation of the different configuration files into a single central configuration file that can be found under `<sedex_home>/conf/sedex-client-configuration.properties`.
- Change: The internal folder in which the sedex client prepares messages to be sent is now called "working" (`/interface/working`). This folder "working" replaces the previous folder "sedextempmessages" at the same location.
- New functionality: The sedex Webservice Proxy is a completely new development with additional functions and possibilities (replaces the former Apache Axis 2 based implementation):

- Automatic service provisioning. The web services offered for use are automatically provided by the central sedex server. (Replaces the AAR files that previously had to be copied manually).
- SSL/TLS support. End-user Application can (depending on the web service they even have to) access the web service proxy via the secure https protocol. (Until now only the open http protocol was supported).
- The SSL/TLS server endpoint certificate of the web service proxy can be a self-signed certificate which is automatically generated (default case) or any custom SSL/TLS certificate from an arbitrary CA can be configured.
- Access control. Access to the services offered by the sedex Webservice Proxy can now be restricted to authorized end-user applications. Users with a password and their sedex ID can be listed in a new configuration file under `<sedex_home>/conf/sedex-wsproxy-user-configuration.properties`.
- Modified WSDL support for SOAP web services: The web service definitions in the WSDL format are no longer statically delivered from the sedex web service proxy. But if a target web service offers WSDL files under a defined URL (often ending with `?wsdl`), the sedex web server proxy can transparently pass through these WSDL files from the target service.
- Change: New default RMI port. The three processes controller, adapter, WSPProxy of the sedex client communicate with each other via an RMI server. The sedex clients from version 6.0 cannot use an RMI server of an older client and therefore need a separate RMI server. The new RMI server now uses port 11999 by default. (Older sedex clients 5.x use port 11099 by default).
- Change: The three business relevant log files “sender-log”, “receiver-log” and “wsp-access-log” are now kept in CSV format. Each log file has now a header row with the field names. New fields have been added (for example message-type).
- New Feature: In addition to Windows Services and Linux System V Services (daemons), the service wrapper now also supports Linux Systemd Services (daemons).
- Fix: Clean up incomplete payload files if an incoming message cannot be written completely to the inbox.
- Fix: In rare cases, external third-party applications (e.g. backup applications) could lead to an unwanted shutdown of the sedex client. The behavior of the so-called “running-lock file” has been improved so that this can no longer happen.
- Fix: If errors occurred during the installation of an automatic remote update of the sedex client, this could lead to parts of the sedex client not being restarted afterwards. Now all processes of the sedex client are reliably restarted even in such error cases.
- Updates: Several third-party libraries have been updated to the latest version.
- New feature: sedex Client installer can now migrate individual client installations without having to stop all other sedex installations on the same host.
- Change: The generated installation template files for unattended/silent automatic installations have a new structure. This means that existing installation files of Clients 5.x are no longer supported.

2.10 sedex Client 5.3.1

- Change: Upgrade of the OSCI-transport libraries provided by Governikus KG to the latest release

- Change: Improving OSCI-transport encryption (between sedex client and OSCI-hub) by going from algorithm AES128-CBC to AES256-GCM. Note: The end-to-end encryption uses different cryptographic algorithms and is not affected by this change.
- Change: The included webservice definitions (AAR files) of the sedex webservice proxy (WsProxy) now by default support TLS 1.2 even when used in an older sedex-client.
- Change: The windows powershell scripts (start and stop of the client) have a renewed digital signature.
- Change: Increased start timeout when run as a service (5 minutes instead of 30 seconds). This allows the parallel start of a massive number of sedex clients as services without running into timeouts.
- Change: Force usage of TLS 1.2 when operated on IBM Java.
- Fix: Use the correct JVM that has been configured during service wrapper registration if started as a service.
- Fix: Apply a read timeout when accessing sedex servers (stability error introduced in sedex Client 5.3.0)

2.11 sedex Client 5.3.0

- New Feature: Support for Java 11 (but Java 8 is currently the recommended version)

