

# TAX REPORTING SUITE

## MODULE IDES

### VERSION 1812



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USERS'S MANUAL

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# Revision History

Product Version	Document Version	Revision Date	Description
1612	Rev 0	15.12.2016	Initial Revision
1703	Rev 1	07.03.2017	
1706	Rev 2	15.06.2017	No changes
1711	Rev 3	01.01.2018	
1802	Rev 4	27.02.2018	No changes
1803	Rev 5	21.03.2018	Fix: SFTP proxy authentication
1807	Rev 6	31.07.2018	Passwords encrypted in configuration files; extended validation: public/private key match
1812	Rev 7	17.12.2018	IRS certificate update, notification schema 2.4 support, Reporting period free text

# The Main Window

The Main window is the launch point for the entire application. You can select the licensed module in the modules button bar and perform the module specific tasks within main area of the module.

Each module comes with its own module menu and detail area.

**Modules Button Bar** – shows all available modules of the software.

**Module Menu** – module specific menu options

**Menu options**

**Module Main Area** – the main working area of a module, where all module specific tasks can be executed

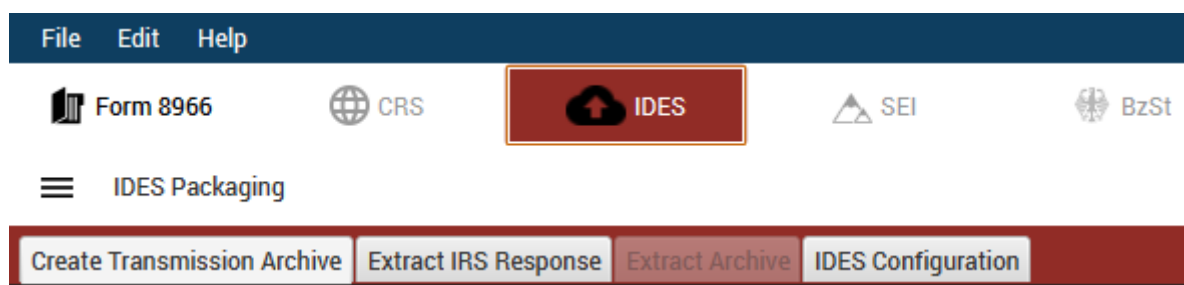
**Module Details Area** – includes general information and details for the selected module

## IDES: Module Overview

The International Data Exchange Service (IDES) is an electronic delivery point where Financial Institutions (FI) and Host Country Tax Authorities (HCTA) can transmit and exchange FATCA data with the United States.

As the IDES Data Transmission and File Preparation process is quite complex, the IDES module will help you to do all with one tool with only a few clicks.

This guide provides information about the IDES module of the TRSuite software package. It describes processes and procedures for generating, uploading, downloading and extracting files to and from the IRS IDES gateway.



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The IDES module includes the following:

- IDES module specific configuration
- Create Transmission Archive
- Extract IRS Response
- Extract Transmission Archives (HCTA Version only)

The latest release of the TRSuite has added SFTP functionality and the ability to process an entire folder of transmission archives or XML files. With the options provided, a single ZIP/XML file or an entire folder can be processed or sent automatically via SFTP. This document will help explain how each option functions.

The screenshots throughout the user's manual are produced on Windows 10 using the Windows Look and Feel.

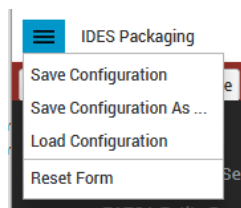
In addition to this Users Guide, the following online resources may be useful:

- IRS Publications related to FATCA  
<http://www.irs.gov/pub/fatca/>
- FATCA IDES Technical FAQs  
<http://www.irs.gov/Businesses/Corporations/FATCA-IDES-Technical-FAQs>
- IDES Alert Codes  
<http://www.irs.gov/Businesses/Corporations/IDES-Alert-Codes>

- IRS FATCA Report Notifications FAQ  
<http://www.irs.gov/Businesses/Corporations/IRS-FATCA-Report-Notifications-Frequently-Asked-Questions>
- IDES Data Preparation  
[http://www.irs.gov/pub/fatca/IDES%20Data%20Prep%20User%20Tips\\_vF.pdf](http://www.irs.gov/pub/fatca/IDES%20Data%20Prep%20User%20Tips_vF.pdf)
- Download Link to the IRS X509-certificate (IRS Public Key)  
[https://www.ides-support.com/Downloads/encryption-service\\_services\\_irs\\_gov.crt](https://www.ides-support.com/Downloads/encryption-service_services_irs_gov.crt)
- IDES Testing Schedule  
<http://www.irs.gov/Businesses/Corporations/IDES-Testing-Schedule>
- IDES-accepted Certificate Authorities and Products  
<http://www.irs.gov/Businesses/Corporations/Digital-certificates>

## IDES Menu Items

The IDES menu includes the following elements



Menu Options	Description
Save Configuration	The Save method persists any configuration settings that have been modified since the configuration was saved last time. If a configuration file does not exist at the physical default location, a new configuration file will be created. Default path: <INSTALLATION-DIRECTORY>/app/TR-idesConfig.xml
Save Configuration As ...	The Save As method persists any configuration settings that have been modified since the configuration was saved last time to the user selected path. If a configuration file does not exist at the physical default location, a new configuration file will be created.
Load Configuration	Load the configuration from an existing configuration file. Existing values will be replaced.
Reset Form	Discards all non-persist changes and loads the last known configuration.

## Common UI Objects

### Invalid Fields

Some text fields expect specific values or formatted text, e.g. GIIN- or date-fields. If an invalid value/format is entered the text fields is marked red:

GIIN INVALID\_DATA

### CLEAR Buttons

A CLEAR-button resets the values of all elements in the according logical region.

CLEAR

### Data Validation

Entered data is continuously validated. If the data is not complete (all mandatory fields filled) or in a wrong format the warning symbol is displayed next to the affected section label.



If the section is complete and correct, the green checkbox symbol is shown next to the label.



### File Information

After a file is loaded or saved, the information about the file (name, last modified, absolute path) is displayed in the status pane of the detail area. The full path can be seen in the tooltip.

**STATUS**

FILE TR-idesConfig.xml

SAVED 16.12.16 11:10

PATH C:\Apps\TRSuite\TRSuite\app\TR-i...

## IDES Configuration

The configuration screen allows the user to enter all required information needed to generate a valid transmission archive and submit the data to the IRS IDES gateway.

### IDES information

- 1) (Sender) Global Intermediary Identification Number. As a valid GIIN is crucial for a valid file, the format and availability of the GIIN is checked more strictly. If a non-valid GIIN is entered, the according text field is marked red, to indicate invalid data.
- 2) Your public key certificate transferred to the ISR during IDES enrollment process;  
**Hint:** Optional any valid X.509 certificate can be used for testing, e.g. a self-signed certificate as delivered with the application for testing purpose (see chapter testing for more details).
- 3) The path to your private key PEM or PFX/P12 file (NEVER share this file!) used to generate the CSR/certificate.  
Optional a valid PEM file can be used for testing, also there is one delivered with the app.
- 4) Optional: Password for your PEM/PFX/P12 file. Typically, SSL-Server private keys do not use passwords, still it is supported
- 5) Optional: The public key provided by the ISR. If no value is entered, the most recent official IRS key is used, which comes with the product.
- 6) Optional: HTCA public key for model 1 option 2
- 7) Optional: HTCA GIIN
- 8) HTCA private key for decrypting FI payloads encrypted with HTCA public key
- 9) Password for your HTCA private key PEM/PFX/P12 file.
- 10) The default working directory, where all generated artifacts are stored.



## SFTP

The SFTP Settings will be used to connect to the SFTP server and upload the encrypted data packet directly to IDES.

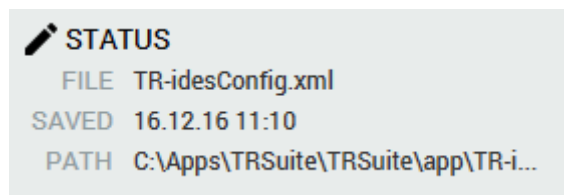
- 11) The URL of the SFTP server to connect to
- 12) SFTP-Port of the server, **IDES-gateway uses 4022** (usually SFTP uses port 22 but can be configured to run on nearly any port, check IRS documentation)
- 13) The username for the account that will be used on the SFTP server
- 14) The password for the account that will be used on the SFTP server
- 15) remote folder to upload local files
- 16) remote folder where to download any notifications found there
- 17) Check this box, if your internet connections are routed through a proxy (must be configured in the master data dialog)

## Button Bar

- 18) **“Load”** You can open existing configuration files by pressing the Load-Button. In the dialog box browse to select a document and click **“Open”** to load the document.
- 19) **“Save as ...”** Saves the current configuration in a different location, or with a different file name or file type. Opens a file chooser dialog to let you browse to the location where you want to save the document.
- 20) **“Save”** Saves the current configuration to the last selected file or default location. The data is stored within an XML-File and automatically available the next time you start the program. If there are unsaved changes the save-button is colored green.
- 21) **“Reset”** loads the last saved configuration and overwrites all unsaved changes.
- 22) By pressing the **“Validate”**-Button the tool loads the given keys, validates the entered data and shows the result of the validation within a popup window.