*Note: On a Java 11 JVM the following warnings may appear.
These warnings are known and may be ignored.*

```
14:32:26 INFO Adapterlog - WARNING: An illegal reflective access operation has occurred
14:32:26 INFO Adapterlog - WARNING: Illegal reflective access by
org.apache.ws.commons.schema.utils.DOMUtil (file:/C:/tools/2018-12-sedextesting/03%20Installation/1-
500-1/adapter/lib/xmlschema-core-2.2.3.jar) to method
com.sun.org.apache.xerces.internal.dom.CoreDocumentImpl.getInputEncoding()
14:32:26 INFO Adapterlog - WARNING: Please consider reporting this to the maintainers of
org.apache.ws.commons.schema.utils.DOMUtil
14:32:26 INFO Adapterlog - WARNING: Use --illegal-access=warn to enable warnings of further illegal
reflective access operations
14:32:26 INFO Adapterlog - WARNING: All illegal access operations will be denied in a future release
```

- New Feature: Added Windows PowerShell scripts to start and stop the sedex client
- New Feature: Service names contain the sedexId (e.g. "Sedex Client 1-1234-1") (only applied for new installations)
- New Feature: WsProxy now supports webservice "zrwebserv" (by ZAS/CdC/UCC)
- Change: New Java service wrapper "YAJSW" (<http://yajsw.sourceforge.net>) (replaces the former "Tanuki Service Wrapper"):
 - Prior to a client update, uninstall any old existing "Tanuki" service with `<sedex_home>/bin/controller-UninstallWindowsService.bat`
 - After a client update, install the new "YAJSW" service with `<sedex_home>/bin/controller-InstallWindowsService.bat`
 - Service configuration of "YAJSW" is now located in `<sedex_home>\service\conf\controller-wrapper.conf`
- Change: WsProxy uses longer timeout for webservice "PlausEx" (by BFS/OFS/UST)
- Change: New outgoing service URLs for the following WsProxy-Services:
 - UPIcompare: https://ws.upi-master.zas.admin.ch/wupic_cc/UPICompareService
 - UPIquery: https://ws.upi-master.zas.admin.ch/wupi_cc/UPIQueryService
 - SASIS: https://sedex.versichertenkarte.ch/queryws_1_0/VeKa_Query_1_0.asmx

- Change: sedex-Controller starts and stops sub-processes Adapter and WsProxy directly (without calling the former shell-scripts)
Impact: Memory settings for adapter and WsProxy are now located in:
 - `<sedex_home>\bin\controller-start.cmd` (Windows command line)
 - `<sedex_home>\bin\controller-start.ps1` (Windows PowerShell)
 - `<sedex_home>\bin\controller-start.sh` (Linux shell)
 - `<sedex_home>\service\conf\controller-wrapper.conf` (service)
- Change: Update of several security certificates
 - Certificate used for signing software updates
 - Certificate used for sedex message transport to Governikus server
 - Certificates of web-services contained in WsProxy-Truststore
- Change: Line endings of all configuration files switched to windows style (CR+LF)
- Change: Enable support for basic authentication on http-proxies when using Java 1.8 Update 111 and later by default

2.12 sedex client 5.2.1

- Change: Removal of the connection test to sedex server from the migration wizard (part of installer application)
- Change: Addition of the new SSL server endpoint certificates to the truststores of the sedex client

2.13 sedex client 5.2

- Change: Java 8 is now required. Java 7 or older are no longer supported.
- Change: Removed migration support from installer for client versions prior 5.0.
- Change: Improved migration support in installer for existing SSL/TLS-TrustStores.
- Change: Explicit usage of SHA-256 instead of SHA-1 as default cryptographic hashing algorithm for generating signatures.
- Change: Improved and more stable WebSocket reconnection algorithm.
- Change: Improved remote support - the client submits its configuration to server automatically after a change.
- Change: Improved remote support – support command “GetLogs” now includes migration log files if available.
- Change: Explicit usage of older H2-PageStore instead of the newer but error-prone H2-MVStore.
- Fix: Problem of constantly growing database files is solved by using H2-PageStore.
- Fix: Correction of the rare case when incorrect file access permissions during installation could occur.
- Fix: Correction of log configuration for the webservice proxy component.
- Fix: Improved error handling when disk is full.