## File Information

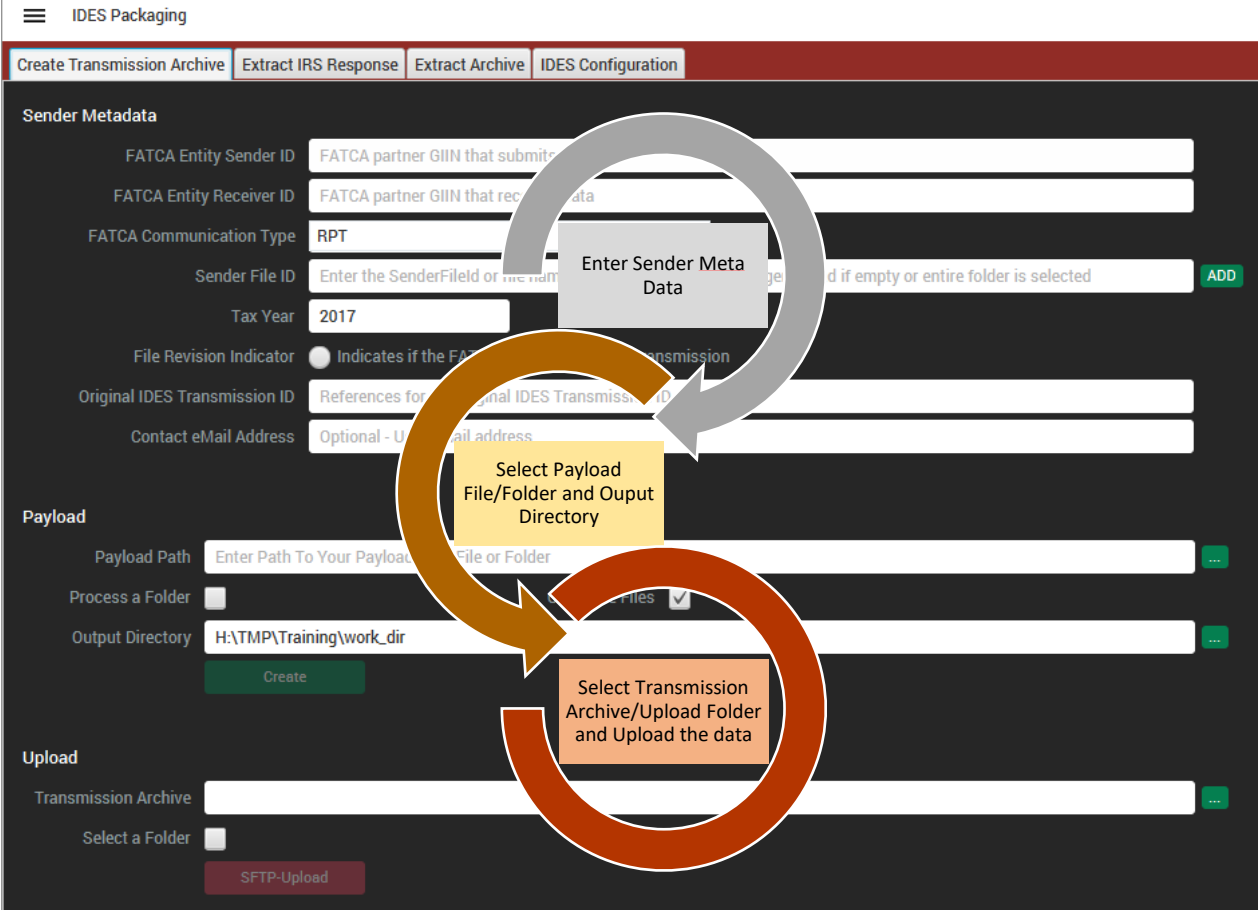
After a configuration is loaded or saved, the information about the file (name, last modified, absolute path) is displayed in the status pane of the detail area. The full path can be seen in the tooltip.



# Create Transmission Archive

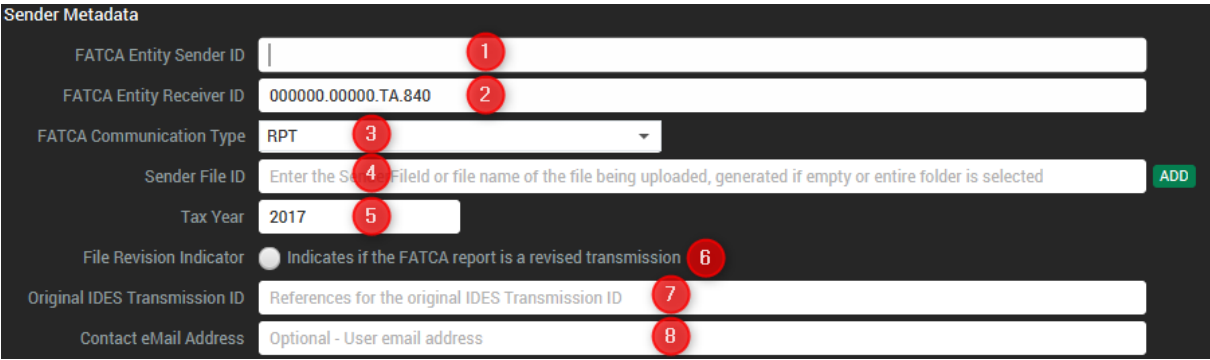
Within the “Create Transmission Archive” Tab the user can enter all required information to generate and upload valid transmission archives including a sender metadata XML-File.

The creation and upload of the data can be done with three easy steps.

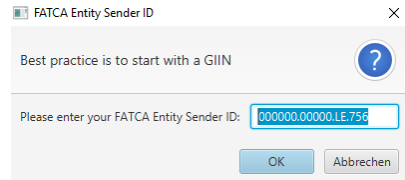


## Sender Metadata

The “Sender Metadata” section allows the user to enter all required information to generate a valid sender metadata file during the archive creation process.



- 1) The FATCA partner GIIN submitting the data. If the GIIN is already provided on the configuration screen in the according field, the value is copied over. If no value is available an input dialog is displayed:
- 2) The receiver GIIN, typically the IRS. For convenience, the US-GIIN is filled when the empty text field is selected. It is also possible to enter just the country ISO-code of the receiver. As soon as the program recognizes a valid ISO code, the according GIIN is displayed. E.g. enter "US" for the IRS GIIN
- 3) The communication type as defined by the IRS. For a typical transfer the report "RPT" entry is used. Notifications "NTF" you will receive typically as a response.
- 4) The sender file ID or file name of the file being uploaded. If no value is entered, the transmission archive file name without zip-extension ([UTC]\_[NAME]) is used during the creation of the archive. When entering an empty field, a sender file id is generated. A new ID can be generated by pressing the green "ADD"-Button.
- 5) The tax year of the FATCA reporting. Required format: YYYY-12-31
- 6) File revision indicator, only selected if it transmission archive contains a revised transmission
- 7) (Optional) Reference for the original IDES Transmission ID, in case of a retransmission
- 8) (Optional) the contact email address



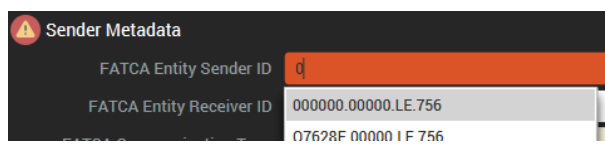
The entered data is continuously validated. If the data is not complete (all mandatory fields filled) or in a wrong format the warning symbol is displayed next to the affected section label.



If the section is complete and correct, the green checkbox symbol is shown next to the label.

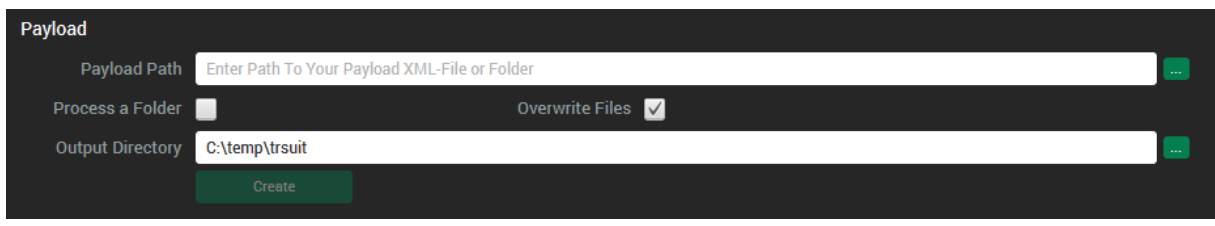


The sender id field is a learning text field. If you start typing, all previously entered GIINs are available in the dropdown list. The list is not saved and therefore not available after a restart of the program.







## Payload

The Payload section let the user select the XML file(s) to be processed. The tool has the ability to process a single file or an entire folder of XML files.



If the process a folder option is enabled a folder can be selected by pressing the “...”-Button. For each FATCA XML file within the selected folder a dedicated transmission archive is generated. If all data is valid the “Create”-Button is enabled and can be pressed to start the process.