2.14 sedex client 5.1

- New Feature: The new client installer (v5.1.0 and later) can provide support for migrating an existing sedex client installation (v4.0.0 and later) to the current version
- New Feature: Silent client installation and migration based on a template configuration file and a console based installation wizard
- Change: WsProxy: AAR for Sasis service has a new URL (port changed)
- Change: A sedex client will shut down itself after its last organization certificate expired.
- Change: Improved error handling when the websocket connection fails.
- Fix: Envelopes are only processed when they are entirely written do the disk
- Fix: Fixed potential nullpointer exception which could occur after a manual migration from Version 4 to Version 5
- WsProxy: Close idle connection after a timeout (60s) to prevent “connection reset” errors.
- Fix: Fixed race condition when creating the rmi registry when multiple clients are started simultaneously on the same machine.

2.15 sedex client 5.0.3

- Fix: Renewed and expired organization certificates are being removed from the configuration.
- Fix: Client Update functionality does not depend on the temporary folder from the operating system any longer.

2.16 sedex client 5.0.2

- Fix: The sedex client did not use network proxy authentication on some outgoing connections.
- Fix: Initial certificate provisioning failed, if local system date was set more than a minute in the past.
- Fix: The connection tests at client startup did not use the network proxy settings.

2.17 sedex client 5.0.1

- Fix: After an organization certificate renewal, the sedex client did no longer poll for new messages sent with the old certificate.

2.18 sedex client 5.0

- New Feature: The certificate renewal process has been redesigned to make it more secure. sedex clients identify themselves to the sedex server with a sedex certificate. Previous versions of the sedex client received this certificate and its private key from the AdminPKI. This process was redesigned so that the sedex client generates the private key itself and receives only the certificate from the Swiss Government PKI (the new name for AdminPKI). The private key is known only by the sedex client.
- New Feature: Previous version used several URLs. Now only one URL is used.

- New Feature: Previous versions exchanged the encrypted messages with the sedex server via http. The new version uses only https.
- New Feature: Thanks to the use of the WebSocket technology, the server immediately notifies the recipient client (if it is running) when it has a message to retrieve. Due to this, the client does not wait for the normal polling interval to check for message and retrieves the message much sooner.
- Change: In previous versions the adapter was involved in the renewal of the certificate. This responsibility was moved to the controller.
- Change: The sedex client requires Java 1.7 or newer.
- Change: The logging framework was changed from log4j to Logback.
- Change: The RMI registry is not started as an additional process. It now runs in the same process as the sedex controller and it is automatically stopped when the controller stops.
- Change: The default retry time for a sedex message was changed from 5 hours to 12 hours.
- Change: The sedex client reports its client installation ID to the sedex system. This mechanism detect when multiple clients are running with the same sedex ID.
- Change: Large messages (e. g. 1 GB) are unzipped significantly faster.
- Change: Old certificates are removed 35 days after they have been replaced with a renewal certificate.
- Change: There are new WebServiceProxy AARs for eUmzugCH.
- Change: The controller and adapter have a common error log.
- Change: Capital letters are now allowed in the sedex message file name prefix and postfix.
- Change: Receipt version 1.0 is not supported any longer.
- Fix: The Quartz scheduler called terracota.org's "update check". This has been disabled.
- Fix: A new transport certificate in Governikus could cause temporary problems. This has been resolved.
- Fix: Messages received with invalid signatures caused the adapter to block. This has been resolved.
- Fix: When attempting to send a message, the client occasionally interpreted a SOAP fault as an error 310, "not allowed to send". This has been resolved.