All generated files will be written to the following folder structure within the selected output directory.

 failed	15.12.2016 1	The processed XML file is either copied to the processed folder, if the transmission archive was successfully generated or to the failed folder, if the file could not be processed properly.
 processed	15.12.2016 1	
 temp	15.12.2016 1	
 upload	15.12.2016 1	

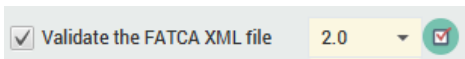
The generated transmission archive is moved to the upload folder. The temp folder contains all artifacts generated during the processing. All temporary output is stored in a new folder created within the working directory temp folder. The naming schema for the new folder is simply the UTC-timestamp as used for naming the transmission archive. The generated transmission archive is named, following the IDES guidelines: [UTC]\_[GIIN].zip

For instance, if you file is named 20150227T065715442Z\_000000.00000.CH.123.zip the created folder is named: 20150227T065715442Z.

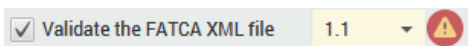
Following steps are executed during the creation process:

- 1) Validation of the payload xml file against the FatcaXML\_v2.0.xsd and/or FatcaXML\_v1.1.xsd schema. Can be selected with the drop down menu.
- 2) Signing the payload xml with the FI's private key
- 3) Compressing the signed payload xml
- 4) Encrypting the compressed payload file with a one-time AES-256 key
- 5) Encrypting the AES key with the IRS public key, checks entrust CRL if key is still valid (\*)
- 6) (Optional) Encrypting the AES key with the HCTA public key
- 7) Creating the sender metadata file with a current timestamp
- 8) Creating the transmission archive and write all output to the working directory

If the process step executes without errors a success symbol is displayed next to the step label.



If the step fails, a warning symbol is shown.



More information about the result is displayed in the status area below the process steps.

**EXECUTION STEPS**

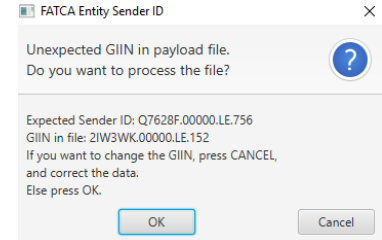
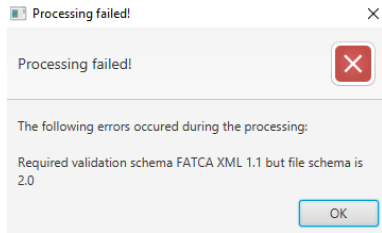
- Validate the FATCA XML file 2.0 ▾
- Digitally sign the file
- Compress the FATCA XML file
- Encrypt the FATCA XML file with AES-KEY
- Encrypt AES key with public key
- Encrypt AES key with public key of HCTA
- Create sender metadata
- Create the transmission file

Status

In case of an error, a localized error message is displayed within a notification dialog. The language of the message depends on your OS settings. For instance, if you use a German version of Windows the message is display in German.

A more detailed (but technical) error message is written to the log file.

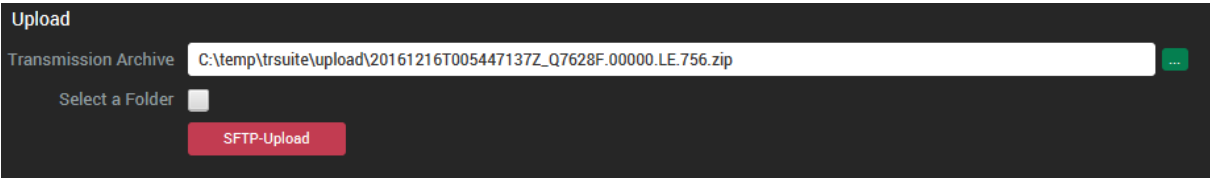
During the process the Reporting FI GIIN in your payload file is compared with the GIIN entered in the entity sender ID field. If the values do not match, a warning is displayed. By pressing the "OK"-Button the mismatch is confirmed and the process continues. By pressing the "Cancel"-Button the process is stopped and the error can be corrected.



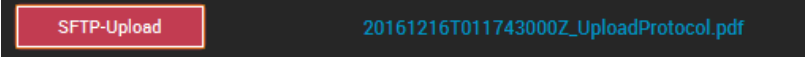
After the successful generation, the file path of the transmission archive is set to the "Transmission Archive" field in the Upload section.

### SFTP-Upload

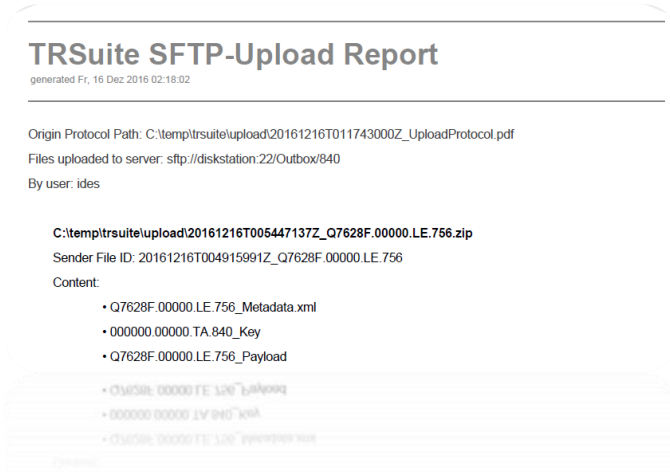
The latest release of the TRSuite has added SFTP functionality and the ability to process an entire folder of ZIP files. With the options provided, a single ZIP file or an entire folder can be sent via SFTP.



Pressing the "SFTP-Upload"-Button will connect to the Outbox/840 folder and upload a single data packet or all packets in the selected folder. After the download an upload report can be opened by pressing the displayed hyperlink



The Report contains information about the uploaded files, the SFTP-server, the SFTP-user and time.



## Extract IRS Response

The “Extract IRS Response” tab allows the user to select all steps the tool should execute to download, validate, show and export an IRS notification. Viewing the content is only possible after a complete and successful processing of the notification.

The screenshot shows the 'Extract IRS Response' tab in the IDES Packaging application. The interface includes a navigation bar with tabs: 'Create Transmission Archive', 'Extract IRS Response', 'Extract Archive', and 'IDES Configuration'. The main area is titled 'Extract Payload from IRS Response' and contains the following fields and buttons:

- Download to Directory:** A text input field containing 'D:\Temp' and a red 'SFTP-Download' button.
- Response File:** A text input field containing 'Response ZIP file or extracted XML' and a green 'Extract Response' button.
- Output Directory:** A text input field containing 'D:\Temp' and a green 'Extract Response' button.
- Response Content:** A section with three empty text input fields labeled 'Notification Content', 'Action Requested', and 'Raw XML Response'.
- Buttons:** 'Export' and 'Export ErrorGroup' buttons at the bottom.

On the right side, there is an 'EXECUTION STEPS' panel with a list of checked items:

- Unzip transmission archive
- Validate the sender metadata
- Decrypt the [ReceiverGIIN]\_Key file
- Decrypt the [SenderGIIN]\_Payload
- Decompress the [SenderGIIN]\_Payload.zip
- Validate Enveloping Digital Signature
- Validate and Show the Notification XML

Below the steps is a 'Status' field. Three circular arrows are overlaid on the interface to indicate a workflow:

- A grey arrow labeled 'Download Response File' points from the 'SFTP-Download' button to the 'Response File' field.
- A yellow arrow labeled 'Select Response File and Output Directory' points from the 'Response File' field to the 'Output Directory' field.
- A red arrow labeled 'Check and Export IRS Response' points from the 'Output Directory' field to the 'Export' button.

## Download and Extract

This close-up screenshot shows the 'Extract Payload from IRS Response' section. It features three input fields and two buttons:

- Download to Directory:** An empty text input field with a red 'SFTP-Download' button below it.
- Response File:** A text input field containing 'Response ZIP file or extracted XML' with a green 'Extract Response' button below it.
- Output Directory:** A text input field containing 'Where all the extracted files are stored' with a green 'Extract Response' button below it.

Pressing the “SFTP-Download”-Button will connect to the Inbox/840 folder of the IDES gateway and download any notifications found there to the configured download directory. If at least one file is downloaded the absolute path of the 1<sup>st</sup> file is automatically entered into the response file text field for further processing.

If no default working directory is entered in the configuration tab, select an existing working folder before the extraction process can be started by pressing the “Extract Response” button.

Steps

- Unzip the notification message archive
- Validate the extracted sender metadata XML file against the FATCA-IDES-SenderFileMetadata-1.1.xsd
- Decrypt the [ReceiverGIIN]\_Key file using the configured private key
- Decrypt the [SenderGIIN]\_Payload file with the one-time AES-key extracted in step (3)
- Decompress the decrypted [SenderGIIN]\_Payload.zip file
- Validate the extracted signed XML-File
- Validating the Notification XML-File against either the BASE-FATCA-NOTIFICATION-x.y.xsd, FATCA-INTERIM-VALID-FILE-NOTIFICATION-x.y.xsd or FATCA-FILE-ERROR-NOTIFICATION-x.y.xsd (supported versions 2.2/2.3) depending on the type of the notification

After a successful verification, you can view the content of the notification in the Response Content pane.

All generated artifacts are stored in a folder created within the configured working directory, following the given naming conventions: [UTC]\_[SenderGIIN].

**EXECUTION STEPS**

- Unzip transmission archive
- Validate the sender metadata
- Decrypt the [ReceiverGIIN]\_Key file
- Decrypt the [SenderGIIN]\_Payload
- Decompress the [SenderGIIN]\_Payload.zip
- Validate Enveloping Digital Signature
- Validate and Show the Notification XML

Status

Typically, same as the name of the notification archive without a file extension. For instance:

Name	Änderungsdatum	Typ
20150131T010757089Z_000000.00000.TA.840	17.02.2015 23:02	Date
20150309T154615263Z	09.03.2015 16:46	Date

The folder contains all temporary files, generated during the process. Most important for the user is the raw XML-message [SenderGIIN]\_UnsignedPayload.xml

Name	Änderung
000000.00000.CH123_Key	17.02.2015!
000000.00000.CH123_Payload.xml	17.02.2015!
000000.00000.CH123_Payload.zip	17.02.2015!
000000.00000.TA.840_AESkey	17.02.2015!
000000.00000.TA.840_Key	17.02.2015!
000000.00000.TA.840_Metadata.xml	17.02.2015!
000000.00000.TA.840_Payload	17.02.2015!
000000.00000.TA.840_Payload.xml	17.02.2015!
000000.00000.TA.840_Payload.zip	17.02.2015!
000000.00000.TA.840_UnsignedPayload.xml	16.02.2015!

## Response Content

The content of the extracted file is shown in the Response Content pane:



If the notification is of type error, the notification content (1) and the requested actions (2) are shown in the dedicated text areas. If it is a simple notification, only the notification is displayed, as there is no action required. The raw XML-file (3) is shown in any case.

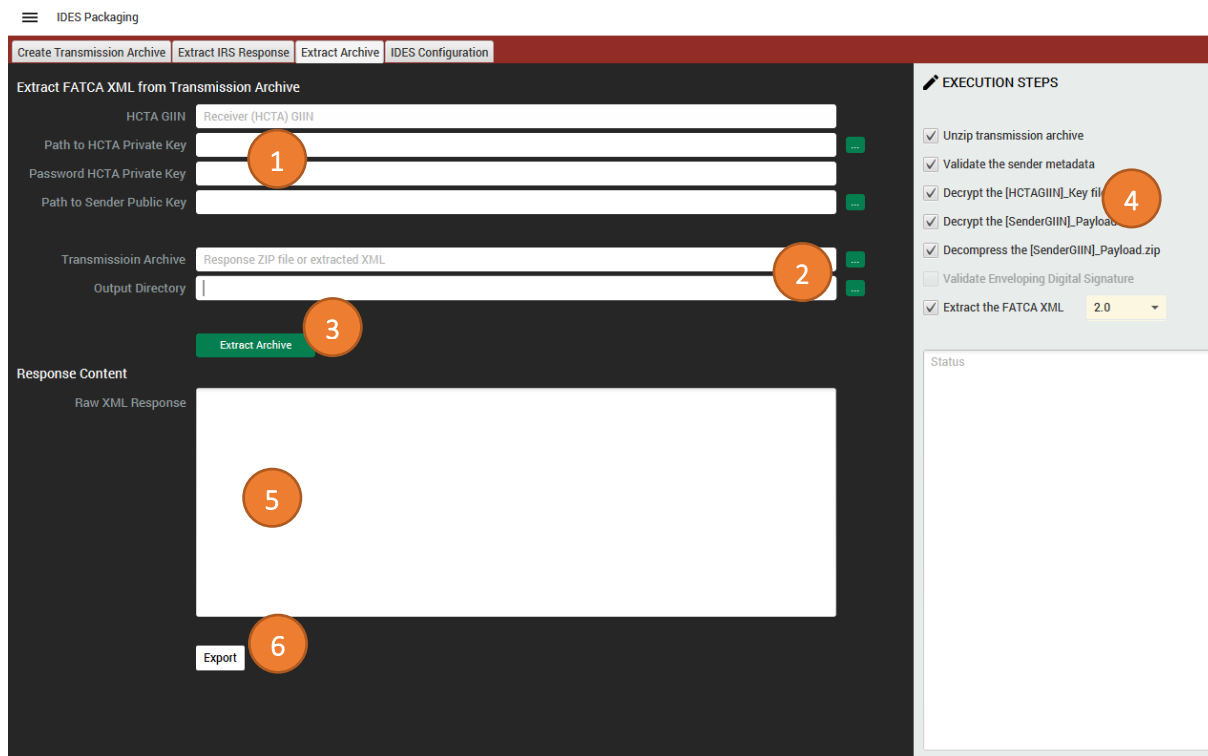
To export the raw unsigned payload file to a location of your choice press the “Export”-Button (4). By clicking the “Export ErrorGroup” Button (5) you can export the error report to a formatted excel file at a location of your choice.

Reporting FI GIN	123456.0000.IE.756		
Reporting FI Name	New Bank		
FATCA Report Type Code	Doc Ref ID	Record Level Error Code	Field Name
ACCOUNT_REPORT	123456.0000.IE.756.88506555277876	8007	ReportingGroup/AccountReport/Substantial Owner /Address
			ReportingGroup/AccountReport/AccountHolder/Organisation/TIN; ReportingGroup/AccountReport/AccountHolder/Individual/TIN
ACCOUNT_REPORT	123456.0000.IE.756.88211917010AdeKer472	8007	ReportingGroup/AccountReport/AccountHolder/AccHolderType
ACCOUNT_REPORT	123456.0000.IE.756.88912637004NeyMor140	8007	ReportingGroup/AccountReport/AccountHolder/Organisation/TIN; ReportingGroup/AccountReport/AccountHolder/Individual/TIN
			ReportingGroup/AccountReport/AccountHolder/AccHolderType



## Extract Archive

The “Extract Archive” screen allows you to select all steps the tool should execute to extract a report delivered and signed by a financial institution (FI) or any other sender you are holding the receiver’s private key. Viewing the content is only possible after a complete and successful processing of the notification.



Before the start, fill the required HCTA/Receiver configuration either into the configuration tab or directly into the Extract Archive tab (1).

To start the extraction and verification of a FI payload, select the according delivery archive und output directory (2), mark all steps the tool should execute (3) - typically all.

Start the verification process by pressing the “Extract Archive” button (4).

### Steps

First, select the encrypted payload zip file, which you received by the FI.

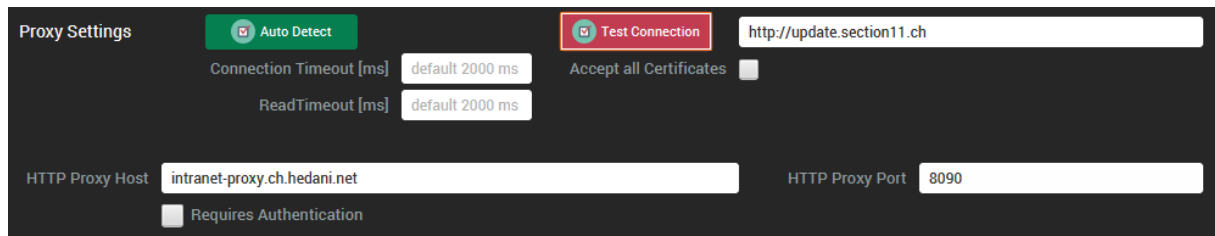
- Unzipping the transmission message archive
- Validating the extracted sender metadata XML file against the FATCA-IDES-SenderFileMetadata-1.0/1.1.xsd
- Decrypting the [HCTAGIIN/RECEIVER]\_Key file using the configured private key
- Decrypting the [SenderGIIN]\_Payload file with the one-time AES-key extracted in step (3)
- Decompressing the decrypted [SenderGIIN]\_Payload.zip file
- Validating the extracted signed XML-File (only available, if a sender public key is entered)
- Validating the Payload XML-File the FATCA XML 2.0 or 1.1 schema

After a successful extraction, you can view the content of the FATCA XML file in the “Raw XML” text area.

To export the raw payload file to a location of your choice press the “Export”-Button (6).

## Proxy Configuration

A proxy server generally sits on the gateway of a corporate network. When a client (computer) requests an object (web page, image, etc.) from an origin server (server hosted publicly on the Internet), a proxy server interrupts the communication. In such a case the proxy needs to be configured within the master data configuration to enable SFTP-Up and –Downloads.



To check, if your network settings require a proxy, press the “Test Connection”-Button without any configuration data entered. The software tries to open a connection to the given URL (e.g. <http://update.section11.ch>). In case of a failure the error message is displayed in the details area of the master data module:



Now press the “Auto Detect” and the software tries to detect your proxy settings based on the operating system you are running. E.g. when your system uses a proxy automation script (PAC) Javascript it is used to determine the actual proxy.

**Response: 200 OK**

Once a proxy is detected, re-try the connection test. It should now give a

Some proxy servers request a login from the user before they will allow any connections. TRSuite has no support to handle this automatically. This needs to be done manually, because there is no way to read the login and password. Enter your user name and password into the displayed text fields.

<input checked="" type="checkbox"/> Requires Authentication	Username	<input type="text"/>
	Password	<input type="text"/>

And finally - Don't forget to save the changes.